1.4.2: Feedback collected, Analyzed and Action Taken:

Department/Programme name	Page Numbers		
	SVEC-19	SVEC-16	SVEC-14
B. Tech. – Civil Engineering	2	42	84
B. Tech. – Electrical and Electronics Engineering	4	48	88
B. Tech – Mechanical Engineering	8	51	91
B. Tech - Electronics and Communication Engineering	10	54	93
B. Tech – Computer Science and Engineering	12	56	95
B. Tech - Electronics and Instrumentation Engineering	16	59	99
B. Tech – Information Technology	18	62	101
B. Tech - Computer Science and System Engineering	20	65	104
M. Tech – Computer Science	22	67	107
M. Tech - Electrical Power Systems	24	69	109
M. Tech – Software Engineering	26	71	112
M. Tech- Digital Electronics and Communication Systems	27	72	114
M. Tech- VLSI	28	73	116
M. Tech- Communication Systems	29	74	118
M. Tech – Computer Networks and Information Security	30	76	119
M. Tech - Power Electronics and Drives	32	Started in 2017	
MCA - Master of Computer Applications	34	78	121
Department: Basic Science and Humanities	38	81	125

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Feedback reports and Action taken reports for curriculum improvements under SVEC19 Regulations introduced in the Academic Year 2019-20:

Program: B. Tech. in Civil Engineering

Feedback report from Alumni: Alumni of about 40% belonging to passed out batches in the academic years 2014-15, 2015- 16and 2016-17 were participated in the feedback on curriculum and their suggestions are mentioned hereunder. Suggested to include advanced courses on Industrial Waste Water Treatment, Building Services, Energy Audit, Conservation and Management, Environmental Hydraulics, River Engineering and River Basin Management, Sustainable Construction, Infrastructure Development and Management, Bridge Engineering, Designing with Geosynthetics, Sustainable Engineering, Construction Equipment and Automation, Urban Sanitation, Artificial Intelligence, c, Bridge Engineering, Fire Engineering, Smart Materials and Structures, Optimization Techniques, Environmental Management in Industries, Pavement Analysis and Design, for better employability.	**Action taken report:** Based on the feedback from Alumni on curriculum, the following changes were incorporated in the curriculum of SVEC19: Theory courses on Energy Science and Engineering, Pipeline Engineering, Air and Noise Pollution and Control, Renewable Energy, Railway Engineering, Solid and Hazardous Waste Management, Land Survey and Real Estate Development, Sustainable Water Resources Development, Energy Audit, Conservation and Management, Construction Equipment and Automation, Smart Materials and Structures, Environmental Hydraulics, Pavement Analysis and Design, River Engineering and River Basin Management, Sustainable Construction, Analysis and Design of Composite Structures, Civil Infrastructure for Smart City Development, Finite Element Methods in Civil Engineering, Geotechnics for Underground Structures, Traffic Engineering and Management were introduced as Interdisciplinary Electives.
Feedback report from Students: Feedback on curriculum was obtained from 80% of the students from batches 2014-15 and 2015-16. Students would like to have the following changes in the curriculum during the next revision (SVEC19 Regulations). 1. Inclusion of a theory course on "Pipeline Engineering" 2. Inclusion of "Air and Noise Pollution and Control" as new course. 3. Inclusion of theory course on "Solid and Hazardous Waste Management". 4. Inclusion of a theory course on "Land Survey and Real Estate Development" 5. Inclusion of theory course on "Civil Infrastructure for Smart City Development" 6. Addition of advanced theory courses on Sustainable Water Resources Development, Energy Audit, Conservation and Management, Construction Equipment and Automation, Smart Materials and Structures, Environmental Hydraulics, Green Technologies, Global Positioning System (GPS), Transportation Planning and Management.	**Action taken report:** Based on the opinion of students, the following changes were incorporated in the curriculum of SVEC 2019 Regulations. 1. A theory course on "Pipeline Engineering" was introduced. 2. Air and Noise Pollution and Control offered as new course. 3. Theory courses on "Solid and Hazardous Waste Management" was introduced. 4. A theory course on "Land Survey and Real Estate Development" was introduced. 5. A theory course on "Environmental Science was introduced in place of "Environmental Studies". 6. A theory course on "Civil Infrastructure for Smart City Development" was introduced. 7. Theory courses on Sustainable Water Resources Development, Environmental Hydraulics, were introduced as Interdisciplinary Electives and Energy Audit, Conservation and Management Construction Equipment and Automation, Smart Materials and Structures as open electives.
Feedback report from Faculty members: All faculty members were given their opinion on curriculum for improvement. Faculty opined the following modifications in curriculum in the next revision (SVEC16 Regulations). 1. Inclusion of simple stresses and strains and thin and thick cylinders in "Engineering Mechanics" inSVEC19 2. Change of topics in theory course on "Construction, Planning and Project	**Action taken report:** Based on the Faculties feedback, following changes were incorporated in the SVEC16: 1. In "Engineering Mechanics subject topics on simple stresses and strains and thin and thick cylinders are added inSVEC19. 2. In theory course "Construction, Planning and Project Management" topics masonry foundations and building components, Finishings, Shoring, Scaffolding

Management" 3. Separate theory courses on "Fluid Mechanics and Hydraulic Machinery" inSVEC19 4. Change of CEOs, COs; in all theory courses and labs in SVEC19syllabus. 5. Addition of new advanced courses on Air and Noise Pollution and Control, Renewable Energy, Solid and Hazardous Waste Management, Land Survey and Real Estate Development, Sustainable Water Resources Development, Energy Audit, Conservation and Management, Smart Materials and Structures, Environmental Hydraulics, Pavement Analysis and Design, Pipeline Engineering, River Engineering and River Basin Management, Sustainable Construction, Analysis and Design of Composite Structures, Railway Engineering, Civil Infrastructure for Smart City Development and Construction Equipment and Automation.	and Form Work were introduced in SVEC19 compared toSVEC16 3. Separate theory courses were introduced on "Fluid Mechanics" and "Hydraulic Machinery" in SVEC19 syllabus. 4. A theory course on "Environmental Sciences" was introduced in SVEC19 in place of "Environmental Studies" inSVEC16 5. Rewritten CEOs, COs; in all theory courses and lab. 6. In "Engineering Hydrology" groundwater hydrology added as Unit-III 7. CEOs, COs and mapping were modified in "Bridge Engineering "course 8. Advanced theory courses Air and Noise Pollution and Control, Renewable Energy, Solid and Hazardous Waste Management, Land Survey and Real Estate Development, Sustainable Water Resources Development, Energy Audit, Conservation and Management, Smart Materials and Structures, Environmental Hydraulics, Pavement Analysis and Design, Pipeline Engineering, River Engineering and River Basin Management, Sustainable Construction, Analysis and Design of Composite Structures, Railway Engineering, Civil Infrastructure for Smart City Development and Construction Equipment and Automation were added in SVEC19regulation.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses Suggested for Improvement:** • Risk management for safe execution of project, • Effective communication and • Negotiation	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action Taken Report:** • "Risk management for safe execution of project" was included in SVEC16 regulations in the course "Construction Planning and Project Management" in Unit I and in SVEC19 regulations in the course "Construction, Planning and Project Management" in Unit III as a topic Safety in construction. • "Effective communication" was included in SVEC16 and SVEC19 regulations in the courses "Technical English", "English Language Lab", "Communicative English", "Spoken English" "Business Communication and Career Skills" and "Soft Skills Lab". • "Negotiation" concepts are planned to be included in the next regulations.

Program: B. Tech. in Electrical and Electronics Engineering

Feedback report from Alumni:

Feedback was taken from 2015-2016 and 2016-2017 Passed out batches during the academic years 2017-18 and 2018-19 respectively. About 40% of them have responded. Their feedback was summarized and are as follows:

1. The concepts of transformation techniques in frequency domain such as z-transforms shall be introduced into the curriculum, as there is a scope for such concepts in GATE and other competitive examinations.
2. The fundamental concepts of digital signals should be included into the curriculum for laying basic ground for digital signal processing course.
3. Modern day communication system in power system such as SCADA should be included into the curriculum to acquire the basic requirements for employability in the power industry.
4. A course educating the laws and legislature related to intellectual property rights, copy rights should be included into the curriculum which will help the students to follow the ethical practice in their profession.
5. The concepts of microgrid could be added somewhere in the curriculum, as there is a scope for research in the domain.
6. A course dedicated on the emerging electric vehicles can be included into the curriculum, which will make the students ready for the emerging industry in prior.
7. The fundamentals and the advanced topics from the courses HVDC transmission and FACTS could be merged as a single course.
8. A course exclusively emphasizing on the application of power electronics to energy conversion applications should be included into the curriculum, as the concepts have a vivid scope for research and employability in industries.
9. A course on computer aided designing could be included into the curriculum, as the course is having vivid scope for employability in industries and by self.
10. Application aspect of digital signal processing shall be introduced into the curriculum, as there is a wide scope in diverse domains of engineering.
11. The fundamentals of deep learning can be included somewhere into the curriculum to lay the foundation for machine learning stream.
12. The latest principles of energy auditing and energy conservation along with IE rules should be introduced in the course related to energy auditing.
13. An orientation on special machines such as PMAC Motors and AC Series Motors used in industries could be included into the machines domain of the curriculum appropriately.

Action taken report:

1. The concepts of *digital signals* were introduced into the course along with the continuous signals as basics for the future digital signal processing course.
2. The concepts of *z-transforms* was introduced into the course Signals and Networks.
3. The significant concepts on systems were introduced in to the laboratory course "*Signals and Networks lab"* covering the concepts of systems.
4. A new course *"PLC and SCADA"* was introduced in to the curriculum fusing the concepts of Programmable Logic Controllers and SCADA that would open wide avenues for diversified employability opportunities in the automated industries and power sectors.
5. A new course "*Intellectual Property Rights*" emphasizing on the laws and legislative process for intellectual property rights, copy rights was introduced into the curriculum for the students to practice ownership claiming and ethics in their professional career.
6. The fundamentals of microgrid concepts were included into the course *"Distributed Generation and Microgrid"* that will provide the required foundations of the advanced courses and research.
7. A new course "*Electric Vehicles*" was included into the curriculum addressing the fundamentals and advanced concepts of electric and hybrid vehicles meeting the requirements of industry.
8. The fundamentals and advanced concepts for controlling transmission system from the courses *HVDC transmission* and *FACTS* were merged appropriately into a single course *"HVDC &FACTS".*
9. A new course "*Power Electronics for Renewable Energy Systems"* exclusively addressing the renewable energy conversion techniques using the power electronics converters was included into the curriculum which will open avenues of employability and research.
10. A new course *"Electrical CAD Lab* "emphasizing on the basics and beyond on the computer aided designing that would help students to get placed in industries and to be an entrepreneur.
11. Applications of DSP in bio-medical engineering, sub-band coding. Sampling frequency conversion are included into the course "*Digital Signal Processing for Electrical Engineers*".
12. The fundamental concepts of deep learning were included into the course *"Soft Computing Techniques"* appropriately along with Neural networks as a basic foundation for Machine learning stream.

Program: B. Tech. in Electrical and Electronics Engineering

	13. New Energy conservation schemes, principles and tools for energy auditing,& IE rulesandregulationsforenergyauditwereintroducedintothecourse"*EnergyAudit Conservation and Management*" which will steer the students to become an entrepreneur. 14. The concepts PMAC Motors and AC Series Motors were included appropriately into the course *"Special Electrical Machines"* addressing the importance and applications in industries.
`Feedback report from Students: An exit survey was conducted on students pass out during 2017-2018 and 2018-2019 academic years during the academic years 2017-18 and 2018-19 respectively. 80% of them have responded and their feedback was recorded and is consolidated as detailed below 1. Scope should be given for digital electronics laboratories in to the curriculum that would help in better understanding of underlying concepts and opens avenues for employability in the core industries. 2. The concepts of new hybrid energy generation technologies should be introduced into the curriculum which opens new avenues in energy conversion and harvesting techniques. 3. Course on safety and disaster management to manage life skills could be introduced into the curriculum. 4. A course dedicated to understand the functionality of electrical apparatus, troubleshooting of electrical appliances should be introduced to enhance the practical exposure and also open avenues for employability in industrial maintenance sector. 5. The topics related to power system could be practiced in the laboratory for hands-on experience by developing proto types exclusively and also should be practiced by performing simulation studies exclusively. 6. A practical exposure on experiments related to life skills should be introduces into the curriculum. 7. The concepts of computer arithmetic should be included into the course digital circuits as fundamentals for the course computer architecture. 8. The electrical machines courses spanning in the curriculum needs to be revived giving emphasis on the modern developments in machines and competitive exams requirements. 9. The concepts on Digital instruments should be introduced, to make the students aware of modern day measuring systems in industries. 10. The design aspects on windings can be extensively included in the course "Electrical Machine Design". 11. Scope should be provided for measurement of non-electrical quantities into the curriculum.	**Action taken report:** 1. The absolute concepts from the course *Electromagnetic fields* were reviewed and the topics such as dipole momentum and co-axial transmission line were excluded from the course. 2. A new course "*Digital Electronics Lab*" was introduced into the curriculum emphasizing on the practical/simulation of digital electronics circuits that would help the students to understand the underlying concepts and provides opportunities in core industries. 3. The absolute concepts from the course generation of electric power were revised with the modern concepts of cogeneration and hybrid energy conversion technologies and the course was revived as "*Energy systems*" in the new curriculum. 4. A new course *"Reliability and Safety Engineering"* was introduced into the curriculum emphasizing on the life skills such as safety measures in wide scenarios along with reliability concepts. 5. A new course *"Electrical Engineering Workshop"* was introduced into the curriculum giving emphasis on assessing functionality of electrical apparatus, protection system for electrical devices systems, troubleshooting of electrical appliances and calibration of measuring instruments which will widen the scope of employability in industrial maintenance sector. 6. The potential concepts for laboratory practice from power system domain were categorized into two new exclusive courses *"Power Systems-1 Lab"* and *"Power Systems-2 Lab"* providing hands-on practice exclusively on proto types and by using simulation tools exclusively. 7. A new course "*Engineering workshop"* consisting of practical exposure on basic life skills such in different manufacturing trades such as fitting, carpentry, sheet metal forming and foundry and 3-D printing were introduces into the curriculum. 8. The concepts of Computer Arithmetic were included into the revived course "*Digital circuits*" which will provide the necessary fundamentals to the succeeding course computer organization. 9. Some of the absolute concepts from the DC machines were excluded and the

12. Provide scope for more load commutated chopper into the course power electronics. 13. The basics on electrostatic fields shall be introduced into the course "High Voltage Engineering" to understand the behavior of insulation system in the presence of static fields. 14. The emerging domain smart grids should be revived with the latest developments such as communication protocols and grid security aspects should be included appropriately into the course. 15. The fundamental concepts such as load profile can be included into the course which can serve the basics for the course "*Power System Operation and Control*". 16. Some new modulation techniques such as Space Vector Pulse Width modulation could be included some where into the domain of power electronics. *17.* The concepts related to the automation and monitoring of power system can be included into the course "*Power System Automation".*	concepts of transformers were merged appropriately along with DC machines and was revived as "*Electrical Machines-1",* and the laboratory oriented concepts were carried-on into the new laboratory course "*Electrical Machines-1"* in-line with the theory course. 10. The concepts on Induction machines and synchronous machines are merged appropriately as a new course "*Electrical Machines-2"* and the laboratory oriented concepts were carried-on into the new laboratory course "*Electrical Machines-2"* in-line with the theory course. 11. The concepts Digital storage oscilloscope, Digital frequency meter, Digital multi-meters and Digital tachometer were introduced in the course "*Electrical Measurements*" to acquire the knowledge on the modern day digital measuring technologies. 12. The concepts on design of windings and estimation of air gap lengths were included in the course "Electrical Machine Design", providing exhaustive design skills, which would help in employability in computer aided design sector. 13. The concepts of Non-electrical measurements were introduced in the course "*Instrumentation*" to broaden the measurement skills among the students. 14. The absolute concepts such as Morgan's chopper, AC chopper were excluded and the concepts such as load commutated chopper are included into the course Power electronics and the relevant practical experiments were exercised using simulation tools for better understanding of the operational aspects of power electronic circuits. 15. The electrostatic fields and the behavior of insulation systems in the presence of static fields were introduced into the course "*High Voltage Engineering*" for better understanding of stress on insulation system and methods to control the electric stress. *16.* The concepts such as sustainable energy options for the smart grid, demand side management and communication technology, interoperability, standards and cyber security were spanned among the units appropriately into the course *"Smart Grid Technology".* 17. The concepts load profile and their related aspects were included into the course "*Power System Operation and Control*" for laying better foundation for the course. *18.* The concepts space vector pulse width modulation techniques were included appropriately into the course *"Analysis of Power Electronic Converters".* *19.* The concepts energy control centers, its operation, control and automation aspects were included appropriately into the course *"Power System Automation".*

Program: B. Tech. in Electrical and Electronics Engineering

Feedback report from Faculty members:	**Action taken report:**
Feedback was taken from all the Faculty members who taught the courses of the program and their suggestions are as follows: 1. The concepts of system and types of systems should be included into the course Signals *and Networks* as the concepts have ample scope in GATE and other competitive exams.	Suggestions might be considered in the next revision of the syllabus.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** • The concepts of data structures were included in the curriculum through the course Foundations of Data Structures and also its associated lab Foundations of Data Structures Lab in SVEC16 regulations and also the concepts were included in the course Programming for Problem Solving of SVEC19 regulations. • A course Soft Computing Techniques addressing various modern techniques such as artificial intelligence (Neural and Fuzzy) and also swarm based and evolutionary algorithms were included in SVEC16 and SVEC19 regulations. • The concepts of IoT were addressed appropriately in the courses - Computer Networks and Embedded Systems of SVEC16 regulations and a course emphasising on the practical applications of IoT was introduced in the course Internet of Things (IoT) Lab of SVEC19 regulations. • The course on VLSI design was introduced into the curriculum of SVEC19 regulations.

Program: B. Tech. in Mechanical Engineering

Feedback report from Alumni:	**Action taken report:**
The feedback from the Alumni of 2015-16, 2016-17 and2017-2018passed out batches was collected and summarized below. 1. Suggested to include design thinking in the curriculum. 2. Suggested to include artificial intelligence related courses in the curriculum. 3. Suggested to include more industry relevant courses. 4. Suggested to incorporate more Software skills related courses to meet the industry requirements 5. Suggested to introduce practical courses. 6. Suggested to include introduce IT related courses. 7. Suggested to include automotive related courses. 8. Suggested to include minor degree courses in the curriculum. 9. Suggested to include honor degree courses in the curriculum.	Based on the feedback from the alumni, the following actions were incorporated in SVEC-19. • Included design thinking in the curriculum. • Included artificial intelligence related courses in the curriculum. • Included industry relevant courses with one more knowledge area automobile engineering in the curriculum. • Included minors and honors in curriculum.
Feedback report from Students: The feedback from the students of 2017-18, 2018-19 and2019-20 passed out batches was collected and summarized below. 1. Suggested to include more industry relevant courses. 2. Suggested to incorporate more Software skills related courses to meet the industry requirements 3. Suggested to introduce practical courses. 4. Suggested to include introduce IT related courses. 5. Suggested to include automotive related courses. 6. Suggested to include design thinking in the curriculum. 7. Suggested to include artificial intelligence related courses in the curriculum 8. Suggested to include minor degree courses in the curriculum. 9. Suggested to include honor degree courses in the curriculum.	**Action taken report:** Based on the feedback from the students, the following actions were incorporated in SVEC-19. • Included design thinking in the curriculum. • Included artificial intelligence related courses in the curriculum. • Included industry relevant courses with one more knowledge area automobile engineering in the curriculum. • Included minors and honors in curriculum.
Feedback report from Faculty members: The feedback from all the faculty who taught the courses of the program was collected in the academic year 2017-18, 2018-19 and2019-20 and summarized as follows. • Engineering Thermodynamics - include Thermodynamic relations and Real gases topics. • Computer Aided Machine Drawing- include Riveted Joints-Single riveted lap joints, Butt joints with single cover straps (Chain and zigzag using snap head riveters). • Strength of Materials – Introduce shafts and may be renamed as beams and	**Action taken report:** Based on the feedback the following actions were taken, the following actions were incorporated in SVEC-19. • Engineering Thermodynamics - included Thermodynamic relations and Real gases topics. • Computer Aided Machine Drawing- included Riveted Joints-Single riveted lap joints, Butt joints with single cover straps (Chain and zigzag using snap head riveters). • Strength of Materials – Introduced shafts and may be renamed as beams and shafts as more relevant to mechanical engineering and only design concepts

shafts as more relevant to mechanical engineering and only design concepts of shafts are learnt from design of machine elements • Fluid Mechanics and Hydraulic Machinery – Suggested to include Internal flow, friction factor calculation, flow over plates. • SOM- Lab-include compression test for Mild steel. • DOM- Introduce static force analysis, V engines (along with radial Engines) • Include Geometrical Dimensioning and tolerances in CAMD or in Metrology and Instrumentation and Hydraulic circuit drawing in CAMD-2D or Automation Lab.	of shafts are learnt from design of machine elements • Fluid Mechanics and Hydraulic Machinery –included internal flow, friction factor calculation, and flow over plates. • SOM- Lab-included compression test for Mild steel. • DOM- Introduced static force analysis, V engines (along with radial Engines) • Going to include Geometrical Dimensioning and tolerances in and Hydraulic circuit drawing in Automation Lab.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** • Data visualization • Automotive crash and • Safety measures	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action Taken Report:** Based on the feedback from the employer, the following actions were incorporated in SVEC-19. • Included Automobile Engineering as one of the knowledge areas in SVEC19 regulations. The elective course offered will focus on Automotive Crash and Safety measures. These topics are going to be included as chapters in the related courses of Automobile Engineering in the upcoming syllabus revision. • Included Industrial Internet of Things (IIoT)and Internet of Things (IoT) Lab in the curriculum. • Included Artificial Intelligence and Robotics in the curriculum.

Program: B. Tech. in Electronics and Communication Engineering

Feedback report from Alumni:	**Action taken report:**
Feedback was taken from 2017-18 passed out batch during the academic year 2019-20. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. To meet the industrial requirements, a new course on Advanced Microprocessors and Microcontrollers may be included in the curriculum. Also, High level programming needed to be introduced along with assembly programming. 2. Foreign languages can be introduced which may help students planning to go abroad for higher education. 3. Recommended to include courses like IOT lab, Artificial Intelligence in health care and Ethical Hacking in the curriculum	1. A new course titled ARM and AVR Microcontrollers was introduced, so that students can explore in developing models for societal applications. 2. Courses like German Language and Personality Development were introduced in the curriculum for the benefit of students. 3. IOT lab, AI in health care, Life skills and Ethical Hacking courses were introduced in the curriculum.
Feedback report from Students:	**Action taken report:**
The students of 2017-18 and 2018-19 Passed out batch were asked to give feedback for the curriculum improvement. And their suggestions are summarized below: 1. Latest concepts on incubation centers and Guidelines in establishing organizations can be included in the course Entrepreneurship for Micro, Small and Medium Enterprises. 2. A new course on Python programming may be introduced in the curriculum 3. At first year level, Network analysis course in I semester is difficult to study. It can be moved to II Semester.	1. Foundations of Entrepreneurship course is introduced as Audit course to motivate students as entrepreneurs. 2. Python programming was introduced in SVEC-19 curriculum to improve the skills of students. 3. Network analysis course is shifted to II semester based on the understanding level of fresher's.
Feedback report from Faculty members:	**Action taken report:**
Feedback was taken from all the Faculty members who taught the courses of the program during 2016-2020. Their suggestions are summarized below: 1. More Quantitative analysis is required in the competitive Examination point of view in the course Electronic Devices and Circuits. 2. Redundancy in Digital IC Applications and VLSI Design can be removed. Fabrication concept in Linear IC Applications can be removed and included	1. Keeping in view the syllabus of competitive exams like GATE, IES etc., the syllabi of all the basic courses were strengthened. 2. The contents in courses named Digital IC Applications, Linear IC Applications and VLSI Design were reorganized. The courses were renamed and arranged with a check in the continuity in VLSI stream. 3. Simulation using Multisim/PSPICE was introduced in Electronic Circuit Analysis and Design Lab.

in Unit-I of VLSI design. 3. Simulation using Multisim/PSPICE may be introduced for verifying the operation of Multivibrator Circuits in Pulse and Digital Circuits Laboratory. 4. Courses like Design Thinking, Socially Relevant Project, Universal Human Values, Life Skills and Women Empowerment may be introduced in the curriculum. 5. Minor/honors degree in VLSI and Embedded systems may be introduced as it is the order of the day. 6. Internship can be made compulsory for the students to get exposure in industries and software companies.	4. Courses like Design Thinking, two Socially Relevant Projects, Universal Human Values, Life Skills and Women Empowerment were introduced in the curriculum. 5. Minor/honors degree in VLSI and Embedded systems was introduced in the curriculum. 6. Internship was introduced to enable students to get exposure and work in Industry/National Laboratories/Academic Institutions relevant to the respective branch of study.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** • The concepts of data structures were included in the curriculum through the course Foundations of Data Structures and also its associated lab Foundations of Data Structures Lab in SVEC16 regulations and also the concepts were included in the course Programming for Problem Solving of SVEC19 regulations. • The concepts of IoT were addressed appropriately in the courses - Computer Networks and Embedded Systems of SVEC16 regulations and a course emphasising on the practical applications of IoT was introduced in the course Internet of Things (IoT) Lab of SVEC19 regulations. • The course on VLSI design was introduced into the curriculum of SVEC19 regulations. • A course on VLSI Design was introduced in SVEC-16 & SVEC-19 Curriculum in B.Tech Program. • A course on Embedded System and corresponding Lab was introduced in SVEC-19 Curriculum in B.Tech Program. Advanced Embedded System Design concepts were introduced in the course Co-Design for M.Tech VLSI. • Two courses were introduced in M.Tech. VLSI on Chip Design. They are System-on-chip Design and Network-on-chip Design

Program: B. Tech. in Computer Science and Engineering

Feedback Report from Alumni:	Action Taken Report:
Feedback was taken from 2014-2015, 2015-2016, 2016-17 passed out students during the academic years 2016-17, 2017-18, 2018-19, respectively. About 45% of the alumni responded to the request. The summary of the feedback is as follows: 1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Machine Learning, Natural Language Processing, Full Stack Development, Data Science, Software Defined Networks. 2. Courses on Augmented Reality, Virtual Reality may be introduced in the curriculum as these are the next revolution of the man-machine interface. 3. Laboratory courses may be introduced for the courses Machine Learning, Big Data Analytics, Internet of Things, Computer Vision, Wireless Networks to provide hands-on experience on the relevant tools and technologies. 4. A course may be introduced on Design Thinking to develop a mindset and approach to problem-solving, analytical and creative thinking skills among students. 5. GitHub may be introduced in any of the laboratory courses like Programming in C Lab, Workshop in Computer Science to create awareness among students regarding online code hosting platforms, open-source projects, and collaborative project development. 6. Students must get research-based learning. Students must be encouraged towards self-learning, assignments, case studies, paper presentations etc. 7. 100+ hours of training on coding may be provided to students to improve programming skills for employability. 8. Courses may be included to improve the communication skills of students. 9. Entrepreneur skills of students need to been enhanced.	1. Courses on Artificial Intelligence, Machine Learning, Natural Language Processing, Full Stack Development, Data Science, Augmented Reality and Virtual Reality, were introduced to meet the demands of the industry. 2. Laboratory courses for courses Internet of Things, Computer Vision were introduced under SVEC19 regulations to provide students with practical experience on latest tools and technologies. 3. An audit course on Design Thinking was introduced in II B.Tech. to develop analytical and creative skills among students for problem-solving. 4. Exercises on GitHub were introduced in Workshop in Computer Science course. 5. Assignment was included as part of internal assessment. 6. Advanced learners are being encouraged to take up mini-projects in laboratory courses. 7. An audit course Spoken English was introduced to improve the communication skills of students. 8. An audit course Foundations of Entrepreneurship was introduced to improve entrepreneurial skills among students.
Feedback Report from Students:	**Action Taken Report:**
Feedback was taken from the students who were passing out during the academic years 2016- 2017, 2017-18 and 2018-19. About 76% of the students responded to the request. The summary of the feedback is as follows: 1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Deep Learning, .NET Technologies, Game Programming, Bio inspired computing, Intelligent Systems, Robotics. 2. Artificial Intelligence laboratory may be introduced to create awareness among students regarding importance of artificial intelligence in today's world. 3. A laboratory course may be introduced on Digital Logic Design, Internet of Things, and Compiler Design.	1. Courses Artificial Intelligence, Deep Learning, Game Development, Robotics and Automation were introduced in the curriculum. 2. Exercises on AI tools were introduced in Workshop in Computer Science course. 3. A laboratory course was introduced on Internet of Things. 4. Internship was offered in the curriculum. 5. Data structures laboratory course was revised to include exercises to impart problem- solving approach among students. 6. Advanced learners are being encouraged to take up mini-projects in laboratory courses.

4. Internship may be offered as part of curriculum.
5. Data structures laboratory course may consist of exercises reflecting real-world problem-solving using data structures.
6. Mini-project as part of curriculum will be more helpful to gain practical experience.
7. Web Technologies course may be introduced in II B.Tech. II Semester to be helpful for projects and internships, placements.
8. MOOC course may be offered with 2 or 3credits.

7. MOOC course was offered for 3credits.

Feedback Report from Faculty Members:

Feedback was taken from all the faculty members during the academic years 2016-2017, 2017-18, 2018-19. Their suggestions are summarized below:

1. Courses may be introduced to meet the demands of industry like Advanced Databases, Robotic Process Automation.
2. Courses Advanced Data Structures, Advanced Algorithms, Data Preparation and Analysis may be introduced for research-orientation among students.
3. Extended list of textbooks/reference books/online resources may be provided for courses to support advanced learners.
4. The Computer Organization course may include topics PCI Express, Nonvolatile Solid-StateMemoryTechnologies,SolidStateDrives,MulticoreComputers-IntelCorei7-990X, ARM Cortex-A15 MPCore, IBM zEnterprise EC12 Mainframe; GPUs – CPU vs GPU, GPGPUs, Intel Gen8.
5. The Computer Networks Laboratory course may include exercises on network simulator tools like NS3, Wire shark etc.
6. The syllabus of Computer Graphics course may include topics color models, illumination models, animations.
7. The syllabus of Design and Analysis of Algorithms may include topics amortized analysis, defective chess board, flow shop scheduling, huffman codes, optimal merge patterns, approximation algorithms, number theoretic algorithms, string matching algorithms, NP hard and NP-complete problems.
8. PL/SQL programming content may be included in Database Management Systems course. Relational Calculus may b eremoved.
9. Units 1, 2 and 3 of Software Engineering course may be refined.
10. Security concepts may be included in Operating Systems course to introduce to students the basics and requirement of security in computer systems.
11. The syllabus of Computer Vision course Unit 1 and Unit 2 may be revised.
12. The syllabus of Web Programming course can be extended with recent and advanced programming like Node.js,Angular.js.
13. Hybrid soft computing techniques such as neuro-fuzzy and fuzzy-genetic

Action Taken Report:

1. Advanced Databases course was introduced as an elective course.
2. An audit course on Robotic Process Automation was introduced.
3. A list of additional learning resources for each course were included in the syllabus book.
4. Included topics PCI Express, Nonvolatile Solid-State Memory Technologies, Solid State Drives, Multicore Computers - Intel Core i7-990X in The Computer Organization course.
5. The Computer Networks laboratory course was revised to include exercises on network simulator tools NS3, Packet Tracer etc.
6. Topic illumination models was introduced in the syllabus of Computer Graphics course.
7. The syllabus of Design and Analysis of Algorithms was revised to include topics amortized analysis, defective chess board, flow shop scheduling, Huffman codes, optimal merge patterns, NP hard and NP-complete problems.
8. PL/SQL programming content was included in Database Management Systems course.
9. The topics extreme programming, dynamic system development method, scenario based modeling, UML models that supplement the use case, design using UML were included in Software Engineering course.
10. Security related concepts were included in the Operating Systems course in unitV.
11. The syllabus of Computer Vision course Unit 1 and Unit 2 was revised. The text book "E. R. Davies, Computer and Machine Vision: Theory, Algorithms, Practicalities, Elsevier, 5th Edition, 2017" was considered to frame syllabus of Units 1, 2 as per faculty suggestion.
12. A course on Full Stack Development was introduced in the curriculum.
13. The topics hybrid soft computing techniques, applications of soft computing were included in the Soft Computing course.
14. Testing process was introduced as Unit 3 in the syllabus of Software Testing course.

techniques may be included in Soft Computing.
14. Linux utilities such as process utilities, disk utilities, networking commands, filters, text processing utilities can be included in Linux Programming.
15. Students will be benefited by including HTML integration with python in the course Programming for Problem Solving. The topics on Turtle graphics may be removed from the syllabus.
16. A laboratory course on Design and Analysis of Algorithms may be included in the curriculum.
17. Testing process may be included into the syllabus of Software Testing course.
18. Topics on trends and challenges may be included in Data Warehousing and Data Mining course to create awareness in students regarding the current status of research in the field.
19. Data Warehousing and Data Mining laboratory course may be revised to include exercises using R programming language, MATLAB, Python.
20. The topics WIMAX, 5G networks, ZigBee, digital enhanced cordless telecommunications may be included in syllabus of Mobile Computing course.
21. Topics on PaaS, IaaS may be included in the syllabus of Cloud Computing course. Also, exercises in Cloud Computing laboratory may be revised to introduce more recent technologies in the field.
22. The text book "J. F. DiMarzio, Beginning Android Programming with Android Studio, Wiley India, Fourth Edition, 2017" may be adopted for Mobile Application Development course.
23. Mini-projects are more helpful to students to gain practical experience on product development.

15. Data mining trends were included in Unit 5 of syllabus of Data Warehousing and Data Mining course.
16. Exercises using R Studio were included in Data Warehousing and Data Mining laboratory course.
17. The topics WIMAX, 3G, 4G and 5G networks, ZigBee & Wi-Fi, digital enhanced cordless telecommunications were included in Unit 5 of syllabus of Mobile Computing course.
18. Topics on PaaS, IaaS were included in Unit 4 and Unit 5 of the syllabus of Cloud Computing course. Cloud Computing laboratory exercises were revised to introduce Amazon DynamoDB, Qwiklabs Cloud, AWS EC2, Google Cloud Pub, IBM Watson studio, Cloud Analyst simulation tool, Things peak cloud.
19. The text book "J. F. DiMarzio, Beginning Android Programming with Android Studio, Wiley India, Fourth Edition, 2017" was adopted as one of the text books for Mobile Application Development course.
20. Socially-relevant projects were introduced in the curriculum.

Feedback report from Employers:

Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Program: B. Tech. in Computer Science and Engineering

Courses suggested for improvement	Action taken report:
Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	• Foundation courses: data structures, OOP concepts, Algorithms The courses "Data Structures", "Java Programming", "Java Programming Lab", "Design and Analysis of Algorithms" are part of B.Tech curriculum under SVEC16 and SVEC19 regulations. • ARM in Azure cloud • Students are encouraged to take up MOOCs on advanced topics and applications of machine learning. • Deep Learning • A course on "Deep Learning" is included in B.Tech curriculum under SVEC19 regulations. • Artificial intelligence based courses • Courses "Artificial Intelligence", "Machine Learning", "Deep Learning", "Natural Language Processing", are included in B.Tech Curriculum under SVEC19 regulations. • Minor/Honors degree in "Artificial Intelligence and Machine Learning" is being offered for advanced learners of all engineering disciplines in B.Tech curriculum under SVEC19 regulations. • IOT based courses • Course "IoT Architecture is offered and Protocols" is offered in B.Tech. curriculum under SVEC19 regulations. • Minor/Honors degree in "Internet of Things" is being offered for advanced learners of all engineering disciplines in B.Tech. curriculum under SVEC19 regulations. • Cyber physical systems usage • Students are encouraged to take up MOOCs on advanced topics and applications of machine learning. • Cyber security • Courses "Cyber Security", "Blockchain Technologies" are offered in B.Tech curriculum under SVEC19 regulations. • Testing tools like Selenium Katalon studio • Workshops were arranged on latest software testing tools to provide hands-on experience to students.

Program: B. Tech. in Electronics and Instrumentation Engineering

Feedback report from Alumni: The feedback was collected from 2014-15 & 2015-16, passed out students during 2017-18 & 2018-19 academic years. About 40% of the Alumni gave their feedback. 1. Alumni suggested including job oriented courses in theory and lab to enhance employability in core companies. 2. Provide an opportunity to the students to study a course from other disciplines. 3. Conduct value added courses to enhance programming skills.	**Action taken report:** Based on the feedback received from Alumni the following new courses were included in the curriculum to improve the employability of the students in core companies. 1. A new course Instrumentation Workshop is introduced for enhancing employability in core companies. 2. Courses like Material Science & Sustainable Engineering are offered under open elective. 3. The value added courses like Add on Course on Graphical Programming using LabVIEW, Hands on Workshop on 8051 Microcontroller Programming using Keil software and A simplified RC Aircraft Design were conducted to enhance the programming skills of the students.
Feedback report from Students: Feedback has been taken from 2016-20 passed out students. About 85% of the students have given their feedback. The following were the suggestions given by the students. 1. Many students suggested to include new courses which help in enhance the knowledge and meet the industry requirements. 2. Include more courses to improve the communication skills to enhance employability. 3. Courses which help to improve Life skills, Professional skills can be introduced.	**Action taken report:** The following changes were made based on the feedback from the students. 1. The course Instrumentation workshop is introduced to enhance the core knowledge of the students. 2. A new course Spoken English is introduced to improve the communication skills of the students and new topics like paragraph construction were added in the course Communicative English 3. Courses like Life skills, Professional ethics , Gender & Environment & Women Empowerment are offered under open elective.
Feedback report from Faculty members: Feedback is taken from all the faculty who taught the subjects of the program and the salient points are: 1. The course Sensors and Transducer needs to be reorganized. 2. Include topics related to Linear and Non linear wave shaping circuits in Electronic Devices and circuits. 3. Include experiments related to Linear and Non-linear wave shaping circuits in Electronic Devices and Circuits lab. 4. MOSFET amplifiers and Large Signal amplifiers need to be included in Electronic Circuit Analysis and Design. 5. Include experiments related to MOSFET amplifiers and Large Signal amplifiers in Electronic Circuit Analysis and Design Lab. 6. In the course Green Technologies, topics related to Green IT may be included. 7. Include topics related to Electromagnetic waves , Wave optics & Magnetics in Engineering Physics.	**Action taken report:** **B**ased on feedback from faculty the following courses were modified. 1. The course Sensors and Transducers is renamed as Transducers in Instrumentation and topics like Gyroscopes, Vibration sensors were included to strengthen the course. 2. The syllabus of the course Electronic Devices and Circuits was modified and topics on Linear and Non Linear wave shaping circuits were included to strengthen the course. 3. Electronic Circuit Analysis and Design syllabus was modified and topics on MOSFET Amplifiers, Large Signal amplifiers and Power Amplifiers were introduced to strengthen the course. 4. Common Source MOSFET amplifier is added in the course Electronic Circuit Analysis and Design lab to strengthen the practical knowledge of the students. 5. New topics on Green IT were included in the course Green Technologies to improve the course. 6. Concepts such as Electromagnetic wave propagation, Interference, Magnetic dipole moment, Diffraction and Polarization were introduced in Engineering

<table>
<tr><th colspan="2">Program: B. Tech. in Electronics and Instrumentation Engineering</th></tr>
<tr><td>8. Hands on experience on Thickness Measurement, Wavelength determination can be included in Engineering Physics lab.
9. Concepts like Instrumental Methods and Applications, Fuel Chemistry and Lubricants can be introduced.
10. Experiments related to Organic compounds identification, Chlorine Determination can be included in Engineering Chemistry Lab.</td><td>Physics for better understanding of the subject.
7. Experiments related to Thickness Measurement, Wavelength Determination is included in the course Engineering Physics lab to enhance the practical knowledge of the students.
8. New Topics on Instrumental Methods and Applications, Fuel Chemistry and Lubricants is included in the course Engineering Chemistry to strengthen the course.
9. Experiments related to Organic compounds identification, Chlorine Determination are included in the course Engineering Chemistry Lab to give hands on experience to students about identification of organic compound sets.</td></tr>
<tr><td>Feedback report from Employers:

Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses suggested for improvement

Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing</td><td>Interpretation of Feedback

• For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
• However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
• The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
• Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action taken report:

• A course Artificial Intelligence is introduced as Interdisciplinary Elective-1 in III-I of SVEC-19 Curriculum.
• The course Internet of Things lab is introduced as Interdisciplinary Elective-1 in III-1 of SVEC-19 Curriculum.
• The course Digital IC Design is introduced as Professional Elective-3 in III-II of SVEC-19 curriculum.
• Value added course on Hands on workshop on 8051 Microcontroller Programming using Keil sofware was conducted.</td></tr>
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Program: B. Tech. in Information Technology

Feedback report from Alumni: Feedback was received from 40% of alumni belonging to 2015-16 and 2016-17 passed out batches and they are: 1. Suggested to introduce more industry oriented courses such as Data Science, Intrusion Detection Systems and Cyber Security. 2. Suggested to carryout internships during semester break period. 3. Involve students more in Outreach activities. 4. Recommended to encourage students towards collaborative learning in the class room teaching. 5. Suggested to introduce more industry oriented programming languages such as Augmented Reality and Virtual Reality.	**Action taken report:** 1. Industry oriented courses were introduced such as Data Science, Intrusion Detection Systems and Cyber Security. 2. Students were encouraged to do internships during their semester break period. 3. Students were encouraged to participate in NSS and Digital Literacy programs. 4. The teaching methods such as Think-Pair-Share were adopted in class room teaching. 5. Introduced industry oriented course Augmented Reality and Virtual Reality was included in SVEC-19 B. Tech course structure.
Feedback report from Students: Feedback was received from 80% of students belonging to 2017-18 and 2018-19 passed out batches and they: 1. Requested to offer Python programming in I B. Tech, I Semester and Java Programming in I B. Tech, II-Semester. 2. Recommended to introduce a laboratory course on Software Engineering. 3. Requested to include latest memory technologies in syllabus of Computer Organization course. 4. Suggested to introduce Entrepreneurship Course as mandatory/Audit instead of elective course.	**Action taken report:** 1. Introduced Python programming I B.Tech, I semester and Object Oriented Programming through Java in I B. Tech, II-semester. 2. Offered a laboratory course on Software Engineering in II B. Tech, I-semester. 3. Added Solid state drives in Computer Organization Course. 4. Foundations of Entrepreneurship course is introduced as Audit Course.
Feedback report from Faculty members: Feedback was received from all the members of faculty who taught the courses of the program and they: 1. Suggested to introduce courses such as Information Security and Management, GPU Computing, and Deep Learning. 2. Suggested to revise syllabi of IT Workshop. 3. Requested to introduce Internet of Things Laboratory course. 4. Suggested to include GPU Computing as an elective course.	**Action taken report:** 1. Introduced latest trends of Information Technology courses like Information Security and Management, GPU Computing, and Deep Learning. 2. Revised IT Workshop syllabus, as C programming is not offered as a separate course the corresponding concepts and relevant programming excises were included. 3. Included Internet of Things Laboratory course in III B.Tech. 4. Introduced GPU Computing as an elective course.

Program: B. Tech. in Information Technology

Feedback report from Employers:
Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses suggested for improvement

Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action taken report:

- The foundation courses like data structures, OOP concepts, and Algorithms were introduced in earlier regulations as well as SVEC-16 and SVEC-19.
- The IAC (Infrastructure as code) is planned to be introduced in the next regulations.
- The topic ARM in Azure cloud was introduced in cloud computing course in both SVEC-16 and SVEC-19 regulations.
- The Machine learning course was introduced in SVEC-16 and SVEC-19 and the topic Machine learning for finance will be introduced in the future regulations.
- Deep Learning was introduced as a topic in the course Machine learning in SVEC-16 and introduced as a separate course in SVEC-19 regulations
- Artificial intelligence course was introduced in SVEC-19 regulations.
- IOT based courses such as embedded systems, and Internet of Things were introduced in both SVC-16 and SVEC-19 regulations.
- Cyber Security and Laws course was introduced in SVEC-16 regulations.
- Block chain technologies course was introduced in SVEC-19 regulations.
- Cyber Security course was introduced in SVEC-19 regulations.
- The different types of testing tools were available in the course software testing and this course was introduced in both SVEC-16 and SVEC-19 regulations.

Program: B. Tech. in Computer Science and Systems Engineering

Feedback report from Alumni:	Action taken report:
After summarizing the feedback collected from 43% of Alumni respondents of 2015-16 & 2016-17 batches during the academic years 2017-18 & 2018-19 following are few valuable suggestions made by them for SVEC-19 regulations. • Suggested to update the curriculum with industry oriented courses. • Recommended to introduce Python and basics of Machine learning courses in any of one semester. • Suggested to introduce Data Science course in the curriculum. • Suggested to introduce advanced courses in computing areas and also introduce security related courses.	• Industry oriented courses were introduced such as Industrial Internet of Things, Data Science, Robotics and Intelligent Systems, Cloud computing. • The SVEC-19 Curriculum offers the following new courses as per the suggestions from Alumni. i) Python Programming ii) Machine Learning • Introduced Data Science course as an elective course. • Introduced the security related courses such as Modern Cryptography, Information Security and Privacy and computing courses such as Computational Statistics, Deep learning.
Feedback report from Students: After summarizing the feedback collected from 2017-18 & 2018-19 passed out student batches, 84% of students responded and the following are few valuable suggestions made by them for SVEC-16 regulations • Recommended to introduce Laboratory courses for Design and analysis of algorithms and Software Engineering. • Include courses related to Block chain Technology, Cloud Computing, Big data and Python. • Recommended to introduce topics related to emerging operating systems in Operating systems course. • Suggested to introduce kernel programming as audit /mandatory course.	**Action taken report:** • Offered a laboratory courses on Software Engineering and Design and analysis of algorithms in II B. Tech, II-semester. • Introduced the courses Big Data Technologies, Cloud computing, Block chain Technologies in IV I-Semester. • Added the topics android , MacOS in operating system syllabus. • Kernel Programming course is introduced as audit course in IV I-Semester.
Feedback report from Faculty Members: After summarizing the feedback collected during 2017-18 & 2018-19 academic years from all faculty respondents, following are few valuable suggestions made by them for SVEC-19 regulations: 1. Suggested to introduce courses such as High Performance computing, Information Security and Privacy, and Deep Learning. 2. Suggested to add performance analysis of algorithms in Data structures subject. 3. Recommended to introduce systemic oriented approach in Computer Network course. 4. Suggested to include Augmented Reality and Virtual reality course.	**Action taken report:** 5. Introduced advanced computer science courses like High Performance computing, Information Security and Privacy , and Deep Learning. 6. Data Structures and algorithms Laboratory course is offered in II B.Tech. 7. Introduced Computer Networks with Systems Approach course in III B.Tech- I-semester. 8. Augmented Reality and Virtual Reality course is offered as an elective course.

Program: B. Tech. in Computer Science and Systems Engineering

Feedback report from Employers:
Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses suggested for improvement

Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action taken report:

1. The courses Data Structures, Object Oriented Programming through C++, Java Programming, Design and Analysis of Algorithms were introduced in SVEC-16 Regulations, OOPs through Java, Data Structures and Algorithms, Design and Analysis of Algorithms courses in SVEC-19 Regulations.
2. Cloud Computing, Internet of Things courses were introduced in SVEC-16 and SVEC-19 Regulations and Industrial Internet of Things course was introduced in SVEC-19 Regulations.
3. The course "Infrastructure as code"(IAC) is planned to be introduced in next academic Regulations.
4. Machine Learning, Artificial Intelligence, Deep Learning, Cyber Security, Block Chain Technologies, Software Testing courses have been included in SVEC-19 Regulations.

Program: M. Tech. in Computer Science

Feedback Report from Alumni:

Feedback was taken from 2013-2014, 2014-2015, 2015-16 passed out students during the academic years 2015-2016, 2016-17, 2017-18 respectively. About 46% of the alumni responded to the request. The summary of the feedback is as follows:

1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Machine Learning, Natural Language Processing, Full Stack Development, Data Analytics, Software Defined Networks, Image Processing, Pervasive Computing.
2. Course like Advanced Algorithmic Analysis would help in research-orientation for students.
3. Data Warehousing and Data Mining laboratory course may be revised to include exercises using R programming language, MATLAB, Python.
4. Mathematics/Statistics subject can be introduced as pre-requisite for courses like Data Science, Data Analytics, Machine Learning etc.
5. Courses may be included to improve the communication skills of students.
6. Entrepreneur skills of students need to been enhanced.
7. The Computer Networks Laboratory course may include exercises on network simulator tools like NS3, Wire shark etc.
8. Topics on Amazon Web Services for IoT may be included in Internet of Things course.

Action Taken Report:

1. Courses Artificial Intelligence, Machine Learning, Artificial Neural Networks and Deep Learning, Image Processing were introduced to meet the need and demands of industry.
2. Courses Advanced Algorithms, Advanced Data Structures were introduced in the curriculum.
3. A course Statistics with R was introduced in the curriculum.
4. An audit course Technical Report Writing was introduced to improve the communication skills of students.
5. Amazon Web Services was introduced in to syllabus of Internet of Things course in Unit 5.

Feedback report from Students:

Feedback was taken from the students who were passing out during the academic years 2015- 2016, 2016-17, 2017-18. About 81% of the students responded to the request. The summary of the feedback is as follows:

1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Deep Learning, Augmented Reality, Virtual Reality, Full Stack Development, Data Science, Data Analytics, Recommended Systems.
2. Laboratory courses may include tools to solve real-world problems so that students can gain more practical knowledge.
3. Laboratory courses for Internet of Things, Deep Learning, Data Science, Computer Vision may be introduced to provide students with practical experience on latest tools and technologies.
4. Multimedia application development course would be interesting.
5. Wireless Sensor Networks course would be helpful for research to combine with Internet of Things/Cyber Physical Systems etc.
6. Cyber Forensics is a new trend that may be introduced as a course in curriculum.
7. Computer Vision course may be introduced as core course along with laboratory instead of offering as an elective course.

Action Taken Report:

1. Courses Artificial Intelligence, Artificial Neural Networks and Deep Learning, Virtual Reality and Augmented Reality, Data Science, Recommender Systems were introduced to meet the need and demands of industry.
2. Laboratory course for Data Science was introduced in the curriculum to provide students with practical experience on latest tools and technologies.
3. A course on Wireless Sensor Networks was introduced in the curriculum.
4. MOOC course was offered in the curriculum for 3credits.
5. Internship was offered in the curriculum.

8. MOOC course may be offered with 2 or 3credits.
9. Internship may be offered as part of curriculum.

Feedback report from Faculty Members:

Feedback was taken from all the faculty members during the academic years 2015-2016, 2016-17, 2017-18. Their suggestions are summarized below:

- Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Machine Learning, Cyber Security, High Performance Computing, Soft Computing.
- Courses Statistics with Python/R Programming/MATLAB, Data Preparation and Analysis may be introduced for providing research-orientation to students.
- Implementing and debugging operating system components, including the kernel module, System call, synchronization primitives, and the file system in Advanced Operating Systems course.
- White box and black box testing techniques may be included in the course Software Testing Techniques. Test automation principles and few open-source tools may also be included.
- Topics such as red black trees and splay trees may be included in the course Data Structures and Algorithms.
- The book "Thomas Erl, Zaigham Mahmood, Ricardo Puttini, Cloud Computing: Concepts, Technology & Architecture, PHI, 1st Edition, 2013" may be considered as one of the text books for the course Cloud Computing.
- Topics on NoSQL database, Spark stream processing and graph analytics may be included in the Big Data Analytics course.
- Topics on mining sequence data, mining graphs and networks, social network analysis, statistical data mining, privacy and social impacts of data mining may be included in Data Warehousing and Data Mining course.
- The syllabus of Web Technologies course can be extended with recent and advanced programming like Node.js, Angular.js, Express.js, React.js.
- Topics on IoT privacy, security and vulnerabilities, solutions may be included in Internet of Things course to introduce importance of security in IoT devices.
- The book "E. R. Davies, Computer and Machine Vision: Theory, Algorithms, Practicalities, Elsevier, 5th Edition, 2017" may be considered to frame syllabus for Computer Vision course.

Action Taken Report:

1. Courses Artificial Intelligence, Machine Learning, Cyber Security, High Performance Computing, Soft Computing were introduced in the curriculum.
2. An elective course on Data Preparation and Analysis and an audit course on Statistics with R were introduced in the curriculum.
3. Courses Advanced Data Structures, Advanced Algorithms were introduced in the curriculum.
4. The book "Thomas Erl, Zaigham Mahmood, Ricardo Puttini, Cloud Computing: Concepts, Technology & Architecture, PHI, 1st Edition, 2013" was considered as one of the text books for the Cloud Computing course. Syllabus in Unit 2 was revised as per thebook.
5. The text book "Raj Kamal, Preeti Saxena, Big Data Analytics: Introduction to Hadoop, Spark, and Machine Learning, McGraw Hill, 1st Edition, 2019" has been adopted for Big Data Analytics course as recommended by the faculty members. NoSQL databases was introduced in syllabus as Unit 2, data stream mining as Unit 4, graph analytics as Unit 5.
6. The topics mining sequence data, mining graphs and networks, social network analysis, statistical data mining, privacy and social impacts of data mining were included in Unit 5 of Data Warehousing and Data Mining course.
7. The syllabus of Web Technologies course is revised. Node.js has been introduced as Unit4.
8. IoT privacy, security and vulnerabilities, solutions was included in Unit 4 of Internet of Things course.
9. The syllabus of Computer Vision course was revised. The text book "E. R. Davies, Computer and Machine Vision: Theory, Algorithms, Practicalities, Elsevier, 5th Edition, 2017" was considered to frame syllabus as per faculty suggestion.

Program: M. Tech. in Electrical Power Systems

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2015-2016 and 2016-2017 Passed out batches during the academic years 2018-19. Their feedback was summarized and are as follows: 1. A course dedicated on applications of power electronics to power systems can be included into the curriculum, as the course has ample scope for research in the domain and employability. 2. A course to meet the industrial requirements and latest technologies, new courses such as control system design has to be introduced into the curriculum. 3. A course on application aspect of digital signal processing shall be introduced into the curriculum for realizing the scope in diverse domains of engineering. 4. A course educating the laws and legislature related to intellectual property rights, copy rights should be included into the curriculum which will help the students to follow the ethical practice. 5. A course oriented on the methodologies, ethical practices and attitude of a researches should be included so as to cultivate a research attitude among the students who wish to pursue research. 6. A course on solar and wind energy conversion techniques, to develop strategies to harvest power form natural resources shall be included as a steps towards sustain clean energy production. 7. A course dedicated to understand and realize the automation process in power systems should be included into the curriculum, as the sector has ample employability opportunities in the core industries. 8. Experimentation on advance concepts such as energy conversion system and power systems should be included into the curriculum for better understanding of the underlying concepts.	1. A new course "*Power Electronics for Power Systems"* was introduced into the curriculum emphasizing on the applications of power electronics to power systems which gives a scope of research and employability in core domains. 2. A new courses "*Control System Design*" emphasizing on the design aspects of controllers was introduced into the curriculum. 3. A new course "*Digital Signal* Processing" emphasizing on the applications of digital signal processing to DC-DC buck-boost converters along with the advance concepts were included into the curriculum. 4. A new course "*Research Methodology and IPR*" was introduced into the curriculum emphasizing on the methodologies of the research practice and also emphasizing on the laws and legislative process for intellectual property rights to practice ownership claiming and ethics in their professional career. 5. Two new courses "*Solar Energy Conversion Systems*" and "*Wind Energy Conversion Systems*" emphasizing on the solar and wind energy conversion systems and schemes to harvest energy from solar and wind energy were included into the curriculum which will make the students to develop measures to sustain the eco system and produce clean power. 6. A new course "*Power System Automation*" was included into the curriculum addressing the automation aspects of power system entities and energy management system that would ample the employability opportunities in the core industries. 7. Experiments related to solar energy conversion, reactive power measurement in grid connected system and computation of available transfer capabilities of the transmission lines were included into the course "*Power System Analysis - ILab*".
Feedback report from Students:	**Action taken report:**
Feedback was taken from the students who were passing out during the academic years 2018- 2019. About 80% of the Students responded to the request in each year. The summary of the feedback is as follows: 1. A scope for the evolutionary algorithms shall be provided to the students, as the algorithms have lot of potential to optimization various engineering problems. 2. Awareness on relevant standards of power quality, monitoring methods and devices should be given to the students through appropriate course. 3. A practice program which gives an exposure on industrial environment and providing scope to be a part of the industry shall be included into the curriculum. 4. A course dedicated to develop articulation skills among the students should be included so as to develop writing skills. 5. A course dedicated to analysis of electric and magnetic fields, their computation should be included into the curriculum as the course has ample scope for research in the domain of high voltage engineering.	1. The concepts Genetic algorithm and Differential evolution along with applications were included into the course "*Intelligent Controllers*" appropriately. 2. The concepts power quality benchmarking standards, methods to analyze, monitor the power quality and instruments to assess the power quality were included in the course "*Power Quality*" appropriately. 3. An exclusive course *"Internship"* was included into the curriculum to provide an opportunity for the students to be a part of the industry, and learn and contribute to the industry. 4. A new course "*Technical Report Writing"* emphasis on developing articulation skills in report writing and publications was included in the curriculum. 5. A new course "*Electromagnetic Field Computation and Modeling"* was introduced into the curriculum emphasizing on the analyzing the electromagnetic fields, their computation using numerical methods and finite element analysis methods which gives a scope of research.

Program: M. Tech. in Electrical Power Systems

Feedback report from Faculty members:	**Action taken report:**
All the faculty members have responded to our feedback request. Their suggestions are summarized below: 1. Experiments using simulation software to analyze the field strength and distribution should be included into thecurriculum. 2. Experiment related to power quality issues and mitigating methods using simulation tools should be included into the curriculum to enable the students to understand the underlying concepts of powerquality. 3. Experiment related to testing of relays and assessing power quality should be included into the curriculum, to enable the students to understand the underlyingconcepts. 4. The concepts such as forecasting techniques and planning of generation schedules should be included into the curriculum for better realization of power systemoperation. Feedback report was taken from all the faculty members who taught the courses of the program. The suggestions are summarized below:	1. The experiment Electric field and stress analysis by using 2-D Ansoft software was included into the course "*High Voltage Engineering Lab*" to understand and gain deep insight on the electric field distribution and its computation using the simulation software. *2.* The experiments related to power quality issues and their mitigating techniques, soft computing techniques to find the feasible solution to the engineering problems using simulation tools were included into the course *"Power System Analysis – IILab".* 3. Experiments on testing of various relays and application of power quality analyzer to assess the power quality was included into the course "*Power Systems and Protection Lab"* for better understanding of the underlyingconcepts. *4.* The concepts power system planning addressing the long term and short term strategies, and various load forecasting techniques and underlying concepts were included appropriately into the course *"Power System Planning andReliability".*

Program: M. Tech. in Software Engineering

Feedback report from Alumni:	Action taken report:
Feedback was received from 40% of alumni belonging to 2013-14 and 2015-16 passed out batch and they: 1. Suggested to introduce more industry oriented courses such as Mobile Application Development with Lab, Python Programming. 2. Suggested to include Technical Report writing. 3. Recommended to encourage students towards online courses on emerging areas of Computer Science and Software Engineering.	1. Industry oriented courses were introduced courses such as Mobile Application Development with Lab, Python Programming. 2. Technical Report writing course was included in M. Tech (SE), I-Semester.
Feedback report from students:	**Action Taken Report:**
Feedback was received from 80% of students belonging to 2017-18 passed out batch and they: 1. Suggested to offer Full Stack Technologies with Lab and Machine Learning. 2. Requested to include Software Architecture and Design Patterns Lab course.	1. Introduced Full Stack Technologies with Lab as core courses and Machine Learning as elective course. 2. Software Architecture and Design Patterns Lab course introduced in M. Tech (SE), II Semester.
Feedback report from Faculty Members:	**Action Taken Report:**
Feedback was received from all the members of faculty who taught the courses of the program and they: 1. Suggested to introduce Statistics with R as an Audit course. 2. Suggested to include Artificial Intelligence as an elective course. 3. Suggested to introduce Data Science as elective course.	1. The courses Statistics with R as an Audit course, Artificial Intelligence as an elective course and Data Science as elective course.

Program: M. Tech. in Digital Electronics and Communication Systems

Feedback report from Alumni: Feedback was taken from 2017-18 and 2018-19 passed out batches during the academic year 2018-19 and 2019-20. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. Introduce mini project in the curriculum to improve the skills of students in developing real-time models. 2. Advanced courses may be offered. 3. Internship can be introduced in the curriculum. 4. The two Audit courses named Research Methodology and Intellectual Property Rights can be combined into one.	**Action taken report:** 1. Mini project concept was introduced in laboratories as last experiment as it concretes in summing up the knowledge gained in laboratory. 2. Courses like RF Circuit Design & Microwave Devices and MIMO systems were introduced in the curriculum. 3. To enable students to get exposure and work in Industry/National Laboratories/Academic Institutions relevant to the respective branch of study Internship was introduced in the curriculum. 4. The two Audit courses named Research Methodology and Intellectual Property Rights were combined to one and was made compulsory like core course, as they are made mandatory in Ph.D programs.
Feedback report from Students: The students of 2017-18 and 2018-19 Passed out batches were asked to give feedback for the curriculum improvement. About 80% of the students responded to our request and their suggestions are summarized below: 1. Add-on courses on Technical Report Writing may be conducted to enable students in writing research papers. 2. Students may be allowed for Internships during the program of study.	**Action taken report:** 1. As preliminary research is carried out during post graduation, a course on Technical Report Writing may be introduced. 2. Internships is introduced in the curriculum.
Feedback report from Faculty members: Feedback report was taken from all the Faculty members who taught the courses of the program during 2016-17 and 2017-18 academic years. The suggestions are summarized below: 1. Open elective can be offered through Massive Open Online Course (MOOC) platforms to have awareness on the latest trends in Digital Electronics and Communication Systems. 2. A course named Statistics with R may be introduced to as it builds a bridge between software development and data analysis. 3. In Digital Communication Techniques course, the topics like Spectral Characteristics of Digitally Modulated Signals, RAKE Receiver can be made as self learning topics. Concepts on Applications and Standards of Multi-Carrier Transmission can be included. 4. Some examples may be included in Information Theory and Coding Techniques course under source coding. 5. A course named RF Circuit Design and Microwave Devices may be offered. 6. Wireless Communications course may be strengthened.	**Action taken report:** 1. Open elective was offered through Massive Open Online Course (MOOC)platforms. 2. A course named Statistics with R was introduced as audit course to enable students for data and software development. 3. Digital Communication Techniques course is strengthened and Multi-Carrier Transmission was also included. 4. Examples like Audio Compression and Image Compression are added in Information Theory and Coding Techniques course. 5. RF Circuit Design and Microwave Devices course together with Lab was introduced. 6. Concepts like Capacity of CDMA with Multiple Cells were added in Wireless Communications.

Program: M. Tech. in VLSI

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2017-18 and 2018-19 passed out batches during the academic year 2018-19 and 2019-20. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. Introduction of mini project as last experiment in the laboratory courses concretes in summing up the knowledge gained in laboratory. 2. More algorithms can be added in the course Mixed Signal and Physical Design Automation Lab.	1. Mini project concept was introduced in laboratories as last experiment as it concretes in summing up the knowledge gained in laboratory. 2. The Mixed Signal Lab was merged with Analog CMOS VLSI Design by adding experiments like Ring Oscillator, Phase Locked Loop, etc. The Physical Design Automation Lab was separated with twelve experiments related to Graph, Partitioning, Floor planning and Routing algorithms.
Feedback report from Students: The students of 2017-18 and 2018-19 Passed out batches were asked to give feedback for the curriculum improvement. About 81% students responded to our request and their suggestion are summarized below: 1. A new Laboratory course on IC Fabrication may be included in the curriculum. 2. Advanced courses may be introduced in the curriculum. 3. Suggested to include one more lab in each semester to improve skills.	**Action taken report:** 1. All steps related to IC Fabrication are introduced, Visualization and analysis of carbon allotropes used in nanotechnology was added in Nano Materials and Nano Technology Lab. 2. New courses titled Low Power CMOS VLSI Design, Memory Technologies, Communication Buses and Interfaces and Network-on-Chip Design were introduced 3. Two lab courses were introduced in I & II Semesters namely Analog CMOS VLSI Design, Digital CMOS VLSI Design and in I-Semester; Physical Design Automation Lab and Nano Materials and Nano Technology Lab inII-Semester.
Feedback report from Faculty members: Feedback report was taken from all the Faculty members who taught the courses of the program during 2016-17 and 2017-18 academic years. Their suggestions are summarized below. 1. Design orientation for developing the VCOS, LNA, MIXERS, PLL and Power Amplifiers can be included in RFIC Design course. 2. The following changes can be made in the course Nanoelectronics • Carbon nanomaterial: nanotube and fullerenes is to be replaced with carbon nanotube. • In unit-III methods of nanotube growth is needed to be replaced with Methods of carbon nanotube growth • In unit–V Carbon Nanotube Devices Structure and Technology, Carbon Nanotube Transistor can be replaced with Carbon Nanotube Transistor. 3. It is appropriate to move Floor Planning, Placement & Routing concepts in ASIC Design to Physical Design Automation course.	**Action taken report:** 1. In SVEC19 regulations, Design Approach was initiated for developing the VCOS, LNA, MIXERS, PLL and Power Amplifiers in RFIC Design course as reflected inCO3. 2. In Unit-IV of Nano Materials and Nano Technology course, nanotube and fullerenes were replaced with carbon nanotube and nanotube growth was replaced with Methods of carbon nanotube growth. Unit-V focuses on Interdisciplinary Applications. 3. The Floor Planning, Placement & Routing concepts are introduced in Physical Design Automation Course as reflected in algorithms considered.

Program: M. Tech. in Communication Systems

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2017-18 and 2018-19 passed out batches during the academic year 2018-19 and 2019-20. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. Introduce mini project in the curriculum to improve the skills of students in developing real-time models. 2. Internship can be introduced in the curriculum. 3. The two Audit courses named Research Methodology and Intellectual Property Rights can be combined into one.	1. Mini project concept was introduced in laboratories as last experiment as it concretes in summing up the knowledge gained in laboratory. 2. Courses like RF Circuit Design & Microwave Devices and MIMO systems were introduced in the curriculum. 3. To enable students to get exposure and work in Industry/National Laboratories/Academic Institutions relevant to the respective branch of study Internship was introduced in the curriculum. 4. The two Audit courses named Research Methodology and Intellectual Property Rights were combined to one and was made compulsory like core course, as they are made mandatory in Ph.D programs.
Feedback report from Students:	**Action taken report:**
The students of 2017-18 and 2018-19 Passed out batches were asked to give feedback for the curriculum improvement. The feedback was given by about 82% students and their suggestion is summarized below: 1. To take up projects on Antennas & Microwaves, Circuit design for Antennas & Microwave devices may be introduced in the course RF Circuit Design. 2. Suggested to include one more lab in each semester to improve skills. 3. Syllabus in smart antennas course is heavy	1. Exercise related to Microwaves and Antennas for wireless applications using FEKO tool and network analyzer is added in RF & Microwave Circuit Design Lab. 2. One more lab is introduced in each semester to improve skills in core courses. 3. Direct Matrix Inversion (DMI) and Linearly Constrained Minimum Variance(LCMV) topics were removed without effecting the subject flow as the syllabus is vast and cannot be covered in the stipulated time in smart antennas
Feedback report from Faculty members:	**Action taken report:**
Feedback report was taken from all the Faculty members who taught the courses of the program during 2016-17 and 2017-18 academic years. The following suggestions were considered for improvement in curriculum. 1. New experiments may be added on edge detection in Image and Video Processing Lab. 2. Optical Communications and Networks course can be refined. 3. Latest topics may be added in Digital Satellite Communications course. 4. Wireless Sensor Networks course can be further strengthened.	1. Canny Edge Detection is introduced in Image and Video Processing Lab 2. Concepts like PON, GPON and AON were included in Optical Communications and Networks. 3. In Digital Satellite Communications course, GPS Position Location Principles and recent communication satellites launched by NASA/ ISRO related topics have been included in 5thUnit. 4. Examples of sensor nodes, Operating systems and execution environments were added in Wireless Sensor Networks course to impart the knowledge on operating systems, type of nodes and mobility. Antenna consideration is included to get the knowledge about antenna design in the field of WSNs. The LEACH protocol is included, since it is the bench mark of all schedule based protocols. Cross layer design is included in unit 5, since the current research moving from layered approach to cross layer approach.

Program: M. Tech. in Computer Networks and Information Security

Feedback Report from Alumni:	Action Taken Report:
Feedback was taken from 2013-2014, 2014-2015, 2015-16 passed out students during the academic years 2015-2016, 2016-17, 2017-18 respectively. About 48% of the alumni responded to the request. The summary of the feedback is as follows: 1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Machine Learning, Network Data Analytics, Software Defined Networks, Malware and Risk Analysis, Block chain Technologies. 2. Course like Advanced Algorithmic Analysis would help in research-orientation for students. 3. A laboratory course on wireless networks may be introduced to provide hands-on experience to students on latest networking tools and technologies. 4. Mathematics/Statistics subject can be introduced as pre-requisite for courses like Data Analytics, Machine Learning etc. 5. Courses may be included to improve the communication skills of students. 6. Entrepreneur skills of students need to be enhanced. 7. Topics on Amazon Web Services may be included in Internet of Things course.	1. Courses Artificial Intelligence, Machine Learning, Artificial Neural Networks and Deep Learning, Malware and Risk Analysis, Block chain Technologies, Software Defined Networks were introduced to meet the need and demands of industry. 2. Courses Advanced Algorithms, Advanced Data Structures were introduced in the curriculum. 3. A laboratory course on Wireless Sensor Networks was introduced. 4. A course Statistics with R was introduced in the curriculum. 5. An audit course Technical Report Writing was introduced to improve the communication skills of students. 6. Amazon Web Services for IoT was introduced in to syllabus of Internet of Things course in Unit5.
Feedback report from Students: Feedback was taken from the students who were passing out during the academic years 2015- 2016, 2016-17, 2017-18. About 86% of the students responded to the request. The summary of the feedback is as follows: 1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Machine Learning, Deep Learning, Block chain Technologies. 2. Laboratory courses may include tools to solve real-world problems so that students can gain more practical knowledge. 3. Laboratory courses for Internet of Things, Deep Learning, Block chain Technologies may be introduced to provide students with practical experience on latest tools and technologies. 4. Cyber Forensics is a new trend that may be introduced as a course in curriculum. 5. MOOC course may be offered with 2 or 3credits. 6. Internship may be offered as part of curriculum.	**Action Taken Report:** 1. Courses Artificial Intelligence, Machine Learning, Artificial Neural Networks and Deep Learning, Block chain Technologies were introduced to meet the need and demands of industry. 2. Laboratory course for Cryptography and Network Security is revised to include recent tools and technologies. 3. MOOC course was offered in the curriculum for 3credits. 4. Internship was offered in the curriculum.
Feedback report from Faculty Members: Feedback was taken from all the faculty members during the academic years 2015-2016, 2016-17, 2017-18. Their suggestions are summarized below: 1. Courses may be introduced to meet the need and demands of industry like Artificial Intelligence, Soft Computing, GPU Computing, Wireless Sensor Networks, Secure Software Design and Enterprise Computing. 2. A Course on Statistics with Python/R Programming/MATLAB may be introduced for providing research-orientation to students.	**Action Taken Report:** 1. Courses Artificial Intelligence, Soft Computing, GPU Computing, Wireless Sensor Networks, Secure Software Design and Enterprise Computing were introduced in the curriculum. 2. An audit course on Statistics with R were introduced in the curriculum. 3. The book "Thomas Erl, Zaigham Mahmood, Ricardo Puttini, Cloud Computing: Concepts, Technology & Architecture, PHI, 1st Edition, 2013" was considered as one of the text books for the Cloud Computing course. Syllabus in Unit 2 was

Program: M. Tech. in Computer Networks and Information Security

3. The book "Thomas Erl, Zaigham Mahmood, Ricardo Puttini, Cloud Computing: Concepts, Technology & Architecture, PHI, 1st Edition, 2013" may be considered as one of the text books for the course Cloud Computing. 4. Topics on NoSQL database, Spark stream processing and graph analytics may be included in the Big Data Analytics course. 5. Topics on mining sequence data, mining graphs and networks, social network analysis, statistical data mining, privacy and social impacts of data mining may be included in Data Warehousing and Data Mining course. 6. The syllabus of Web Technologies course can be extended with recent and advanced programming like Node.js, Angular.js, Express.js,React.js. 7. Topics on IoT privacy, security and vulnerabilities, solutions may be included in Internet of Things course to introduce importance of security in IoT devices. 8. The book "Dhruba Kumar Bhattacharyya, Jugal Kumar Kalita, Network Anomaly Detection: A Machine Learning Perspective, CRC Press, 2014" may be considered as text book for the course Intrusion Detection Systems. 9. The topics number theory, web security, DDOS attacks may be included in the course Information Security. 10. DDOS-prevention Mechanisms may be included in the course Ethical Hacking.	revised as per the book. 4. The topics mining sequence data, mining graphs and networks, social network analysis, statistical data mining, privacy and social impacts of data mining were included in Unit 5 of Data Warehousing and Data Mining course. 5. IoT privacy, security and vulnerabilities, solutions was included in Unit 4 of Internet of Things course. 6. The book "Dhruba Kumar Bhattacharyya, Jugal Kumar Kalita, Network Anomaly Detection: A Machine Learning Perspective, CRC Press, 2014" was considered as text book for the course Intrusion Detection Systems. The syllabus was revised as per the book. 7. The topics number theory, web security, DDOS attacks were included in the course Cryptography and Network Security.

Program: M. Tech. in Power Electronics and Drives

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2019-2020 Passed out batches during the academic years 2019-20. Their feedback was summarized and are as follows: 1. A course to meet the industrial requirements and latest technologies, new courses such as control system design has to be introduced into the curriculum. 2. A course dedicated to analysis of electric and magnetic fields, their computation should be included into the curriculum as the course has ample scope for research in the domain of high voltage engineering. 3. A course educating the laws and legislature related to intellectual property rights, copy rights should be included into the curriculum which will help the students to follow the ethical practice. 4. A course oriented on the methodologies, ethical practices and attitude of a researches should be included so as to cultivate a research attitude among the students who wish to pursue research. 5. A course oriented on the advance concepts on power electronics and drives, and their control aspects using digital techniques shall be introduced into the curriculum, as the course has ample scope of employability in core industries. 6. A course emphasizing on the inverters topologies, their control shall be included into the curriculum as there is ample scope for employability in the inverters field industries. 7. A course on solar and wind energy conversion techniques, to develop strategies to harvest power form natural resources shall be included as a steps to sustain clean energy production.	1. A new courses "*Control System Design*" emphasizing on the design aspects of controllers was introduced into the curriculum. 2. A new course "*Electromagnetic Field Computation and Modeling"* was introduced into the curriculum emphasizing on the analyzing the electromagnetic fields, their computation using numerical methods and finite element analysis methods which gives a scope of research. 3. A new course "*Research Methodology and IPR*" was introduced into the curriculum emphasizing on the methodologies of the research practice and also emphasizing on the laws and legislative process for intellectual property rights to practice ownership claiming and ethics in their professional career. 4. A new course "*Digital Control of Power Electronics and Drive Systems*" emphasized on control and design of controllers using digital techniques was introduced to make the students ready for industry and for research as well. 5. A new course "*Multilevel Inverters*" emphasizing on the inverters topologies, their control strategies and possibilities to improve the performance aspects were addressed as course into the curriculum and making the students ready for research and employability field of inverters. 6. Two new courses "*Solar Energy Conversion Systems*" and "Wind Energy Conversion Systems" emphasizing on the solar and wind energy conversion systems and schemes to harvest energy from solar and wind energy were included into the curriculum which will make the students to develop measures to sustain the eco system and produce clear power.
Feedback report from Faculty members: Feedback report was taken from all the faculty members who taught the courses of the program. The suggestions are summarized below: 1. A scope for the evolutionary algorithms shall be provided to the students, as the algorithms have lot of potential to optimization various engineering problems. 2. Awareness on relevant standards of power quality, monitoring methods and devices should be given to the students through appropriate course. 3. Practical experimentation on multi-level inverters should be exercised in the laboratory. 4. Experimentation on various drives should be exercised to provide deep insight on the underlying concepts.	**Action taken report:** 1. The concepts Genetic algorithm and Differential evolution along with applications were included into the course "*Intelligent Controllers*" appropriately. 2. The concepts power quality benchmarking standards methods to analyze, monitor the power quality and instruments to assess the power quality were included in the course "*Power Quality*" appropriately. 3. Practical experiments on multi-level inverters and DC-DC converters were included in the course "*Electrical Drives Lab"* appropriately. 4. The course "*Electrical Drives Simulation Lab*" was revived and is fortified with the experiments related to various drives such as Permanent Magnet Synchronous motor fed drive, Brushless DC Motor and Switched Reluctance Motor fed drive. 5. A new course "*Technical Report Writing"* emphasis on developing articulation skills

Program: M. Tech. in Power Electronics and Drives	
5. A course dedicated to develop articulation skills among the students should be included so as to develop writing skills. 6. A course on application aspect of digital signal processing shall be introduced into the curriculum for realizing the scope in diverse domains of engineering. 7. A course rendering a deep knowledge on advanced power electronic circuits should be introduced which is having a lot of research potential. 8. A practice program which gives an exposure on industrial environment and providing scope to be a part of the industry shall be included into the curriculum. 9. A course emphasized on the latest developments on the power supplies shall be included into the curriculum, as such an area provides ample scope of employability in core industries and research.	in report writing and publications was included in the curriculum. 6. A new course "*Digital Signal* Processing" emphasizing on the applications of digital signal processing to DC-DC buck-boost converters along with the advance concepts were included into the curriculum. 7. A new course "*Advanced Power Electronic Circuits"* emphasizing on switching techniques, controlling techniques of converters under different configurations was included into the curriculum which will lay a strong foundation for research and employability. 8. An exclusive course *"Internship"* was included into the curriculum to provide an opportunity for the students to be a part of the industry, and learn and contribute to the industry. 9. A new course "*Switched Mode Power Supplies and UPS"* emphasized on power conditioners, UPS and filters, and design aspects of power supplies for various requirements was included into the curriculum which will open the avenues of research and employability for the students.

Program: Master of Computer Applications

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2014-15, 2015-16, and 2016-17 passed out batches during the academic years 2016-17, 2017-18, 2018-19 respectively. About 40% of them were responded to our survey. Their feedback was summarized as follows: 1. It is recommended to focus on self learning skills and communication Skills which is required for Industry. 2. Suggested to include real time problems using mini projects in regular lab cycles. 3. Recommended to include Cyber Security and Devops. 4. It is beneficial to incorporate new courses on Computer Oriented Statistical Techniques, Python Programming, Programming with C# and Programming with AngularJS. 5. Requested to introduce Artificial Intelligence, Programming in Ruby and Deep Learning courses which are very near to market trends. 6. Suggested to incorporate self learning courses in the curriculum. 7. Suggested to introduce industry related courses such as Data science, Python programming, R programming, and NOSQL databases. 8. Courses like Web programming & Object Oriented Programming Through JAVA have to be strengthened by including latest concepts. 9. Encourage students towards more online courses in emerging fields of Information Technology.	1. Possible recommendations may be considered to implement real time self learning topics and skill oriented programs to be practiced and nurture technical and communication skills as per industry perspective. 2. May be considered while preparing the next revision of syllabus. 3. The suggestions may be included in the revision of curriculum. 4. Suggestion is appreciable; suggestions may be considered for inclusion of Computer Oriented Statistical Techniques, Python Programming, Programming with C# and Programming with AngularJS courses in the later revision of curriculum. 5. As per the recommendations of the alumni, Artificial Intelligence, Programming in Ruby and Deep Learning courses may be introduced in the next revision. 6. As this is used to analyze the knowledge of the students may be included in the next revision of curriculum. 7. Suggestions are appreciable to introduce industry related courses such as Data Science, Python Programming, R programming, and NOSQL databases. 8. As per recommendations Mini projects are incorporated in courses like Web Programming & Object Oriented Programming Through JAVA to strengthen application oriented practice. 9. Encouraged students towards self learning like coursera, edx, etc. through online mode in emerging fields of Information technology.
Feedback report from Students:	**Action taken report:**
Students exit batch feedback was taken from 2016-17, 2017-18, 2018-19 and 2019-20 passed out batches of its respective academic years. About 80% of them were responded to survey. Their feedback is summarized as follows: 1. It is recommended to include real world problems for programming oriented courses as the student can adopt programming skills in laboratories. 2. It is highly recommended to introduce Devops Applications Development with laboratory. 3. It is suggested to include Data Structures and Algorithms course along with laboratory. 4. It is beneficial to focus on Project development skills in the curriculum. 5. It would be advantageous to students, if case studies are included in Information Security, Programming in C and Database Management Systems.	1. Revision of exercises may be considered to solve real world problems for programming oriented courses can be done for the next revision. 2. Suggestion is appreciable to introduce Devops Applications development which may be considered for the next revision. 3. Data Structures and Algorithms course along with laboratory may be incorporated in the next revision. 4. It can be verified and incorporated in the next revision by consulting the experts. 5. Recommendations are considered to include case studies are included in Information security, Programming in C and Database Management Systems. 6. May be incorporated as it is essential to include as per industry needs and student requirements to fill the gap between industry and academics. 7. Possibly the suggestion may be considered to include courses on courses

6. Suggested to include LINUX Programming Lab course along with theory course. 7. Requested to include the courses on Computer Oriented Optimization Techniques and Cloud Computing and Data Analytics Lab to solve real world problems. 8. Suggested to include separate laboratories for all core courses and real world applications for Data Warehousing and Data Mining and Information security laboratories. 9. Requested to include AngularJS in Web programming, and refine the syllabus of Database Management Systems laboratory with MongoDB, HIVE Programming in Big Data Analytics. 10. Requested to offer Cloud Computing using tools like salesforce.com to acquire in depth knowledge on the respective courses.	on Computer Oriented Optimization Techniques and Cloud Computing and Data Analytics Lab to solve real world problems as per the Industry trend. 8. Included separate laboratories for all core courses and real world applications 9. Included AngularJS in Web programming, and refine the syllabus of Database Management Systems laboratory, HIVE Programming in Big Data Analytics. 10. Offered Cloud Computing using tools like salesforce.com, AWS, IBM Cloud to acquire in depth knowledge on different Cloud environments.
Feedback report from Faculty members: Faculty feedback was taken from faculty members who taught the courses of the program during the Academic years 2016-17, 2017-18, 2018-19 and 2019-20. All of them have responded and following are few valuable suggestions: 1. For enhancing the skills of students it is recommended to include mini projects related to real world problems in the lab cycle. 2. Student's presentations and communication skills have to be improved through introduction of new courses to exhibit their talent and skills at their work place. 3. Recommended to students to participate in NSS activities and Co-Curricular and Extra Curricular activities to identify the problems facing in the society and solve them using their computing practices. 4. It would be advantageous to include latest courses like Block chain Technologies and Cyber Security. 5. Suggested to introduce courses on User Interface Design, Programming with AngularJS, Cryptography and Network Security which are latest technologies in the market. 6. Suggested to introduce Tableau in Big Data Analytics laboratory and Security concepts in cloud computing. 7. Recommended to include the concepts of Micro processors in Computer Organization. 8. Suggested to include exercises on Book review to improve writing and speaking skills, 9. Suggested to introduce the concept of group cohesiveness and compliance Conformity, competency mapping technique for HRP, contemporary sourcing and recruitment tools, and job training methods in the course Organizational Behavior and Human Resource Management	**Action taken report:** The suggestions might be considered in the next revision of the curriculum. 1. Suggestion is appreciable to include Mini project in lab cycles related to real world problems to enhance programming skills of the students. Suggestion may be incorporated as per the industry need in the next revision of curriculum. 2. Recommendations are appreciable towards the growth of students" skills by actively participating in NSS activities and Co Curricular and Extra Curricular activities to identify the problems facing in the society and solve them using their computing practices. 3. As per the recommendations, latest courses like Block chain Technologies and Cyber Security may be included in the curriculum interacting with experts in industry and Academicians. 4. Courses on Full Stack Development, Programming in Ruby, Server Side Development with NodeJS, Cloud Computing and Data Analytics Lab using Microsoft AZURE and Hadoop and R Studio along with R programming can be introduced in the next revision of curriculum as per industry needs. 5. Suggestions are considered related to courses like Big Data Analytics laboratory and Security concepts in cloud computing. 6. Recommended to include the concepts of Micro Processors in Computer Organization. 7. Suggestions are considered to enhance broader thinking, writing and speaking skills include additional exercises to improve thinking, writing and speaking skills. 8. Suggestions are appreciable to introduce the concept of Group Cohesiveness and Compliance Conformity, competency mapping technique for HRP, contemporary sourcing and recruitment tools, and job training methods in the course Organizational Behavior and Human Resource Management.

Feedback report from Employers:
Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses suggested for improvement

Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action taken report:

- **Foundation courses: Data Structures, OOP concepts, Algorithms**
  In SVEC16 regulations: Data Structures, Object Oriented Programming, Algorithms in Programming in C and Data Structures are included and implemented successfully. The same courses have been included and implemented under SVEC19 regulations.
- **ARM in Azure cloud**
  In SVEC16 regulations: Cloud service models and case studies such as SaaS: Salesforce.com, AMAZON EC2, S3, VPC, and Oracle VM box, MS-Azure, creation of tool chain in IBM Bluemix were included and implemented. Also, developed web based application on MS-Azure Platform.
  Expert Lecture was also conducted on Oracle Cloud infrastructure.
  In SVEC19 regulations: In Cloud Computing Laboratory course, DevOps in AZURE is proposed to be included.
- **Machine learning for finance**
  A Skill Development Programme on "Machine Learning and Artificial Intelligence Techniques" is organized during the Academic Year 2017-2018.
  In SVEC19 regulations: Machine Learning Course has been included.
- **Artificial Intelligence based courses**
  An Expert Lecture on "Technical influence of AI on Society" was organized in the academic year 2019-2020.
  In SVEC19 regulations: Artificial Intelligence course has been included.
- **IOT based courses**
  Workshops on "IoT", "IoT fundamentals" and "Programming IoT" were organized.
  In SVEC16 regulations: Internet of Things Course has been included and implemented successfully.
  In SVEC19 regulations: Internet of Things Course has been included.

- **Block chain technologies & tools**
  In SVEC16 regulations: Organized an Expert Lecture on "Block Chain

<table>
<tr><th colspan="2">Program: Master of Computer Applications</th></tr>
<tr><td></td><td>Technologies".
In SVEC19 regulations: Block chain Technologies course has been included as a Professional Elective.
• Cyber security
In SVEC16 regulations: Concepts related to Cyber Security such as Vulnerabilities, access control and cryptography, Network Security attacks, Cryptography in network security, Firewalls, intrusion detection and prevention system were implemented in Information Security and Ethical Hacking courses.
In SVEC19 regulations: New courses like Cyber security and Software Security have been included.
• Testing tools like Selenium Katalon studio
In SVEC16 Regulations: Testing for specialized environments and functional test tool (Selenium) was implemented in Software Testing course.
In SVEC19 regulations: Included Selenium tool exclusively in Software Testing Course.
• Data Visualization
A Webinar on Data Visualization using Power BI was organized to gain knowledge on Data Visualization.
In SVEC19 Regulations: A course on Data Visualization has been included.</td></tr>
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BS&H courses for B. Tech. Programs

To reduce the redundancy, the feedback reports form faulty members of **Basic Sciences and Humanities (BS & H) Department** and the action taken reports are summarized below.

Feedback report from Faculty members of BS&H:

All faculty members of BS & H department, who have taught their courses to students of various B.Tech. Programs were given their opinion on curriculum improvements. Faculty opined that the following curricular modifications are to be incorporated in the next curriculum revision (SVEC19)

1. Suggested to change the name as "Differential Equations and Multivariable Calculus". Include the differential equations reducible to linear form [Cauchy's and Legendre types of differential equations] and also to include partial differential equations and change of variables in triple integration.
2. Suggested to include Linear Algebra in place of Z transforms and include partial differential equations in differential equations removing it from "Transformation Techniques and Linear Algebra" course.
3. Suggested to introduce Legendre polynomials and its properties, recurrence relations, and include the topic of finding poles at infinity and syllabus to be made application oriented incorporating more examples on conformal mapping and potential functions in "Special Functions and Complex Analysis".

4 Suggested to combine probability distributions and numerical methods to rename the paper as "Numerical Methods, Probability & Statistics" for computer sciences, civil and mechanical engineering streams and to introduce "Numerical Methods, probability and statistics" as audit courses fore-branches.

5. It suggested to include "Material Science" for all branches as it is inter disciplinary and combines the fundamental sciences and it helps students for the master degree and research study.
6. Suggested to include wave optics, electromagnetic waves, and few engineering applications of optical fiber (optical sensors), magnetic materials and their applications in various industries in "Engineering Physics".

Action taken report:

1. Differential equations reducible to linear forms like Cauchy's and Legendre types were included. Partial differential equations were included as a separate unit and the topic related to change of variables in triple integration were introduced in differential equations and multivariable calculus.
2. A unit on vector spaces (Linear Algebra) is included and rearrangement is made by changing the partial differential equations unit to differential equations course.
3. Legendre polynomials, its properties, recurrence relations and topics related to poles at infinity were introduced in Special functions and complex analysis course.
4. Numerical methods, probability and statistics were combined for computer sciences, civil and mechanical engineering branches as suggested and audit courses on numerical methods and probability& statistics were introduced for e–branches. Material science was introduced as open elective for all branches of engineering as suggested.
5. Wave mechanics, electromagnetic waves, optical fiber sensors and magnetic material were introduced in syllabi of engineering physics as suggested. Five experiments such as, wedge shape method, Neutrons" ring experiment, wave length of monochromatic light, BH carve and four probe method for determination resistivity are introduced in the engineering physics Laboratory syllabi as suggested.
6. "Applied physics" course was introduced for civil and mechanical engineering students.
7. Experiments related gravity, moment of inertia, thermal conductivities; charge carrier concentrations were introduced in the Applied Physics Laboratory syllabi which supports the core subject syllabi.
8. Atomic structure and bonding theories are newly introduced to provide quantum mechanical approach. Instrumental methods and their applications to enlighten their significance and characterization of materials and Fuel chemistry are introduced in the syllabus.
9. The experiments are on the determination of strength of acid in led acid

7. Suggested to introduce interference, diffraction related experiments, electrical properties of semi-conductor and BH curve experiments in "Engineering Physics Laboratory" syllabus. 8. Suggested to introduce customized course in Physics for Civil and Mechanical branches of engineering. 9. Suggested to introduce the Physics laboratory experiments which support the core syllabus for civil and Mechanical branches. 10. Suggested to introduce atomic structure and bonding theories providing quantum mechanical orientation on atomic structure and for developing skills to identify molecular shapes in "Engineering Chemistry". Suggested to introduce the significance of instrumental methods in characterization of materials. Also the concepts of fuel and their characteristics. 11. Suggested to include experiments for determine strength of aids in batteries, estimation of residual chlorine in drinking water and identification of simple organic compounds by spectroscopic methods in "Engineering Chemistry laboratory". 12. Suggested to introduce "Biology for Engineers" to enable the Engineering students to have better enlightening on life sciences. 13. Suggested to include the topics such as conferences, seminars and symposia, and include the topics of essays instead of references and styling in technical writing in "Communicative English". Suggested to include additional resources for self-study. 14. Suggested to include letter writing as one of the exercises and additional resources for self-study in "communicative English laboratory". 15. Suggested to include the broader topic thinking skills instead of creative thinking and to include additional resources for self-study in "soft skill laboratory". 16. Suggested to include letter writing as one of the exercises and additional resources for self-study in "communicative English laboratory for MCA". 17. Suggested to include the broader topic thinking skills instead of creative thinking and to include additional resources for self-study in "Soft Skill laboratory for MCA". 18. Suggested to include additional resources for self-study in the open elective course "Business Communication and Career Skills". 19. Suggested to include personality analysis, behavior modification, electronic communication, time management and additional resources for self-study in	batteries other on estimation of chlorine residues in drinking water and identification of simple organic compounds UV&IR techniques in "Engineering Chemistry laboratory" syllabus. 10. A new course Biology for Engineers introduced accordingly. 11. Conferences, seminars and symposia, reference and study in technical writing and resources for self-study were included. 12. Letter writing and additional resources for self-study were included as per suggestions. 13. Thinking skills and additional resources for self-study were included. 14. Letter writing and additional resources for self-study were included. 15. Thinking skills and additional resources for self-study were included in "Soft Skill Lab for MCA" 16. Additional resources for self-study were included open elective course "Business Communication and Career Skills". 17. Personality analysis, behavior modification, electronic communication such as text messaging, voice mail, e-mail, time management, stress management, anger management and additional resources for self-study were included. 18. The course is renamed as "Principles of Business Economics and Accountancy" , and reorganized the syllabus by introducing elements of tally. 19. The new Mandatory course "organization behavior" introduced. 20. Online banking concepts were introduced in the open elective course "Banking and Insurance". 21. Changing the balance sheet form from vertical to horizontal modulation as per the latest norms of IFCAI is amended in the syllabus of CAFM and relevant modifications were made. 22. MUDRA system as per government norms in the syllabi of "Entrepreneurship for Micro Small and Medium Enterprises" is introduced as per the suggestions. 23. The course is renamed as "Financial and Management Accounting" and Ratio Analysis, management accounting Techniques were included. 24. Topics were rearranged to get more continuity for easier understandability. 25. A new course "Gender and Environment" as is introduced as open elective. 26. A new course "Women Empowerment" is introduced as open elective for the

BS&H courses for B. Tech. Programs

"personality development".

20. Suggested to put title of the paper managerial economic and principles of accountancy as "Principles of Business Economics and Accountancy" and to incorporate elements of tally in place of computerized accounted.
21. Suggested to introduce "Organizational Behavior" to enable the Engineering students to have better enlightening on startups and to project them and the working environments of organizations.
22. Suggested to introduce online banking concepts in the open elective course "Banking andInsurance".
23. Suggested to reorganize the syllabus of "Cost Accounting and Financial Management" incorporating the latest financial regulations and amendments.
24. Suggested to introduce MUDRA system as per government norms in the syllabi of "Entrepreneurship for Micro Small and Medium Enterprises"
25. Suggested to change the title from accounting and financial management to "Financial and Management Accounting" and include Ratio Analysis and management accounting Techniques.
26. Suggested reorganize the syllabus of "Organizational Behavior and Human Resource Management" for more continuity of the topics depending on the interdisciplinary contexts.
27. Suggested to introduce "Gender and Environment" to enable the Engineering students to have a better enlightening on gender equities.
28. Suggested to introduce "Woman Empowerment" to enable the girl students to have better enlightening on startups and project them to the working environments of organizations.
29. Suggested to introduce "German Language" to the students for better aboard opportunities, "Indian Economy", "Indian History" for the students projecting them to get opportunities in civil services area.
30. Suggested to introduce courses on "Life Skills" and "Professional ethics" for overall growth and development of students in future societal environments.

students to have projections over start-ups and working environment in industries to girl students.

27. The suggested courses "German Language", "Indian Economy", "Indian History" were introduced as open electives for the welfare of students.
28. Introduced open elective courses on "Life Skills" and "Professional ethics" for overall growth and development of students.

Feedback reports and Action taken reports

for curriculum improvements under SVEC16 Regulations

introduced in the Academic Year 2016-17:

Program: B. Tech. in Civil Engineering

Feedback report from Alumni:	Action taken report:
Alumni of about 40% belonging to passed out batches in the academic years 2012-13 and 2013-14 were participated in the feedback on curriculum and their suggestions are mentioned hereunder. 1. Inclusion of theory course on "Irrigation Engineering" 2. Inclusion of theory courses on "Building Materials and Construction Technology" and "Concrete Technology" 3. Inclusion of theory courses on "Highway and Traffic Engineering" and "Railway, Airport and Harbour Engineering" in place of Transportation Engineering-I and II. 4. Inclusion of separate lab courses on "Concrete Technology" and "Highway Engineering" in place of Concrete and Highway Materials Lab. 5. Inclusion of lab courses on "Building Materials and Construction Technology" and "MATLAB Practice for Civil Engineers" 6. Inclusion of theory course on "Construction Planning and Project Management" 7. Addition of a lab course on "Civil Engineering Software" 8. Addition of Interdisciplinary elective theory courses on Principles of Image Processing, Costing and Finance Management for Civil Engineers, Renewable Energy, Computational Fluid Dynamics, Data Base Management Systems, Optimization Techniques, Fire Engineering, Energy Audit and Conservation. 9. Addition of advanced theory courses on Advanced Reinforced Cement Concrete Structures, Advanced Surveying, Structural Health Monitoring, Building Maintenance and Repair, Green Technologies, Global Positioning System (GPS), Transportation Planning and Management, Highway Construction and Maintenance, Pavement Analysis and Design as electives for better employability.	Based on the feedback from Alumni on curriculum, the following changes were incorporated in the curriculum of SVEC16: 1. A Theory course on "Irrigation Engineering" was introduced. 2. "Building Materials and Construction Technology" and "Concrete Technology" were offered as new courses. 3. Theory courses on "Highway and Traffic Engineering" and "Railway, Airport and Harbour Engineering" were introduced in place of Transportation Engineering-I and II. 4. Lab courses on "Concrete Technology" and "Highway Engineering" were introduced 5. Lab courses on "Building Materials and Construction Technology" and "MATLAB Practice for Civil Engineers" were introduced. 6. A theory course on "Construction Planning and Project Management" was introduced 7. A lab course on "Civil Engineering Software" was introduced 8. Theory courses on Principles of Image Processing, Costing and Finance Management for Civil Engineers, Renewable Energy, Computational Fluid Dynamics, Data Base Management Systems, Optimization Techniques, Fire Engineering, Energy Audit and Conservation were introduced as Interdisciplinary Electives. 9. Theory courses on Advanced Reinforced Cement Concrete Structures, Advanced Surveying, Structural Health Monitoring, Building Maintenance and Repair, Green Technologies, Global Positioning System (GPS), Transportation Planning and Management, Highway Construction and Maintenance, Pavement Analysis and Design were introduced as Program Electives.
Feedback report from Students: Feedback on curriculum was obtained from 80% of the students from batches 2014-15 and 2015-16. Students would like to have the following changes in the curriculum during the next revision (SVEC16 Regulations). 1. Inclusion of a theory course on "Irrigation Engineering" 2. Inclusion of Building Materials and Construction Technology as new course in place of Building Materials and Concrete Technology 3. Inclusion of theory courses on "Highway and Traffic Engineering" and "Railway,	**Action taken report:** Based on the opinion of students, the following changes were incorporated in the curriculum of SVEC 2016 Regulations. 1. A theory course on "Irrigation Engineering" was introduced 2. Building Materials and Construction Technology was offered as new course in place of Building Materials and Concrete Technology 3. Theory courses on "Highway and Traffic Engineering" and "Railway, Airport and Harbour Engineering" were introduced in place of Transportation Engineering-I

Program: B. Tech. in Civil Engineering

Airport and Harbour Engineering" in place of Transportation Engineering-I and II. 4. Exclusive lab courses on "Concrete Technology" and "Highway Engineering" in place of Concrete and Highway Materials Lab 5. Inclusion of a theory course on "Multi–Variable Calculus and Differential Equations" 6. Inclusion of theory and lab courses on "Programming in C" 7. Exclusive lab courses on "Engineering Chemistry" and "Engineering Physics" in place of Engineering Physics and Engineering Chemistry Lab 8. Inclusion of lab course on "English Language" in place of "English Language Communication Skills Lab". 9. Inclusion of a theory course on "Transformation Techniques and Partial Differential Equations" 10. Inclusion of a lab course on "Engineering Workshop Practice" 11. Inclusion of theory course on "Probability Distributions and Statistical Methods" 12. Inclusion of a theory course on "Environmental Studies" in place of "Environmental Sciences" 13. Inclusion of new lab course on "Civil Engineering Software" for enhancing employability 14. Inclusion of new lab courses on "Building Materials and Construction Technology" and "MATLAB Practice for Civil Engineers" for better employability. 15. Inclusion of a theory course on "Concrete Technology" 16. Inclusion of a theory course on "Construction Planning and Project Management" 17. Inclusion of a theory course on "Estimation and Quantity Surveying" 18. Inclusion of Interdisciplinary Electives Theory courses on Principles of Image Processing, Costing and Finance Management for Civil Engineers, Renewable Energy, Computational Fluid Dynamics, and Optimization Techniques. 19. Addition of advanced theory courses on Advanced Reinforced Cement Concrete Structures, Advanced Surveying, Structural Health Monitoring, Building Maintenance and Repair, Green Technologies, Global Positioning System (GPS), Transportation Planning and Management, Highway Construction and Maintenance, Pavement Analysis and Design.	and II. 4. Lab courses on "Concrete Technology" and "Highway Engineering" were introduced in place of "Concrete and Highway Materials Lab" 5. A theory course on "Multi–Variable Calculus and Differential Equations" was introduced. 6. Theory and lab courses on "Programming in C" were introduced 7. Lab courses on "Engineering Chemistry" and "Engineering Physics" were introduced 8. A lab course on "English Language" was introduced in place of "English Language Communication Skills Lab" 9. A theory course on "Transformation Techniques and Partial Differential Equations" was introduced. 10. A lab course on "Engineering Workshop Practice" was introduced 11. A theory course on "Probability Distributions and Statistical Methods" was introduced 12. A theory course on "Environmental Studies" was introduced in place of "Environmental Sciences" 13. A lab course on "Civil Engineering Software" was introduced. 14. Lab courses on "Building Materials and Construction Technology" and "MATLAB Practice for Civil Engineers" were introduced. 15. A theory course on "Concrete Technology" was introduced 16. A Theory course on "Construction Planning and Project Management" was introduced 17. A Theory course on "Estimation and Quantity Surveying" was introduced in place of "Estimation, Costing &Valuation" 18. Theory courses on Principles of Image Processing, Costing and Finance Management for Civil Engineers, Renewable Energy, Computational Fluid Dynamics, Optimization Techniques, were introduced as Interdisciplinary Electives. 19. Theory courses on Advanced Reinforced Cement Concrete Structures, Advanced Surveying, Structural Health Monitoring, Building Maintenance and Repair, Green Technologies, Global Positioning System (GPS), Transportation Planning and Management, Highway Construction and Maintenance, Pavement Analysis and Design were introduced as Program Electives.
Feedback report from Faculty members: All faculty members were given their opinion on curriculum for improvement.	**Action taken report:** Based on the Faculties feedback, following changes were incorporated in the

Program: B. Tech. in Civil Engineering

Faculty opined the following modifications in curriculum in the next revision (SVEC16 Regulations). 1. Inclusion of theory and lab courses on "Programming in C" in place of "Programming in C and Data Structures Lab" inSVEC14 2. Inclusion of new lab course on "MATLAB Practice for Civil Engineers" 3. Inclusion of a theory course on "Environmental Studies" in place of "Environmental Sciences" in SVEC14 4. Addition of a new lab course on "Civil Engineering Software" 5. Change of theory course "Prestressed Concrete" from core to program elective 6. Consideration of limit state design method alone in the design of welded plate girders (as per IS 800-2007)in unit 1, shifting the topic on plastic analysis from this course to "Structural Analysis-II" course, and addition of topics on steel-concrete composite construction and grillage foundation in "Advanced Steel Structures" course. 7. Rewriting of CEOs, COs; Renaming unit 1, addition of topics in unit 2 and unit 3, rearranging topics in unit 5 and updated with revised IS code in "Prestressed Concrete" course 8. Changing of CEOs, COs and mapping in "Bridge Engineering" course 9. Addition of CEOs, COs and changing of prerequisite courses, separating the unit 3 topics into unit 3 and unit 4 and merging of topics in unit 4 into unit 5 in "Rehabilitation and Retrofitting of Structures" course. 10. Inclusion of field identification of soils and latest methods in unit 1, in "Soil Mechanics" course. 11. Modifications of CEO sand COs in "Foundation Engineering" course 12. Inclusion of the topics: Dewatering after construction, control of surface water, well pointing in deep excavation, drainage on slopes, electro kinetic dewatering system instead of seepage analysis for two dimensional flow–fully and partially penetrating slots in homogeneous deposits (simple cases only) in unit 2, components of reinforced earth, soil nailing and design of geosynthetic reinforced earth walls in unit 5 of "Ground Improvement Techniques" course. 13. Removing the topics on effects of size, depth and shape of footings, water table and types of foundation in unit 1(Shallow Foundations), inclusion of 3D consolidation settlement in settlement of foundation topic, and removing of repeated topics (pile load test, negative skin friction) in unit 2 (Pile Foundation), inclusion of topics on dynamic pile capacity – simplex and janbu methods, design of simple R.C.C piles in "Advance Foundation Engineering" course. 14. Modification of CEOs and COs in "Soil Dynamics and Machine Foundation" course. 15. Modification of CEOs, COs in "Geotechnical Engineering Lab" course.	SVEC16: 1. Theory and lab courses on "Programming in C" were introduced in SVEC16 in place of "Programming in C and Data Structures Lab" inSVEC14 2. Lab course on "MATLAB Practice for Civil Engineers" was introduced in SVEC16 compared toSVEC14 3. A theory course on "Environmental Studies" was introduced in SVEC16 in place of "Environmental Sciences" inSVEC14 4. A lab course on "Civil Engineering Software" was introduced in SVEC16 compared to SVEC14 5. A theory course on "Prestressed Concrete" was moved to program elective in SVEC16 from program core inSVEC14 6. Considered limit state design method alone in the design of welded plate girders (as per IS 800-2007)in unit 1, shifted the topic on plastic analysis from this course to "Structural Analysis-II" course, and added topics on steel-concrete composite construction and grillage foundation in "Advanced Steel Structures" course. 7. Rewritten CEOs, COs; Renamed unit 1, added of topics in unit 2 and unit 3, rearranged topics in unit 5 and updated with revised IS code in "Prestressed Concrete" course 8. CEOs, COs and mapping were modified in "Bridge Engineering" course 9. Added CEOs, COs and changed prerequisite courses, separated the unit 3 topics into unit 3 and unit 4 and merged topics in unit 4 into unit 5 in "Rehabilitation and Retrofitting of Structures" course. 10. Included field identification of soils and latest methods in unit 1, in "Soil Mechanics" course. 11. Modified CEOs, and COs in "Foundation Engineering" course 12. Included the topics: dewatering after construction, control of surface water, well pointing in deep excavation, drainage on slopes, electro kinetic dewatering system instead of seepage analysis for two dimensional flow–fully and partially penetrating slots in homogenous deposits (simple cases only) in unit 2, components of reinforced earth, soil nailing and design of geosynthetic reinforced earth walls in unit 5 in the "Ground Improvement Techniques" course. 13. Removed the topics on effects of size, depth and shape of footings, water table and types of foundation in unit 1(Shallow Foundations), included 3D consolidation settlement in settlement of foundation topic, and removed repeated topics (pile load test, negative skin friction) in unit 2 (Pile Foundation), included topics on dynamic pile capacity – simplex and janbu methods, design of simple R.C.C piles in "Advance Foundation Engineering" course.

Program: B. Tech. in Civil Engineering	
16. Inclusion of topic on geophysical studies in "Engineering Geology Lab" course 17. Inclusion of new theory course on "Fluid Mechanics and Hydraulic Machinery" by combining the syllabus of "Fluid Mechanics – I" and "Fluid Mechanics – II" and also inclusion of latest measuring devices to measure flow rate in "Fluid Mechanics and Hydraulic Machinery" course 18. Inclusion of topics on groundwater, ground water hydrology, steady state well hydraulics and aquifers, application of Darcy"s law in unit 3, S-Curveu unit hydrograph and Muskingum"s method in unit 4 in "Engineering Hydrology" course. 19. Removing of topics on permeability and differential equation governing groundwater flow from unit 1 and leaky aquifer from unit 2, inclusion of effects of sea water intrusion in unit 3, change of title of the unit 4 as "Artificial Recharge of Groundwater", change of title of the unit 5 as "Groundwater Exploration", inclusion of groundwater exploration topic in unit 5 in "Ground Water Development & Management" course. 20. Inclusion of latest techniques of harvesting in "Watershed Management" course 21. Inclusion of exercise on determination of coefficient of discharge through small orifice by variable head method in "Fluid Mechanics & Hydraulics Lab" course 22. Introduction of a theory course on "Irrigation Engineering" in place of "Water Resources Engineering" inSVEC14 23. Addition of new courses on "Building Materials and Construction Technology" and "Concrete Technology" in place of "Building Materials and Concrete Technology" course 24. Inclusion of new unit on "Construction Planning and Organization" in "Construction Planning and Project Management" course 25. Addition of a lab course on "Building Materials and Construction Technology" 26. Introduction of a theory course on "Construction Planning and Project Management" in place of "Construction, Planning and Project Management" inSVEC14 27. Renaming theory course on "Estimation, Costing & Valuation" to "Estimation and Quantity Surveying" 28. Exclusive lab courses on "Concrete Technology" and "Highway Engineering" in place of "Concrete and Highway Materials Lab" inSVEC14 29. Merging of "Transportation Engineering" and "Traffic Engineering" courses as one subject as "Highway and Traffic Engineering" and shifting of highway drainage topic to "Pavement Construction and Maintenance course". 30. Removing topics on importance of different branches of geology, common types of soils topic and addition of geological reports for different phases of site	14. Modified CEOs, and COs "Soil Dynamics and Machine Foundation" course. 15. Modified CEOs, COs in "Geotechnical Engineering Lab" course. 16. Geophysical studies topic was included in "Engineering Geology" Lab course 17. New theory course on "Fluid Mechanics and Hydraulic Machinery" was introduced by combining the syllabus of "Fluid Mechanics – I" and "Fluid Mechanics – II" and also introduced latest measuring devices to measure flow rate in "Fluid Mechanics and Hydraulic Machinery" course 18. Included topics on groundwater, ground water hydrology, steady state well hydraulics and aquifers, application of Darcy"s law in unit 3, S-Curveu unit hydrograph and Muskingum"s method in unit 4 in "Engineering Hydrology" course. 19. Removing of topics on permeability and differential equation governing groundwater flow from unit 1 and leaky aquifer from unit 2, effects of sea water intrusion was introduced in unit 3, title of the unit 4 was changed as "Artificial Recharge of Groundwater", title of the unit 5 was changed as "Groundwater Exploration", groundwater exploration topic was included in unit 5 of "Ground Water Development & Management" course. 20. Introduced latest techniques of harvesting in "Watershed Management" course 21. Introduced exercise on determination of coefficient of discharge through small orifice by variable head method in "Fluid Mechanics & Hydraulics Lab" course 22. A theory course on "Irrigation Engineering" was introduced in SVEC16 in place of "Water Resources Engineering" inSVEC14 23. "Building Materials and Construction Technology" and "Concrete Technology" were offered as new courses in place of "Building Materials and Concrete Technology" 24. New unit on "Construction Planning and Organization" included in "Construction Planning and Project Management" course 25. Lab course on "Building Materials and Construction Technology" was introduced in SVEC16 compared toSVEC14. 26. A theory course on "Construction Planning and Project Management" was introduced in SVEC16 in place of "Construction, Planning and Project Management" inSVEC14. 27. Renamed theory course on "Estimation, Costing & Valuation" to "Estimation and Quantity Surveying". 28. Lab courses on "Concrete Technology" and "Highway Engineering" were introduced in SVEC16 in place of "Concrete and Highway Materials Lab" inSVEC14. 29. Merged courses on "Transportation Engineering" and "Traffic Engineering" into one course as "Highway and Traffic Engineering" and shifted the highway drainage topic to " Pavement Construction and Maintenance course" 30. Importance of different branches of geology, common types of soils topic were

Program: B. Tech. in Civil Engineering	
investigation in the unit 1, economic minerals topic and addition of engineering classification of weathered rock masses from unit 2, addition of topics on civil engineering applications and structural geology maps and problems concepts in unit 3, removing of springs topic in unit 4, removing of types of dams and inclusion of geological consideration at bridges site topic in unit 5 in "Engineering Geology" course.	removed and geological reports for different phases of site investigation were included in the unit 1, economic minerals topic was removed and engineering classification of weathered rock masses was included in unit 2, civil engineering applications was included and structural geology maps and problems concepts were included in unit 3,springs topic was removed from unit 4, types of dams was removed and geological consideration at bridges site was included in unit 5 of "Engineering Geology" course.
31. Introduction of theory courses on "Highway and Traffic Engineering" and "Railway, Airport and Harbour Engineering" in place of "Transportation Engineering-I and II" in SVEC14.	31. Theory courses on "Highway and Traffic Engineering" and "Railway, Airport and Harbour Engineering" were introduced in SVEC16 in place of Transportation Engineering-I and II inSVEC14.
32. Inclusion of the content on biomedical waste management – incineration and pyrolysis in the unit 5 of "Solid Waste Management" course	32. The content on "Biomedical Waste Management – Incineration and Pyrolysis" was included in the unit 5 in "Solid Waste Management" course
33. Inclusion of topics: introduction to life cycle analysis in unit 1, watershed management schemes in unit 3, preparation of EMP report, environmental management systems in unit 5 in "Environmental Impact Assessment and Management" course	33. Topics included: introduction to life cycle analysis in unit 1, watershed management schemes in unit 3, Preparation of EMP report, and environmental management systems in unit 5 of "Environmental Impact Assessment and Management" course.
34. Inclusion of scope, working principle and function of screen chamber, grit chamber and primarysedimentationtankintheunit2,introductionofpollutioncharacteristics,toxic chemicals, treatments – equalization, neutralization, membrane systems, oxidation and reduction systems, thermal reduction, air stripping in the unit 3, Combining the units 4 and 5 and addition of refineries and dairy units in the unit 4, inclusion of waste minimization as unit 5 in "Industrial Waste Water Treatment" course.	34. Introduced scope, working principle and function of screen chamber, grit chamber and primary sedimentation tank in the unit 2, introduced pollution characteristics, toxic chemicals, treatments – equalization, neutralization, membrane systems, oxidation and reductionsystems,thermalreduction,airstrippingintheunit3,combinedtheunits4 and 5 and added refineries and dairy units in the unit 4, waste minimization was included as unit 5 in "Industrial Waste Water Treatment" course.
35. Inclusion of the experiments on determination of colour, fluorides and bacterial examination tests in "Environmental Engineering Lab" course	35. Included the experiments on determination of colour, fluorides and bacterial examination tests in "Environmental Engineering Lab" course.
36. Shifting of compass surveying from unit 2 to unit 1, shifting of computation of areas and volumes from unit 1 to unit 4, inclusion of plane table surveying in "Surveying" course.	36. Compass surveying was shifted from unit 2 to unit 1, computation of areas and volumes shifted from unit 1 to unit 4, plane table surveying was included in "Surveying" course.
37. Removing of introduction from the unit 1 title, fundamental concepts of photogrametry, techniques of photo interpretation in unit 1; basic concepts and foundation of remote sensing, converging of evidence and spectral regions in unit 2; rearrangement of topics in unit 3; inclusion of database models in unit 4 of "Geospatial Technology" course.	37. Introduction was removed from the unit 1 title, fundamental concepts of photogrametry was removed, techniques of photo interpretation was removed in unit 1; basic concepts and foundation of remote sensing was removed, converging of evidence was removed, spectral regions was removed in unit 2, topics were rearranged in unit 3; database models was included unit 4 "Geospatial Technology" course
38. Inclusion of new exercises on setting out works for buildings and pipe lines, gradient and differential height between two inaccessible points using total station, stake-out using total station, contouring using total station, determination of area of irregular figure by using planimeter in "Surveying Lab" course.	38. New exercises, setting out works for buildings and pipe lines, gradient and differential height between two inaccessible points using total station, stake-out using total station, contouring using total station, determination of area of irregular figure by using planimeter were included in „Surveying Lab" course.

Program: B. Tech. in Civil Engineering

Feedback report from Employers:
Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses Suggested for Improvement:

- Risk management for safe execution of project,
- Effective communication

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action Taken Report:

- "Risk management for safe execution of project" was included in SVEC16 regulations in the course "Construction Planning and Project Management" in Unit I.
- "Effective communication" was included in SVEC16 and SVEC19 regulations in the courses "Technical English", "English Language Lab", "Communicative English", "Spoken English" "Business Communication and Career Skills" and "Soft Skills Lab".

Program: B. Tech. in Electrical and Electronics Engineering

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2012-2013 and 2014-2015 Passed out batches during the academic years 2014-15 and 2015-16 respectively. About 40% of them have responded. Their feedback was summarized and are as follows: 1. More practical oriented courses such as Electrical and Electronics Workshop Practice should be introduced for understanding the wiring in domestic and industrial sectors. 2. Mathematical courses in-line with competitive exams such as GATE could be introduced. 3. Exposure on modern software tools is required. 4. More practical exposure on Transformers, AC Machines and Special Machines should be provided in-line with industry. 5. A course to enhance the soft skills among the students should be introduced in the curriculum. 6. Some courses shall be dedicated on the Indian history, heritage and culture as these courses would help students preparing for Civil services and ES exams.	1. A course "Electrical and Electronics Workshop Practice" was introduced for providing more practical exposure and understanding the domestic and industrial wiring. 2. The course "Transformation Techniques and Partial Differential Equations" was introduced as a new course to make the students competent in exams such as GATE and other competitive exams. 3. New lab courses "Transformers and Induction Machines Lab", "Synchronous Machines Lab" and "Special Electrical Machines" were exclusively introduced to give better conceptual & practical understanding and industrial exposure on the machines through study, analysis and design of suitable control strategy. 4. A new laboratory course "Soft Skills Lab" was introduced to enhance the soft skills among the students. 5. New courses such as "Indian Constitution", "Indian Economy", "Indian Heritage and Culture" and "Indian History" were introduced as open electives, as these courses would be useful for students while preparing for UPSC examinations.
Feedback report from Students:	**Action taken report:**
An exit survey was conducted on students pass out during 2014-2015 and 2015-2016 academic years during the academic years 2014-15 and 2015-16 respectively. 80% of them have responded and their feedback was recorded and is consolidated as detailed below 1. More Interdisciplinary courses such as Operating Systems, Object Oriented Programming should be introduced to enable the students to succeed in software oriented jobs. 2. Provision must be made to learn some of the foreign languages as a part of the curriculum. 3. A course on energy conversion systems using advanced Power Electronics Converters which are used exclusively in renewable energy sources conversion should be introduced. 4. A dedicated course on data structures is required.	1. The interdisciplinary course "Object Oriented Programming" was introduced to make the students more employable which are the present need of software industry. 2. The courses on French and German languages were introduced as new courses with an open choice to the student. 3. A new course "Analysis of Power Electronics Converters" was introduced into the curriculum to impart modern energy conversion technologies among the students. 4. New courses "Foundations of Data Structures" and its associated laboratory course "Foundations of Data Structures Lab" were introduced exclusively to provide in-depth knowledge and practical exposure on the concepts that would be helpful for software aspirants.

Program: B. Tech. in Electrical and Electronics Engineering

Feedback report from Faculty members:

Feedback was taken from all the Faculty members who taught the courses of the program and their suggestions are as follows:

1. The syllabus of the course "Signals and Networks" shall be redesigned in-line with the syllabus of GATE and ESE.
2. Concepts of Micro Grids and Distributed Generation can be introduced.
3. As the courses in Power System were dealt conceptually, it would be more appropriate to introduce a lab courses for more practical exposure.
4. Courses in Computer domain like Operating Systems shall be taught as such courses would help students facing interviews in software industry.
5. The concepts of nano-science and technology could be provided to the students as it is modern days emerging technology.
6. Some courses should be dedicated to improve the personality of the student and should learn the administrative skills as life skills.
7. Courses like Sensors and Signal Conditioning can be introduced as these would be useful for developing projects and acquiring the required industrial skills.
8. Interdisciplinary courses on PLCs and a laboratory courses on embedded systems may be introduced which would be useful for doing projects and would create an employability opportunity in core industries.
9. A course on "Advanced Processors and Microcontrollers" should be introduced which would be useful for programming the microcontrollers.
10. More Interdisciplinary courses on IC applications should be introduced.
11. Courses on environmental sustainability may be introduced.

Action taken report:

1. The syllabus of the course "Signals and Networks" have been revised in-line with the syllabus of competitive exams such as GATE and ESE and was introduced as "Signals, Systems and Networks". Also a lab course "Signals and Networks Lab" was introduced to provide better understanding on the concepts.
2. Concepts of Micro grid, Distributed Generation were introduced into the course "Generation of Electric Power".
3. New laboratory courses "Power System – I Lab" with software experiments and another lab course "Power System – II Lab" with practical experimentation was introduced to provide more practical exposure on the power system practices.
4. A new course "Operating Systems" was introduced into the curriculum for educating and training software industry aspirants.
5. A new course "Sensors and Signal Conditioning" was introduced which would be useful for the students to develop projects and acquiring the industrial requirements.
6. A new course "Programmable Logic Controllers" and a lab course "Embedded Systems Lab" were introduced and the syllabus was framed in-line with the academic and industrial requirements.
7. A new course "ARM Processors and PIC Microcontrollers" was introduced to make the students exposed to controllers being used in industry.
8. A new laboratory course "Linear and Digital ICs lab" was introduced to give better understanding and practical exposure on the concepts.
9. A course on "Green Technologies" was introduced to educate the importance of environmental sustainability for future. Also the relevant pollution and control standards were introduced into the course "Environmental Pollution and Control".

Feedback report from Employers:

Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Program: B. Tech. in Electrical and Electronics Engineering	
Courses suggested for improvement Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Action taken report:** • The concepts of data structures were included in the curriculum through the course Foundations of Data Structures and also its associated lab Foundations of Data Structures Lab in SVEC16 regulations. • The course on ARM and PIC microcontrollers addressing the concepts of ARM Processor, programming, and micro controllers and their interfacing was included in SVEC16 and the advanced concepts on FPGA is proposed to be introduced in next regulations. • A course Soft Computing Techniques addressing various modern techniques such as artificial intelligence (Neural and Fuzzy) and also swarm based and evolutionary algorithms were included in SVEC16 regulations. • The concepts of IoT were addressed appropriately in the courses - Computer Networks and Embedded Systems of SVEC16 regulations. • A laboratory course on EMBEDDED SYSTEMS LAB was included in SVEC16 regulations.

Program: B. Tech. in Mechanical Engineering

Feedback report from Alumni:	Action taken report:
Alumni feedback taken from 2014-15 passed batch. About 38% of the Alumni responded to our request and their suggestions are summarized below. 1. Suggested to include more industry relevant courses. 2. Suggested to incorporate more Software skills related courses to meet the industry requirements 3. Suggested to introduce practical courses associated with Industrial Engineering subjects. 4. Suggested to include Language lab courses can be introduced for improving communication skills	Based on the feedback the following actions were taken. 1. Introduced Hydraulics and Pneumatics subjects, automation lab, cryogenics, automation. 2. Introduced Soft skills lab to impart practical aspects of soft skill development. 3. Introduced three laboratory courses in every semester except in IV B. Tech, II Semester. 4. Introduced Industrial Engineering Lab in SVEC16 regulations as most of the industrial engineering subjects are theoretical in nature. 5. Introduced Data base Management System, JAVA Programming, Computer Graphics and Multimedia inSVEC16.
Feedback report from Students:	**Action taken report:**
The feedback from the students of 2014-15,2015-16 and2016-17passed out batches was collected and summarized below. 1. Suggested to incorporate soft skills oriented Lab courses to improve the hands on exposure for students to hone their theoretical skills. 2. Suggested to include more practical component. 3. Suggested to introduce practical courses associated with Industrial Engineering subjects. 4. Suggested to introduce IT related courses	Based on the feedback the following actions were taken. 1. Introduced Soft skills lab to impart practical aspects of soft skill development. 1. Introduced three laboratory courses in every semester except in IV B. Tech, II Semester. 2. Introduced Industrial Engineering Lab in SVEC16 regulations as most of the industrial engineering subjects are theoretical in nature. 3. Introduced Data base Management System, JAVA Programming, Computer Graphics and Multimedia inSVEC16.
Feedback report from Faculty members:	**Action taken report:**
The feedback from all the faculty who taught the courses of the program was collected in the academic year 2014-15,2015-16and2016-17 and summarized as follows. 1. Suggested to broaden ambit of machine tools subject by introducing non-conventional machining processes. 2. Suggested to make Refrigeration and Air conditioning a compulsory subject rather than an elective subject. 3. Suggested to split the course „Material science and Metallurgy“ into two different courses 4. Suggested to incorporate industry relevant courses.	Based on the feedback from the faculty the following actions were incorporated in SVEC-16. 1. In place of Machine tools subject offered in SVEC14, a new course "Machine Tools & Modern Machining Process" has been introduced with addition of non – conventional method of machining in SVEC16regulations. 2. Introduced Refrigeration and Air conditioning as compulsory subject in SVEC16 curriculum as there is more chance of employability in the field of HVAC. 3. Introduced two different courses entitled „Engineering Materials“, „Engineering Metallurgy“, instead of „Material science and Metallurgy“. 4. Introduced„HydraulicsandPneumatics“asanelectivesubjectinSVEC16curriculum.

Program: B. Tech. in Mechanical Engineering

5. Suggested to integrate courses „Manufacturing Technology-I“, Manufacturing Technology-II“ as a single course. 6. Suggested to introduce heat transfer lab and dynamics lab separately. 7. Suggested to introduce Computational Fluid Dynamics concepts in course. 8. Suggested following improvements in the existing syllabus of various courses. • Metallurgy & Material Science: Introduce Melting of metals, surface hardening methods and material characterization techniques. Focus more on materials science and metallurgy. Melting of metals & surface hardening methods and material characterization techniques units are newly added. • Manufacturing Technology – include Full Mould Casting, Magnetic Pulse Forming and Electro Hydraulic Forming. • Kinematics of Machinery - Include Coriolis component of acceleration and modified Scott Russel’s mechanism and Differential gear box for automobile. • Computer Aided Machine Drawing Lab- Include Conventional representation of machine components, Saddle key, Sunk key, Woodruff key, and Kennedy key. • Dynamics of Machines: Include application of fly wheel, characteristics of governor and torsional vibrations • Fluid Mechanics: Include air vessels • Design of Machine Elements-II: Include design of power transmission systems. • Engineering Materials – Include chemical, dynamic and mechanical properties. • Thermodynamic –Include thermo-dynamic relations. • DME-II – include rope drives and chain drives. • MTMMP – Include numerical derivation of cutting forces and their relationships. • Industrial Engineering and Management- Include theory of motivation and industrial safety. • Design of Machine Elements -II – Include Design of power transmissions systems is included in 5th unit in addition to IC engine parts. • Metrology and Measurements- Focus more on numerical. • Mechatronics- emphasis on practical approach of Mechatronics. • CAD/CAM -Include Surface representation. • Mechanical Vibrations- include Vibrations of continuous system, Multi Degree of Freedom systems.	5. Introduced a single course „Manufacturing Technology“ instead of „Manufacturing Technology-I“, „Manufacturing Technology-II“. 6. Introduced heat transfer lab and dynamics & vibrations Lab in SVEC16curriculum. 7. ComputationalFluidDynamicsconceptswereintroducedin„CADandsimulationLab“. 8. Manufacturing Technology – included Full Mould Casting, Magnetic Pulse Forming and Electro Hydraulic Forming. 9. Kinematics of Machinery- Included Coriolis component of acceleration and modified Scott Russel’s mechanism and Differential gear box for automobile. 10. Computer Aided Machine Drawing Lab- Included Conventional representation of machine components, Saddle key, Sunk key, Woodruff key, and Kennedy key. 11. Dynamics of Machines: Included application of fly wheel, characteristics of governor and torsional vibrations 12. Fluid Mechanics: Included air vessels 13. Design of Machine Elements-II: Included design of power transmission systems. 14. Engineering Materials – Included chemical, dynamic and mechanical properties. 15. Thermodynamic –Included thermodynamic relations. 16. DME-II – included rope drives and chain drives. 17. MTMMP – Included numerical derivation of cutting forces and their relationships. 18. Industrial Engineering and Management- Included theory of motivation and industrial safety. 19. Design of Machine Elements -II – Included Design of power transmissions systems is included in 5th unit in addition to IC engine parts. 20. Metrology and Measurements- Included more on numerical. 21. Mechatronics- Included practical approach of Mechatronics. 22. CAD/CAM -Included Surface representation. 23. Mechanical Vibrations- included Vibrations of continuous system, Multi Degree of Freedom systems.

Program: B. Tech. in Mechanical Engineering

Feedback report from Employers:

Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Courses suggested for improvement

- Data visualization
- Automotive crash and
- Safety measures

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Action Taken Report:

Based on the feedback from the employer, the following actions were incorporated in SVEC-16.

- Conducted programs on usage of open-source tools like Scilab and Openfoam.
- Included data visualisation using FEM and CFD tools concepts in CAD and simulation Lab.
- Other two suggestion considered in next regulations.

Program: B. Tech. in Electronics and Communication Engineering

Feedback report from Alumni:	**Action taken report:**
Feedback was taken from 2012-13 and 2013-14 Passed out batches during the academic years 2014-15 and 2015-16. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. Advanced knowledge in latest technologies has to be gained through the introduction of new courses in order to satisfy the industrial needs. 2. Suggested to introduce more Laboratory courses in order to improve skills. 3. To learn new topics and extend current knowledge, e-learning concept has to be introduced. 4. To work around the globe the courses like German Language, French Language can be introduced as open electives.	1. New courses like RF Engineering, Nanoelectronics, Low Power CMOS VLSI Design, Information Theory and Coding were included to fulfill the industrial needs. 2. The number of Laboratory courses in each semester was increased. 3. MOOC was included in the curriculum. 4. Courses like German Language, French Language were introduced as open electives.
Feedback report from Students: The students of 2014-15 and 2015-16 Passed out batches were asked to give feedback for the curriculum improvement. About 80% of the students responded and their feedback is summarized below: 1. More Interdisciplinary electives can be included. 2. Open electives related to latest technology, German and French languages can be included. 3. Due to increasing demand in Nanoelectronics, a new course on it can be included. 4. Concepts of computerized accounting can be introduced in Managerial Economics and Principles of Accountancy. 5. Student's presentations and communication skills have to be improved through introduction of new course to exhibit their talent and skills at their workplace.	**Action taken report:** 1. More Interdisciplinary electives were introduced to improve the standard of the program. 2. Courses like Green Technologies, Introduction to Nanoscience and Technology, French and German languages were included under Open electives. 3. New courses like RF Engineering, Nanoelectronics, and Low Power CMOS VLSI Design were included. 4. Computerized accounting was introduced in Managerial Economics and Principles of Accountancy. 5. A new course titled Soft Skills Lab was introduced.
Feedback report from Faculty members: Feedback report was taken from all the Faculty members who taught the courses of the program during 2014-15 and 2015-16. Their suggestions are summarized below: 1. Suggested to allocate one complete semester for Project work to improve the quality of work. 2. Open Elective course on "Green Technologies" may be introduced.	**Action taken report:** 1. The II Semester in IV B.Tech was completely allocated for Project work. 2. Open Elective course on "Green Technologies" was introduced. 3. Open Elective course on "Nano-Science and Technology" was be introduced. 4. "Engineering Chemistry Lab" and "Engineering Physics Lab" were introduced as two separate courses. 5. Contents in Electronic Circuit Analysis & Design course is was fine-tuned

3. Open Elective course on "Nano-Science and Technology" may be introduced. 4. Exclusive lab courses on "Engineering Chemistry" and "Engineering Physics" in place of "Engineering Physics and Engineering Chemistry Lab" can be introduced. 5. Suggested to revise the syllabus of the course titled Electronic Circuit Analysis& Design. 6. Embedded systems Lab. may be introduced in the curriculum so as to enable students to design embedded systems including hardware/software interface. 7. Suggested to encourage students to do online courses so as to get awareness on the latest trends in Electronics and Communication Engineering.	and arranged in a logical sequence. 6. Embedded systems Lab was introduced in order to enable students to do hardware projects. 7. Massive Online Open Course (MOOC) is introduced in the curriculum and made mandatory to improve the learning capabilities of the students.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** • The concepts of data structures were included in the curriculum through the course Foundations of Data Structures and also its associated lab Foundations of Data Structures Lab in SVEC16 regulations. • The concepts of IoT were addressed appropriately in the courses - Computer Networks and Embedded Systems of SVEC16 regulations. • A course on VLSI Design was introduced in SVEC-16 Curriculum in B.Tech Program. • Advanced Embedded System Design concepts were introduced in the course Co-Design for M.Tech VLSI. • Two courses were introduced in M.Tech. VLSI on Chip Design. They are System-on-chip Design and Network-on-chip Design. • Other items are considered in next regulations.

Program: B. Tech. in Computer Science and Engineering

Feedback report from Alumni:	Action taken report:
Feedback was taken from 2012-2013 and 2013-2014 passed out students during the academic year 2014-2015 and 2015-2016 respectively. About 37% of the Alumni responded to the request. The summary of the feedback is as follows: • Practical knowledge on network concepts is essential • Real time experience in cloud computing environment enhances employability • Courses like IOT, VANET and green technologies can be introduced • Course which helps in enhancing personality development of students was essential to improve employability • Courses to meet the present industrial requirement was needed • Courses which help in preparing for Civil Services can be introduced • Foreign languages can be introduced which may help students when they go abroad • Course which help to improve entrepreneur skills of students was essential • Ethical hacking subject can be introduced • Course which help in performing better in interviews was required • Subject based on image processing may be introduced	The following actions were taken to improve the curriculum: • Lab course for network subject was introduced to enable students to do practice sessions on network concepts. • Cloud Computing lab was introduced with tools like IBM Bluemix Cloud, Amazon Web Services, MS-Azure. • IOT was introduced as professional elective and green technologies as open elective • Personality Development course was introduced as open elective • Courses like IOT, Green technologies, Nanoscience and Technology were introduced • Courses such as Indian Constitution, Indian Economy, Indian History, Indian Heritage and Culture were introduced as open electives • Foreign languages such as French and German languages were introduced to help students who had plan to go to foreign countries. • Business Communication and Career Skills course was introduced • Ethical hacking subject was introduced • Soft skills lab course was introduced • Computer Vision course was introduced
Feedback report from Students: Feedback was taken from the students who were passing out during the academic years, 2014-2015 and 2015-16. About 78% of the Students responded to the request. The summary of the feedback is as follows: • Any other programming language courses can be introduced to enhance the programming skills of the students • Course which helps to model the problem identified and to simulate is needed • Many students suggested to include new courses which help in enhance the knowledge and meet the industry requirements. • Practical sessions in computer networks, cloud computing, big data enhance the knowledge of the students • More courses can be introduced in diversified fields • Courses which enhance programming skills can be introduced • Hands-on on cloud computing technology will help students to learn the concepts practically.	**Action taken report:** Based on feedback received from the students, the following actions were taken: • Python and Java programming courses and corresponding lab courses were introduced • Modelling and Simulation Course was introduced • Courses like Python and Java Programming were introduced as core courses, data communications, optimization techniques, Internet of Things were introduced as professional electives, green technologies, Nanoscience and Technology were introduced as open electives. • Cloud computing, Big data and Computer Networks lab were introduced • Courses like Philosophy of Education, Public Administration, Building Maintenance and Repair were introduced • Principles of programming languages was introduced to improve programming skills in students • Cloud Computing lab was introduced.

Program: B. Tech. in Computer Science and Engineering

Feedback report from Faculty members:	Action taken report:
Feedback was taken from all the faculty members who taught the courses of the program during the academic years 2014-2015 and 2015-16. The suggestions are summarized below: • Concepts like virtual memory can be removed as it will be discussed in operating system and addressing modes can be added in computer organization course • B-Tree Index Files could be included in the Database Management Systems course • Finding the maxima and minima from unit -2, NP-hard and NP-complete problems can be eliminated from design and analysis of algorithms • Object oriented programming can be taught using a specific language • Topics such as online analytical processing, concepts related to cluster analysis like grid based method, data mining trends can be added in data warehousing and data mining subject • Revision of Mobile Computing course, theory of computation course was needed • Operating system and Unix programming course can be isolated • Number of Case studies in object oriented analysis and design can be increased/enhanced • Composite transformations in 3-d geometric topic can be removed from computer graphics course because of complexity • Allocation of frames can be removed and Signals, Forks, i-node, File Descriptors can be added in operating systems • Process automation, Lifecycle Expectations, Pragmatic Software Metrics Automation, concepts related to tailoring the process topic can be removed and agile management can be added • Concepts based on interpreters and processing various statements can be added in compiler design course • Lab for computer networks can be introduced • Wireless networks course can be introduced	Based on feedback received from the faculty, the following actions were taken: • Instruction formats, addressing modes were added as they are essential topics and floating-point arithmetic operations was removed because of complexity, Serial communication, Introduction to Peripheral Component Interconnect (PCI) bus, virtual memory was deleted from Computer organization subject • B-Tree Index Files was included in the Database Management Systems course • Finding the maxima and minima from unit -2, NP-hard and NP-complete problems were eliminated from Design and Analysis of Algorithms Course • Object oriented programming is substituted with Object oriented programming using C++ • Online analytical processing, concepts related to cluster analysis like grid based method, data mining trends were added in data warehousing & data mining course • Novel applications, Limitations, Introduction to 3G and 4G Communications Standards: WCDMA, LTE, WiMAX, concepts related to wireless LAN, Caching invalidation mechanisms, context aware computing, MANET and WAP were added and GPRS, concepts related to mobile synchronization and mobile devices were removed in mobile computing • The equivalence of DFA and NDFA, Conversion of epsilon-NFA to NFA and DFA, Mealy and Moore models, Identity rules, Pumping lemma, Chomsky hierarchy of languages, the model of linear bounded automaton for regular languages, Applications of the pumping lemma, undecidability were removed from Theory of Computation course • Operating system and Unix Internals were made as isolated courses. Linux programming was introduced in place of Unix Internals. Operating system lab course was revised and Linux programming lab was introduced • Case Studies on Online student course registration system for university, Hospital Management were included in object oriented analysis and design course • Composite transformations in 3-d geometric topic was removed from computer graphics course • Allocation of frames were removed and Signals, Forks, i-node, File Descriptors were added in operating systems course • Process automation, Lifecycle Expectations, Pragmatic Software Metrics Automation, concepts related to tailoring the process topic were replaced with agile management • Interpretation- Interpreters, Recursive, interpreters, Iterative interpreters, Preprocessing the intermediate code, Preprocessing of expressions, Preprocessing

	of if- statements and go to statements, Preprocessing of routines were added in compiler design course • Networks Lab was introduced to have hands-on experience for students • Wireless networks course was introduced
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** • Foundation courses: data structures, OOP concepts, Algorithms: The courses "Data Structures", "Java Programming", "Java Programming Lab", "Design and Analysis of Algorithms" are already part of B.Tech curriculum under SVEC16 regulations. • ARM in Azure cloud : Topics "Infrastructure-as-a-Service (IaaS)", "MS-Azure" are included in course "Cloud Computing" in B.Tech curriculum under SVEC16 regulations. • Machine learning for finance :Students are encouraged to take up MOOCs on advanced topics and applications of machine learning. • IOT based courses :Course "Internet of Things" is offered in B.Tech curriculum under SVEC16 regulations. • Minor/Honors degree in "Internet of Things" is being offered for advanced learners of all engineering disciplines in B.Tech. curriculum under SVEC19 regulations. • Cyber physical systems usage :Students are encouraged to take up MOOCs on advanced topics and applications of machine learning. • Cyber security: Courses "Cyber Security", "Block chain Technologies" are offered in B.Tech curriculum under SVEC19 regulations. • Testing tools like Selenium Katalon studio • Workshops were arranged on latest software testing tools to provide hands-on experience to students.

Program: B. Tech. in Electronics and Instrumentation Engineering

Feedback report from Alumni:	**Action taken report:**
The feedback is collected from 2012-13 and 2013-14 & passed out students during, 2014-15 and 2015-16 academic years. About 40% of the alumni gave their feedback. The following are the suggestions given by Alumni. 1. More emphasis has to give on laboratory courses. 2. Include interdisciplinary courses to enhance employability and entrepreneurship skills 3. Design knowledge on complete system is needed, instead of component wise design. 4. Conduct value added courses to enhance programming skills.	Based on the feedback received from Alumni the following new lab courses and interdisciplinary courses were included in the curriculum to improve practical knowledge thereby enhance the employability of the students in core companies. 1. The number of laboratory courses was increased from 2 to 3 in every semester. The following were the new labs ➢ Network Analysis Lab ➢ Control Systems Design Lab ➢ Industrial Instrumentation Lab ➢ Basic Electronics and Digital Design Lab ➢ Electrical and Electronics Workshop practice 2. The following interdisciplinary courses were introduced. ➢ Operating Systems ➢ Hydraulics and Pneumatics ➢ Mechatronics ➢ Instrumentation System Design ➢ Introduction to Nanoscience and Technology ➢ Public administration ➢ Building Maintenance and Repair 3. A course on System design using Microcontrollers was introduced to provide knowledge on designing of a complete system.
Feedback report from Students:	**Action taken report:**
Feedback has been taken from 2014-15 & 2015-16 passed out students. About 85% of the students have given their feedback 1. The students suggested including advanced microcontrollers which are being used currently in industries that would also be helpful to develop curriculum projects. 2. Include applications of mathematical modeling in engineering.	1. Based on the feedback from students the course Microprocessors & Microcontrollers is replaced with ARM Processors & PIC Microcontrollers and Microprocessors & Microcontrollers lab is replaced with ARM Processors & PIC Microcontrollers Lab. 2. Applications of Differential equations is extended to several electrical oscillatory circuits in the course Multi Variable Calculus and Differential Equations.

Program: B. Tech. in Electronics and Instrumentation Engineering

Feedback report from Faculty members:	**Action taken report:**
Feedback was taken from all the faculty who taught the subjects of the program and the salient points are: 1. The course Instrumentation in Process Industries can be refined, so that the student will gain complete knowledge on a particular industry. 2. More emphasis should be given on biomedical instrumentation as more research is being carried out in this area. 3. The contents in the course Microprocessors and Microcontrollers and its corresponding lab must be replaced with advanced microprocessors and microcontrollers. 4. Neural networks and Fuzzy logic applications in control systems need to be included. 5. Rearrange CMOS, HDL Programming and Verilog in LDICA course. 6. Rearrange the topic of sampling in Signals and Systems course. 7. Since the industries are expecting more practical knowledge from the students, enhance the number of laboratory courses.	Based on the feedback from the faculty who handled the subjects of the program, the following changes were made. 1. The course Instrumentation in process industries is renamed as Instrumentation in petrochemical industries by focusing more on a particular industry. 2. A new course Biomedical Signal Processing is introduced to enhance research in the field of biomedical instrumentation. 3. ARM Processors and PIC Microcontrollers theory and Lab were offered in SVEC16 regulations as these processors and controllers were being currently used in industries. 4. Introduced a new course Intelligent Control to provide knowledge on applications of Neural Networks and Fuzzy logic in controller design. 5. In Linear and Digital IC Applications course the HDL programming and Verilog concepts are rearranged. 6. Sampling topic was merged in unit V with Z-Transform to avoid confusion in understanding. 7. The number of laboratory courses was increased from 2 to 3 in every semester. The following were the new labs ➢ Network Analysis Lab ➢ Control Systems Design Lab ➢ Industrial Instrumentation Lab ➢ Basic Electronics and Digital Design Lab ➢ Electrical and Electronics Workshop Practice.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Program: B. Tech. in Electronics and Instrumentation Engineering	
Courses suggested for improvement Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Action taken report:** • The course Object Oriented Programming is introduced as Interdisciplinary elective (III-I) in SVEC-16 Curriculum for E.I.E students. • A course on ARM Processors and PIC Microcontrollers corresponding lab is introduced in III-II semester of SVEC-16Curriculum. • The course Intelligent control was introduced as Program Elective in IV-I semester of SVEC-16 curriculum • The course Cyber security and Laws is introduced as Open elective in IV-I semester of SVEC-16 curriculum. • The course VLSI Design was introduced as Program Elective-2 in III-II semester of SVEC-16 curriculum. • Value added course on Hands on workshop on 8051 Microcontroller Programming using Keil software was conducted.

Program: B. Tech. in Information Technology

Feedback report from Alumni:	Action taken report:
Feedback was received from 40% of alumni belonging to 2012-13 and 2013-14 passed out batches and they: 1. Recommended to undertake project work and Apps using Free and Open Source Software (FOSS) tools. 2. Suggested to introduce industry oriented course on Internet of Things. 3. Suggested to include case studies and mini projects as a part of curriculum lab cycle. 4. Recommended to encourage students towards e-learning on latest trends in Computer Science and Information Technology. 5. Requested to introduce more industry oriented programming laboratory courses such as Cloud Computing lab and Big Data Technologies lab.	1. Department has conducted Skill Development Programs (SDP) on Big Data Technologies, Cloud Computing Technologies, Advanced Software Engineering tools and Internet of Things and also students have developed Apps on IoT, Cloud, Web Apps and Big Data using FOSS tools. 2. Industry oriented courses were introduced such as Internet of Things, Cloud Computing lab, Big Data Technologies lab and Soft Skills lab. 3. Case Studies and Mini projects as a part of curriculum lab cycle were included in lab courses such as Programming in C, Java Programming, Object Oriented Analysis and Design, Web Technologies, Knowledge Engineering, Big Data Technologies and Mobile Application Development. 4. The students were encouraged to attend on-line programs such as IBM Bluemix Cloud, Spoken Tutorial Project conducted by IITB, QEEE programs conducted by IITM and programs conducted by Andhra Pradesh State Skill Development Corporation (APSSDC) and APPSC-NASSCOM. 5. Introduced more industry oriented programming laboratory courses on Cloud Computing lab and Big Data Technologies lab.
Feedback report from Students: Feedback was received from 80% of students belonging to 2014-15 and 2015-16 passed out batches and they: 1. Requested to offer separate courses exclusively on Object Oriented Programming through C++ and Java Programming, Operating System laboratory and Python programming. 2. Recommended to introduce a laboratory course on Computer Graphics and Multimedia laboratory. 3. Requested to reduce syllabus of Data Structures and Software Engineering courses. 4. Suggested to include more practical components. 5. Suggested to introduce Personality Development, German Language and French Language courses as electives. 6. Requested to introduce a separate course on Soft skills lab.	**Action taken report:** 1. Introduced Object Oriented Programming through C++ in I B.Tech II semester, Operating System laboratory in II B.Tech I semester and Python programming for III B.Tech II semester. 2. Offered a laboratory course on Computer Graphics and Multimedia laboratory in III B.Tech I semester. 3. Removed Basics of Data Structures and File Organization concepts in Data Structure, System Models and User Interface Design concepts in Software Engineering courses respectively. 4. Introduced three laboratory courses in every semester except in IV B. Tech, II Semester. 5. Introduced Personality Development, German Language and French Language courses as open electives. 6. Offered a course exclusively on Soft skills lab in II B.Tech, II-Semester.

Program: B. Tech. in Information Technology

Feedback report from Faculty members:

Feedback was received from all the members faculty who taught the courses of the program and they:

1. Suggested to introduce courses such as Advanced Databases, Python Programming, Knowledge Engineering Laboratory and Massive Online Open Course(MOOC).
2. Suggested to revise syllabi of Data Warehousing and Data Mining, Big Data, Cloud Computing, Software Engineering and Database Management System courses.
3. Requested to remove overlapping topics like Graph Theory from courses Discrete Mathematical Structures, Data Structures and Design and Analysis of Algorithms, OOP concepts from Object Oriented Programming through C++ and Java Programming courses.
4. Suggested to include MySQL database practice also in Database Management Systems Lab.

Action taken report:

1. Introduced latest trends of Information Technology courses like Advanced Databases, Python Programming, Knowledge Engineering Laboratory and Massive Online Open Course(MOOC).
2. Revised Data Warehousing and Data Mining, Big Data, Cloud Computing, Software Engineering and Database Management System courses.
3. Removed overlapping topics like Graph Theory from courses Discrete Mathematical Structures, Data Structures and Design and Analysis of Algorithms, OOP concepts from Object Oriented Programming through C++ and Java Programming courses.
4. Included MySQL database in Database Management Systems Lab.

Feedback report from Employers:

Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below:

Interpretation of Feedback

- For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%.
- However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum
- The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved
- Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum

Program: B. Tech. in Information Technology

Courses suggested for improvement	Action taken report:
Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	• The foundation courses like data structures, OOP concepts, and Algorithms were introduced in earlier regulations as well as SVEC-16. • The topic ARM in Azure cloud was introduced in cloud computing course in both SVEC-16. • The Machine learning course was introduced in SVEC-16 and the topic Machine learning for finance will be introduced in the future regulations. • Deep Learning was introduced as a topic in the course Machine learning in SVEC-16 and planning to introduced as a separate course in next regulations • IOT based courses such as embedded systems, and Internet of Things were introduced in SVC-16. • Cyber Security and Laws course was introduced in SVEC-16 regulations. • The different types of testing tools were available in the course software testing and this course was introduced in SVEC-16. • The IAC (Infrastructure as code) is planned to be introduced in the next regulations.

Program: B. Tech. in Computer Science and Systems Engineering

Feedback report from Alumni:	Action taken report:
After summarizing the feedback collected from 44% of Alumni respondents of 2012-13 & 2013-14 batches during the academic years 2014-15 & 2015-16 following are few valuable suggestions made by them for SVEC-16 regulations • New paradigms and concepts for improved teaching-learning process can be introduced for leveraging self-learning among students • Suggested to introduce new courses like Business Analytics and Windows Programming • Suggested to introduce courses on foreign languages • A Course on Personality development and discipline was suggested to be included in the curriculum • Concepts of inducing security into software was suggested to be introduced	Based on suggestions from Alumni following actions were taken • MOOC course was introduced into the curriculum to facilitate self-learning • New courses in emerging areas like Business Analytics and Windows Programming were introduced. • Introduced German and French Languages in Open electives • Personality development course was introduced into the curriculum • Secure Software Engineering Course was introduced into course structure
Feedback report from Students: After summarizing the feedback collected from 2014-15 & 2015-16 passed out student batches, 84% of students responded and the following are few valuable suggestions made by them for SVEC-16 regulations • It was requested to introduce courses in advanced subjects to enhance Skill development and also to broaden horizon on the domain • Suggested to include a course on Python Programming • Subject on Wireless Networking concepts was suggested • More emphasis was sought on Systems Engineering courses	**Action taken report:** Based on suggestions from students following action was taken • New courses were introduced in the curriculum such as ➢ Data Analytics ➢ Internet of Things • Python Programming was introduced into the curriculum • Wireless Networks course was introduced into course structure • Included Systems Engineering and System Modeling and Simulation Lab courses in the curriculum
Feedback report from Faculty members: After summarizing the feedback collected during 2014-15 & 2015-16 academic years from all faculty respondents, following are few valuable suggestions made by them for SVEC-16 regulations • Intheprogramcurriculum,combinationoflabslike„OOADandWebProgramming“, „Operating Systems and System Software Lab“ are becoming dreary when studied as single lab in a given semester • Suggested to exclude data structures concepts from Problem solving and Computer Programming to avoid redundancy • Suggested to introduce more programming language courses • Suggested to study concepts of Systems Software course through UNIX/Linux platforms	**Action taken report:** Action taken on feedback from Faculty members • Laboratories like „OOAD and Web Programming“ were split and offered as two separate laboratory courses in the new regulation as OOAD lab and Web Technologies Lab, similarly it was followed for Operating Systems and System Software Lab as well. • Excluded Data structures concepts from Problem solving and Computer Programming and replaced with a new introductory course on Programming in C • Introduced Object Oriented Programming through C++ theory and Laboratory courses into the curriculum

Program: B. Tech. in Computer Science and Systems Engineering

• Suggested to introduce new courses into the curriculum like Information Retrieval Systems, Intelligent Computing Systems and Image Processing • In System Software course, it is suggested to include algorithms to modify and manipulate the context of a process • In Cryptography and Network Security course it was suggested to include stream ciphering techniques • It was suggested in Operating Systems course that few concepts related to i-node, file descriptors can be unified • In Computer Networks Course it was suggested to include topics on extensibility of network addressing. • It was suggested to include topics on B+ Tree file indexing in Database Management Systems • Suggestion was made in Data Warehousing and Data Mining course to include few Data Mining Applications • In Design and Analysis of Algorithms course it was suggested to include topics of problem solving methods and types of problems • Topics on Advances in Mobile Computing subject was suggested to be included	• Course contents with respect to Systems Software was designed through UNIX/Linux platforms in the new regulations • Introduced new courses into the curriculum like Information Retrieval Systems, Intelligent Computing Systems and Image Processing • Algorithms related to manipulation of System context in a given process were included in System Software course • In Cryptography and Network Security topics related to Stream Ciphering & RC4 are introduced • Topics on i-node, file descriptors in Operating Systems course were included • In Computer Networks course topics on IPV6 were included • Topics on B+ Tree file indexing were included in Database Management Systems • In Data Warehousing and Data Mining, topics on Spatial mining, Multi-media Mining and Text Mining Methods were included • Concepts related to NP hard and NP complete problems were excluded from syllabus of Design and Analysis of Algorithms course • Topics on 4G Mobile communication were incorporated in syllabus of Mobile Computing Course
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** 1. For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. 2. However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum 3. The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved 4. Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** 1. The courses Data Structures, Object Oriented Programming through C++, Java Programming, Design and Analysis of Algorithms were introduced in SVEC-16 Regulations. OOPs through Java, Data Structures and Algorithms, Design and Analysis of Algorithms courses will be considered in next Regulations. 2. Cloud Computing, Internet of Things courses were introduced in SVEC-16. 3. Industrial Internet of Things course is considered for next Regulations. 4. The course "Infrastructure as code"(IAC) is planned to be introduced in next Regulations.

M. Tech. in Computer Science

Feedback report from Alumni:

Feedback was taken from 2011-2012and 2012-2013passed out students during the academic years 2013-2014 and 2014-2015respectively. About 39% of the Alumni responded to the request. The summary of the feedback is as follows:

- Lab for data mining was required
- Courses like big data can be made as core subjects and more electives can be introduced
- Course like computer vision might provide students with various opportunities
- Practical experience on cloud computing and Big data analytics will help students a lot
- IOT and its corresponding lab can be introduced
- Labs can be provided for the courses like networks and data mining.

Action taken report:

Based on the feedback received, the following actions were taken:

- Database Management Systems & Data Warehousing and Data Mining Lab was introduced
- Cloud Computing and Big Data Analytics were made as core courses and Computer Vision and IOT were introduced as elective course by removing Advanced Software Engineering course.
- Computer Vision was introduced as an elective course
- Cloud computing and Big Data Analytics lab was introduced
- IOT was introduced as theory and also as an elective course only.
- Data Structures and Advanced Database Management Systems Laboratory was replaced with Database Management Systems & Data Warehousing and Data Mining Lab and Data Structures & Computer Networks Lab

Feedback report from Students:

Feedback was taken from the students who were passing out during the academic year, 2013- 2014, 2014-15. About 82% of the Students responded to the request. The summary of the feedback is as follows:

- Courses based on recent trends would be helpful
  Lab could be introduced for computer networks course
- Hands-on experience on cloud computing would be encouraging students to work in the corresponding field
- Computer vision, IoT and Cyber Physical Systems course can be introduced
- Revision of big data analytics can be done by including some recent technologies like Hadoop
- Elective subjects like cloud computing can be made as core such that diversified courses can be introduced as elective
- Practical Sessions on Big Data Analytics can be introduced

Action taken report:

Based on the feedback received, the following actions were taken:

- IoT was introduced as an elective course as there is a lot of scope for students to develop societal applications
- Data Structures and Computer Networks Lab was introduced
- Cloud Computing and Big Data Analytics lab was introduced such that practical experience can be provided for the students
- Computer Vision course was introduced
- The syllabus of Big Data Analytics is revised by including concepts related to Hadoop, Map-reduce.
- Cloud Computing course was made as a core course
- Big Data Analytics lab was introduced in integrated with cloud computing

M. Tech. in Computer Science

Feedback report from Faculty members:	**Action taken report:**
Feedback was taken from all the faculty members of the program. The following were the suggestions made: • Database System Environment, Centralized and Client/server Architectures for DBMS can be included in Advanced Database Management Systems • Revision of cluster analysis concepts need to be done in Data Warehousing Data Mining Course • Bigdata Analytics need to be revised to include latest technologies • The design of memory hierarchies can be removed and The Evolution of Data flow computers, Computer Architecture of Warehouse–Scale Computers can be added in advanced computer architecture • Heaps and travelling salesman problem for dynamic programming can be included in data structures and algorithms	Based on the feedback received, the following actions were taken: • Link Virtualization, Concepts related to Internet protocol, VPNs, Tunneling and Overlay Networks were removed. Application Layer-Principles of Network Applications, the Web and HTTP, File Transfer: FTP, Electronic Mail in the Internet, Domain Name System (DNS), Cellular networks were included in Advanced Computer Networks course • Database System Environment, Centralized and Client/server Architectures for DBMS were included and Concepts related to distributed data bases were revised in Advanced Database Management Systems • Cluster Analysis concepts were revised to include more in-depth concepts in Data Warehousing and Data Mining Course • Latest technologies like Hadoop, Map-reduce were included and the complete syllabus of Big Data Analytics was revised • The design of memory hierarchies, PRAM and VLSI models, Graphics processing units, Computer Architecture of Warehouse – Scale Computers were removed and The Evolution of Dataflow computers, Computer Architecture of Warehouse–Scale Computers are added in Advanced Computer Architecture. • Heaps and travelling salesman problem for dynamic programming were included in data structures and algorithms course

M. Tech. in Electrical Power Systems

Feedback report from Alumni: Feedback was taken from 2011-2012 and 2012-2013 Passed out batches during the academic year 2013-2014 and 2014-2015. About 40% of them responded to the survey. Their feedback was summarized as follows: 1. To meet the industrial requirements and latest technologies, new courses such as High Voltage Engineering has to be introduced. 2. Thorough usage of modern tools like PSCAD and MATLAB shall be imparted as they were used in various industries.	**Action taken report:** 1. New courses "High Voltage Engineering" and its associated laboratory "High Voltage Lab" were introduced to impart the advanced concepts of High voltage engineering conceptually and practically. 2. The advanced simulation tools in electrical engineering domain such as MATLAB and PSCAD were included into the two new lab courses.
Feedback report from Students: The students of 2013-2014 and 2014-2015 Passed out batches were asked to give feedback for the curriculum improvement during the academic years 2013-14 and 2014-15 respectively. The following were the suggestions given by 80% of them: 1. More practical exposure should be imparted through new lab oriented courses in the field of Power Systems.	**Action taken report:** 1. Two lab courses were introduced per semester to give more practical exposure. 2. Two new lab courses "Power Systems Simulation-I lab" and "Power Systems Simulation-II lab" were introduced to impart more practical exposure in operational and analytical aspects of power systems. 3. The advanced simulation tools in electrical engineering domain such as MATLAB and PSCAD were spread into the two lab courses.
Feedback report from Faculty members: Feedback report was taken from all the faculty members who taught the courses of the program. The suggestions are summarized below: 1. The concepts of electrostatic fields and its measuring methods should be included somewhere in the curriculum appropriately. 2. The concepts of ideal and practical characteristics of power electronic switches should be refreshed again into the course "Power Electronic Converters". 3. The course Power System Security and State Estimation seems inadequate	**Action taken report:** 1. The concepts of electrostatic fields and measurement of electrostatic fields were included into the course "EHVAC Transmission". 2. The concepts of ideal and practical characteristics of power electronic switches were included into the course "Power Electronic Converters". 3. Advanced concepts of power system state estimation and security were added into the course and were elaborated as two units covering all advanced aspects. Also the concepts EMS center, Data actuation methods were included to substantiate the course.

and should be elaborated by including new concepts into the course. 4. Awareness on relevant standards of power quality and supply should be given to the students through appropriate course. 5. Student should be taught of standards used in power industry. 6. Students should be enlightened with the practical excitation system and should be dealt in the course Power System Stability and Control. 7. Students shall encourage using the tools MATLAB and PSCAD for analysis, design and solutions to problems in the domain that would help in doing their project work.	4. The IEEE /IEC standards for quality of power supply were included into the course "Reactive Power Compensation and Management" for making the students aware of the industrial standards. Also IEEE/IEC standards on harmonics were included into the course "High Voltage DC Transmission". 5. The application of search algorithms such as genetic algorithms to control and coordination of FACTS devices was included in the course "Flexible AC Transmission System". 6. Emphases on the practical IEEE excitations models were given and were included in the appropriate course "Power System Stability and Control". 7. Students are given in-depth usage of MATLAB/SIMULINK, PSCAD tools for solving problems in the domain of Power Systems and power electronics

M. Tech. in Software Engineering

Feedback report from Alumni:	**Action taken report:**
Feedback was received from 40% of alumni belonging to 2011-12 and 2012-13 passed out batches and they: 1. Suggested to introduce more industry oriented courses such as Big Data Analytics, Advanced Software Engineering and audit courses such as Intellectual Property Rights. 2. Suggested to include more laboratory components in curriculum. 3. Recommended to encourage students towards online and blended learning courses on emerging areas of Computer Science and Software Engineering.	1. Industry oriented courses were introduced courses such as Big Data technologies, Advanced Software Engineering and audit course on Intellectual Property Rights. 2. Two laboratory courses were included in M. Tech (SE), I Semester and II Semester respectively. 3. The students were encouraged to attend on-line certification programmes such as MHRD programmes, MOOCs and programmes conducted by Andhra Pradesh State Skill Development Corporation (APSSDC) and APPSC-NASSCOM.
Feedback report from students: Feedback was received from 80% of students belonging to 2013-14 and 2014-15 passed out batches and they: 1. Suggested to offer Cloud Computing and Big Data Technologies courses as core courses instead of electives. 2. Requested to reduce the syllabus of Service Oriented Architecture and Software Architecture and Design Patterns courses.	**Action Taken Report:** 1. Offered Cloud Computing and Big Data Technologies courses as core course instead of elective course in M. Tech (SE), I and II Semesters respectively. 2. Reduced the syllabus of Service Oriented Architecture and Software Architecture and Design Patterns courses in M. Tech (SE), II semester.
Feedback report from Faculty Members: Feedback was received from all the members of faculty who taught the courses of the program and they: 1. Suggested to combine Software Reliability and Software Reuse as single course. 2. Suggested to include laboratory courses on Cloud Computing and Big Data Technologies. 3. Suggested to introduce laboratory course on software lifecycle.	**Action Taken Report:** 1. The courses Software Reliability and Software Reuse combined as a single course and offered in I semester. 2. The laboratory courses on Cloud Computing and Big Data Technologies were included in I and II semesters respectively. Advanced Software Engineering Laboratory-I and Advanced Software Engineering Laboratory-II were included in M. Tech (SE), I and II Semesters respectively

M. Tech. in Digital Electronics and Communication Systems

Feedback report from Alumni:	Action taken report:
Feedback is taken from 2011-2012 and 2012-2013 Passed out batches during the academic year 2013-2014 and 2014-2015. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. To meet the industrial requirements, advanced knowledge in latest technologies has to be gained through the introduction of new courses. 2. Experiments on image processing have to be included in Signal Processing Lab. 3. More mathematical Problems can be solved in the course Detection and Estimation of Signals as they will be useful in estimation and tracking.	1. New courses like Soft Computing Techniques, ASIC Design and Speech Processing were included to fulfill the industrial needs. 2. Two new laboratories, one on Image & Video Processing and other on Communications were included in the curriculum. 3. Problem solving concept was included in all the units to focus more on solving problems related to estimation and tracking.
Feedback report from Students: The students of 2013-14 and 2014-15 Passed out batches were asked to give feedback for the curriculum improvement. About 80% of the students responded and their suggestions are summarized below: 1. To strengthen the quality of projects in communications, one unit on Multichannel and Multicarrier Systems can be included in any communications course. 2. Syllabus in Information Theory and Coding Techniques has to be compressed. 3. Research Methodology can be made an audit course.	**Action taken report:** 1. The course on Real Time Systems was strengthened and improved by including Scheduling relating to multiprocessor and distributed systems. Also focus on various commercial RTOS was made. 2. The concepts like Application of Block codes for error control in data storage Systems, Feedback Decoding, Application of Viterbi and sequential decoding were shifted under self-study concepts. 3. Research Methodology was made an audit course.
Feedback report from Faculty members: Feedback report was taken from all the Faculty members during academic years 2013-14 and 2014-15 who taught the courses of the program. The suggestions are summarized below: 1. More emphasis can be made on Multichannel and Multicarrier Systems in the course Digital Communication Techniques instead of Detection of spread spectrum signals. Also, concepts on matched filter and Rake receivers can be added. 2. Topics like Red -Green-Blue (RGB) color gamut, chromaticity, energy transfer, energy absorption, optical emission, Projection Displays and Near-to-Eye Displays can be added in the course named Optical Communications and Networks for completeness. 3. Courses on soft computing and speech processing can be introduced.	**Action taken report:** 1. One Complete unit for Multichannel and Multicarrier Systems was allocated in Digital Communication Techniques. Concepts on matched filter and Rake receivers were also added. 2. Topics mentioned by Faculty in Optical Communications and Networks were added for completeness. 3. New courses like Soft Computing Techniques, ASIC Design, Speech Processing, Image & Video Processing Lab and Embedded Systems Lab were added in the curriculum. Also, an audit course on Intellectual Property Rights was included

M. Tech. in VLSI

Feedback report from Alumni:	**Action taken report:**
Feedback is taken from 2011-12 and 2012-13 Passed out batches during the academic year 2013-14 and 2014-15 academic years. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. To meet the industrial requirements, advanced knowledge in latest technologies has to be gained through the introduction of new courses. 2. Experiments on Physical Design Automation have to be included in Mixed Signal Laboratory. As Power consumption in CMOS gates and timing issues are very important parameters, the Course on Digital IC Design has to be strengthened by introducing these concepts.	1. New courses like FPGA Architectures and Applications, System-on-Chip Design and Verification, Nanoelectronics, Analog IC Design Lab, Digital IC Design Lab and Nanoelectronics Lab were included to fulfill the industrial needs. 2. Experiments on Physical Design Automation were included in Mixed Signal Laboratory. 3. More relevant algorithms and the design aspects were included in Physical Design Automation. Content on COSYMA and LYCOS co-design systems was elaborated. Topics on stability and noise analysis were included in Analog IC Design
Feedback report from Students: The students of 2013-14 and 2014-15 Passed out batches were asked to give feedback for the curriculum improvement. About 80% of the students responded and their suggestions are summarized: 1. Applications on Nonlinear Analog circuits can be dealt in detail for Analog IC based designs. 2. Suggested to include one more lab in each semester to improve skills. 3. A course on Nanoelectronics can be introduced in the curriculum.	**Action taken report:** 1. Nonlinear Analog circuit's applications- Ring oscillators and Simple PLL were included in the Analog IC design course. 2. Two new laboratories were included in the curriculum. 3. As miniaturization plays a very important role in Electronic industry, new courses on Nanoelectronics titled Nanoelectronics and Nanoelectronics Laboratory were included in the curriculum.
Feedback report from Faculty members: Feedback report was taken from all the Faculty members who taught the courses of the program during 2013-14 and 2014-15 academic years. Their suggestions are summarized. 1. More importance can be given to FSM based design and architecture in FPGA Applications. 2. For completeness Specific Etch Processes can be added in the course IC Fabrication. 3. New courses like Nanoelectronics and System-on-Chip Design have to be introduced to get acquaintance with latesttechnologies. 4. Also the syllabus should be reorganized logically ASIC Design. 5. Redundancy has to be removed in Low Power VLSI Design and Digital IC Design.	**Action taken report:** 1. Units III, IV& V were modified with FSM based design and architecture along with case studies for system level design were included in the course FPGA applications. 2. To understand etching completely Specific Etch Processes were added in the course IC Fabrication. 3. Courses like FPGA Architectures and Applications, System-on-Chip Design and Verification, Nanoelectronics, Analog IC Design Lab, Digital IC Design Lab and Nanoelectronics Lab were introduced in the curriculum to help the students to get adapted to the latest technology. 4. Syllabus in ASIC Design was reorganized logically. 5. To avoid redundancy, Device behavior and modeling in the course Low Power VLSI Design and layout design rules in Digital IC Design were removed

M. Tech. in Communication Systems

Feedback report from Alumni: Feedback is taken from 2011-12 and 2012-13 Passed out batches during the academic year 2013-14 and 2014-15. About 40% of them responded to our survey. Their feedback is summarized as follows: 1. To gain advanced knowledge in image processing and antennas areas, new courses have to be introduced on them. 2. The number of laboratories can be increased to acquire strong practical knowledge. 3. More mathematical Problems can be solved in the course Detection and Estimation of Signals as they will be useful in estimation and tracking.	**Action taken report:** 1. New courses like Image & Video Processing and Smart Antennas were introduced. 2. Two new laboratories, one on Image & Video Processing and other on RF Circuits & Optical Communications were included in the curriculum. Problem solving concept was included in all the units to focus more on solving Problems related to estimation and tracking.
Feedback report from Students: The students of 2013-14 and 2014-15 Passed out batches were asked to give feedback for the curriculum improvement. The following were the suggestions given by 80% of them: 1. To strengthen the quality of projects in communications units on Multichannel and Multicarrier Systems can be included in any communications course. 2. Syllabus in Information Theory and Coding Techniques has to be compressed. 3. A new course on Image processing can be introduced. 4. Research Methodology can be made an audit course.	**Action taken report:** 1. The course on Real Time Systems was strengthened and improved by including Scheduling relating to multiprocessor and distributed systems. Also focus on various commercial RTOS was made. 2. The concepts like Application of Block codes for error control in data storage Systems, Feedback Decoding, Application of Viterbi and sequential decoding were shifted under self-study concepts. 3. To get exposed to the advancements in Image processing, courses like Image& Video Processing along with the laboratory course on it with the title Image & Video Processing lab were introduced in the curriculum. 4. Research Methodology was made an audit course.

M. Tech. in Communication Systems

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members during 2013-14 and 2014-15 academic years who taught the courses of the program. Their suggestions are summarized below:

1. More emphasis can be made on Multichannel and Multicarrier Systems in the course Digital Communication Techniques instead of Detection of spread spectrum signals. Also, concepts on matched filter and Rake receivers can be added.
2. Topics like Red -Green-Blue (RGB) color gamut, chromaticity, energy transfer, energy absorption, optical emission, Projection Displays and Near-to-Eye Displays can be added in the course named Optical Communications and Networks for completeness.
3. To further strengthen the course on Software Defined Radio, Digital Frequency Up- and Down Converter sand Applications of Software Radio Principles to Antenna Systems can be added.
4. Intellectual Property Rights can be introduced as an Audit Course to develop awareness of the relevance and impact of IP Law on their academic and professional lives.
5. To remove redundancy course on Linear Algebra can be removed.

Action taken report:

1. One Complete unit for Multichannel and Multicarrier Systems was allocated in Digital Communication Techniques. Concepts on matched filter and Rake receivers were also added.
2. Topics mentioned by Faculty in Optical Communications and Networks were added for completeness.
3. Half unit on Digital Frequency Up- and Down Converters was added in the course Software Defined Radio. Applications of Software Radio Principles to Antenna Systems were also added to strengthen the course.
4. Intellectual Property Rights was introduced as an Audit Course.
5. Linear Algebra course was removed from the curriculum

M. Tech. in Computer Networks and Information Security

Feedback report from Alumni:	**Action taken report:**
Feedback was taken from 2012-2013passed out students during the academic year 2014- 2015. About 39% of the Alumni responded to the request. The summary of the feedback is as follows: • Subjects like Big Data Analytics can be made as core subjects • The latest and demand driven industry courses like Ethical hacking and Internet of Things can be introduced • More courses in the Information management knowledge area can be introduced • Practical Sessions can be introduced for Cloud Computing	Based on the feedback received, the following actions were taken: • Data warehouse and data mining, Big data analytics subjects are made as core subjects • Both IOT and Ethical Hacking were introduced as new courses as they were the demanding concepts in the industry • Information Retrieval Systems and Social Networks were introduced as elective courses • Lab was introduced for Cloud Computing and Big Data Analytics to enhance the practical knowledge of the students in the respective field
Feedback report from Students: Feedback was taken from the students who were passing out during the academic years 2013- 2014, 2014-15. About 94% of the Students responded to the request. The summary of the feedback is as follows: • Some important subjects which are elective need to be made core • Advanced courses like Social Networks and Information Retrieval System can be introduced which helps in employability • Practice sessions for subjects like cloud computing were needed • Courses like IOT can be introduced • More tools on recent trends can be included • Wireless Network lab exercises can be strengthened	**Action taken report:** Based on the feedback received, the following actions were taken: • Data warehouse and data mining, Big data analytics subjects are made as core subjects • Information Retrieval Systems and Social Networks were introduced as elective courses • Cloud Computing and Big Data Analytics lab was introduced to provide hands-on experience to students • IOT was introduced as new elective course • Hadoop Technology was introduced in both theory and lab courses of Big Data Analytics • More exercises based on CRC and RED were included to strengthen the Computer Networks and Information Security lab

M. Tech. in Computer Networks and Information Security

Feedback report from Faculty members:	**Action taken report:**
Feedback was taken from all the faculty members of M.Tech(CNIS) program. The following were the suggestions made by the faculty which were considered for the improvement of the curriculum: • Security concepts can be removed from Advanced Computer Networks to avoid redundancy • Case studies can be increased in Intrusion detection systems • Basics may be strengthened in web technologies • Advanced courses like information retrieval systems can be introduced • Database concepts related to mobile devices can be included in mobile computing • Practice sessions would make students to understand the concepts of big data analytics in a better way	Based on the feedback received, the following actions were taken: • Security concepts were removed from Advanced Computer Networks course to avoid redundancy and included classless IP address concept • Introduced the case studies for Botnet Construction and IDS detection in Intrusion Detection Systems Course • Added PHP basics and socket programming in Web Technologies course • Information Retrieval System was introduced • Mobile Databases were included in Mobile Computing Course. • Introduced the lab for Cloud Computing and Big Data Analytics using Hadoop and open cloud environments

Master of Computer Applications

Feedback report from Alumni: Feedback was taken from 2011-12, 2012-13 and 2013-14 passed out batches during the academic years 2013-14, 2014-15 and 2015-16 respectively. About 40% of them were responded to our survey. Their feedback was summarized as follows: 1. Suggested to introduce industry related courses such as Internet of Things, Cyber Security, Computer Forensics and Mobile Application Development. 2. Courses like programming through C & LINUX Programming have to be strengthened. 3. Encourage students towards self-learning courses in emerging fields of Computer Science.	**Action taken report:** 1. Courses like Internet of Things, cyber security, computer forensics and Mobile Application Development were introduced to meet the industrial requirements. 2. Topics like application of structure with pointers and recursion were included in Programming through C, LINUX commands, shell scripting were added in IT lab to strength the course. LINUX Programming course is introduced. 3. Emerging courses like Ethical Hacking, Bioinformatics and Massive Open Online Courses were offered for students to encourage online & blended learning.
Feedback report from Students: Students exit batch feedback was taken from 2013-14, 2014-15 and 2015-16 passed out batches of its respective academic years for SVEC 10 and SVEC 14 regulations. About 80% of them were responded to survey. Their feedback was summarized as follows: 1. Suggested to include Data Structures as a separate laboratory and real world applications for Web Programming and Big Data Analytics laboratories. 2. Requested to refine the syllabus in Object Oriented Programming through JAVA, Programming through C, IT workshop & Management laboratory. 3. Requested to offer Wireless Technologies, Cloud Computing, Big Data Analytics laboratories to acquire in-depth knowledge on the respective courses. 4. Include AWT & SWINGS in application through Java, open source tools and case studies for skill development.	**Action taken report:** 1. Introduced courses on Data Structure laboratory, Big Data Analytics lab, Cloud Computing lab in SVEC16curriculum. 2. Refined syllabus in Object Oriented Programming through JAVA, IT Workshop & Management laboratory & fundamentals of computer in Programming through C courses. 3. Included open source tools like R, HADOOP, MS-Azure in Big Data Analytics lab and Cloud Computing Lab, AWT, SWINGS in Object Oriented Programming through JAVA lab courses in the curriculum to meet the needs of industry.
Feedback report from Faculty members: Faculty feedback is taken from all faculties who taught the courses of SVEC 10 and SVEC 14 regulations for the Academic years 2013-14, 2014-15 and 2015-16. 100% of them were responded and following are few valuable suggestions: 1. Suggested to introduce LINUX laboratory and measures of efficiency &	**Action taken report:** 1. Industry oriented courses were introduced on emerging fields of computer science like LINUX laboratory and measuring of efficiency & analysis algorithms in Programming through C. 2. Courses like Internet of Things, Bioinformatics and Ethical Hacking were

analysis of algorithms in Programming through course. 2. Latest trends of Information Technology like Internet of Things, Bioinformatics and Ethical Hacking courses have to be included. 3. Adopt self-learning topics in each courses enhance the capabilities of students. 4. Recommended to include Mini Project in V semester instead of IV semester. 5. Suggested to include topics for improving information transfer, and reading comprehensions among students in the course English Language lab. 6. Suggested to include topics on Gaps in Training, Training Process, and Impediments in Effective training in the course Organizational Behavior and Human Resource Management. 7. Suggested to include a course on "Soft Skills Lab".	included which are emerging in the field of Information Technology. 3. Included self-learning topics in each course of SVEC16regulations. 4. Mini Project was included in V semester as advanced programming languages were covered in IV and V semesters. 5. Topics for improving information transfer, and reading comprehensions among students in the course English Language lab were included. 6. Topics on Gaps in Training, Training Process, and Impediments in Effective training in the course Organizational Behavior and Human Resource Management" were included. 7. A new course on "Soft Skills Lab" Was included.
Feedback report from Employers: Employer feedback is taken centrally. The feedback on curriculum is requested from the companies Tata Consultancy Services, Capgemini India Services Pvt. Ltd., SAP Software & Solutions, Megha Engineering & Infrastructures Limited (MEIL), Infosys, Cognizant Technology Solutions, Hetero Labs Limited, HCL Technologies, ZENQ Information Technology and Services, EPAM Systems, Wipro Technologies, etc., who recruited our students and also companies where our alumni are employed directly. The interpretations of feedback analysis and salient features of feedback report are summarized below: **Courses suggested for improvement** Foundation courses: data structures, OOP concepts, Algorithms, IAC (Infrastructure as code), ARM in Azure cloud, Machine learning for finance, Deep Learning, Artificial intelligence based courses, IOT based courses, Cyber physical systems usage, Block chain technologies & tools, Cyber security, Testing tools like Selenium Katalon studio, VLSI design, Laboratory courses in embedded systems and chip designing	**Interpretation of Feedback** • For all the three components (knowledge, skills and Attitude), the employers were satisfied with the curriculum and also with the required composition of knowledge, skills and attitudinal attributes crossing the set threshold of 80%. • However based on the response to some of the questions in the survey, it indicates certain gaps exists in the curriculum • The students who are employed in the organization are doing well but skill set possessed by the students employed in their organization may be further improved • Suggestions in processes and courses to be introduced into the curriculum is an important input for the update of the curriculum **Action taken report:** • **Foundation courses: Data Structures, OOP concepts, Algorithms** In SVEC16 regulations: Data Structures, Object Oriented Programming, Algorithms in Programming in C and Data Structures are included and implemented successfully. • **ARM in Azure cloud** In SVEC16 regulations: Cloud service models and case studies such as SaaS: Salesforce.com, AMAZON EC2, S3, VPC, and Oracle VM box, MS-Azure, creation of tool chain in IBM Bluemix were included and implemented. Also, developed web based application on MS-Azure Platform. Expert Lecture was also conducted on Oracle Cloud infrastructure. • **Machine learning for finance :** Will be considered in next regulations • **Artificial Intelligence based courses :** Will be considered in next regulations • **IOT based courses**

	Workshops on "IoT", "IoT fundamentals" and "Programming IoT" were organized. In SVEC16 regulations: Internet of Things Course has been included and implemented successfully. • **Block chain technologies & tools** In SVEC16 regulations: Organized an Expert Lecture on "Block Chain Technologies". • **Cyber security** In SVEC16 regulations: Concepts related to Cyber Security such as Vulnerabilities, access control and cryptography, Network Security attacks, Cryptography in network security, Firewalls, intrusion detection and prevention system were implemented in Information Security and Ethical Hacking courses. • **Testing tools like Selenium Katalon studio** In SVEC16 Regulations: Testing for specialized environments and functional test tool (Selenium) was implemented in Software Testing course. • **Data Visualization :** Will be considered in next regulations

Program: BS&H courses for B. Tech. Programs

To reduce the redundancy, the feedback reports from faculty members of **Basic Sciences and Humanities (BS&H)** department and the action taken reports are summarized below:

Feedback report from Faculty members of BS&H:

All faculty members of BS&H department, who have taught their courses to students of various B. Tech. Programs, were given their opinion on curriculum improvements. Faculty opined that the following curricular modifications to be incorporated in the next curriculum revision(SVEC16).

1. Inclusion of a theory course on "Multi–Variable Calculus and Differential Equations" in place of "Engineering Mathematics" in SVEC14 with inclusion of topics: Applications of differential extended to several electrical oscillatory circuits, limits and continuity, Taylor series expansion for functions of two variables, areas enclosed by plane curves.
2. Inclusion of a theory course on "Matrices and Numerical methods" in place of "Mathematical methods" in SVEC14 with inclusion of topics: Different methods of reduction of quadratic form to normal form, partial fractions and differential equations by numerical methods.
3. Inclusion of a theory course on "Probability Distributions and Statistical Methods" in place of "Probability and Statistics" in SVEC14 by reorganizing the syllabus
4. Inclusion of a new theory course on "Transformation Techniques and Partial Differential Equations"
5. Addition of concept on computerized accounting in "Managerial Economics and Principles of Accountancy" course
6. Inclusion of topic on amplifications of lasers and removing of some topics due to redundancy in revised IPE syllabus in "Engineering Physics" course
7. Inclusion of exclusive lab courses on "Engineering Chemistry" and "Engineering Physics" in place of "Engineering Physics and Engineering Chemistry Lab" inSVEC14
8. Inclusion of exercise on calculations of AC frequency in "Engineering Physics Lab" course
9. Inclusion of experiments on corrosion of metals in different media in "Engineering Chemistry Lab" course
10. Inclusion of topics on effects of fluoride on human health and de-fluorination methods, engineering plastics and their applications, concepts related bio-chemistry and green chemistry in "Engineering Chemistry" course
11. Addition of new topics to enhance/improve writing and reading skills among

Action taken reports:

1. A theory course on "Multi–Variable Calculus and Differential Equations" was introduced in place of "Engineering Mathematics" in SVEC14 with included the topics on applications of differential is extended to several electrical oscillatory circuits, limits and continuity, Taylor series expansion for functions of two variables and areas enclosed by plane curves.
2. A theory course on "Matrices and Numerical methods" was introduced in place of "Mathematical Methods" in SVEC14 with included the topics on different method of reduction of quadratic form to normal form, partial fractions and differential equations by numerical methods.
3. A theory course on "Probability Distributions and Statistical Methods" was introduced in SVEC16 in place of "Probability and statistics" in SVEC14 with reorganizing the syllabus
4. A theory course on "Transformation Techniques and Partial Differential Equations" was introduced in SVEC16 compared toSVEC14.
5. Concept of computerized accounting was introduced in "Managerial Economics and Principles of Accountancy" course
6. Amplifications of lasers included and some topics were removed due to redundancy (introduced in revised IPE syllabus) in "Engineering Physics" syllabus
7. Lab courses on "Engineering Chemistry" and "Engineering Physics" were introduced in SVEC16 in place of "Engineering Physics and Engineering Chemistry Lab" inSVEC14.
8. Calculations of AC frequency were introduced in "Engineering physics" Lab course
9. Experiments on corrosion of metals in different media introduced in "Engineering Chemistry Lab" course
10. Effects of fluoride on human health, de-fluorination methods, engineering plastics and their applications, concepts related bio-chemistry and green chemistry were introduced in "Engineering Chemistry" course.
11. New topics were added to enhance/improve writing and reading skills among students in "Technical English" course
12. A lab course on "English Language" was introduced in SVEC16 in place of "English Language Communication Skills Lab" inSVEC14.
13. A lab course on "Soft Skills Lab" was introduced inSVEC16

Program: BS&H courses for B. Tech. Programs	
students in "Technical English" course 12. Renaming of the lab course on "English Language Communication Skills Lab" to "English Language" 13. Inclusion of a lab course on "Soft Skills" 14. Inclusion of topics on electronic wallet and insurance functions in "Banking and Insurance" course 15. Inclusion of specific topics relating to finance, risk and return, security analysis and portfolio management in "Cost Accounting and Financial Management" course. 16. Inclusion of topics related to entrepreneurship, start-ups (with new guidelines) and state financial corporations in "Entrepreneurship for Micro, Small and Medium Enterprises" course 17. Addition of new open electives courses on Personality Development, Indian Heritage and Culture, Indian Economy, Public Administration, Indian Constitution, German Language, French Language, Indian History, Philosophy of Education and Business Communication and Career skills.	14. Electronic wallet and insurance functions were introduced in "Banking and Insurance" course 15. Specific topics relating to finance, risk and return, security analysis and portfolio management were introduced in "Cost Accounting and Financial Management" course 16. Topics related to entrepreneurship, start-ups (with new guidelines) and state financial corporations were introduced in "Entrepreneurship for Micro, Small and Medium Enterprises" course. 17. New courses on Personality Development, Indian Heritage and culture, Indian Economy, Public Administration, Indian Constitution, German Language, French Language, Indian History, Philosophy of Education and Business Communication and Career skills were introduced as open electives.

Feedback reports and Action taken reports for curriculum improvements under SVEC14 Regulations introduced in the Academic Year 2014-15:

B. Tech. in Civil Engineering

Feedback report from Alumni:

The Department of Civil Engineering was started in the academic year 2009-10 and the first batch of B.Tech. (Civil Engineering) students were passed out in the academic year 2012-13. Hence, the feedback from the alumni is not applicable.

Action taken report:

Not Applicable.

Feedback report from Students:

Feedback on curriculum was obtained from the 80% of students from batches 2012-13 and 2013-14. Students wanted to have the following courses to be introduced in the next revision of curriculum (SVEC14 Regulations).

1. Lab course on Computer-Aided Engineering Drawing
2. Theory course on Infrastructure Development and Management
3. Theory course on Transportation Management
4. Theory course on Solid Waste Management
5. Theory courses on "Water Supply Engineering" and "Waste Water Technology" instead of Environmental Engineering-I and II in SVEC10.
6. Theory course on "Geospatial Technologies" in place of Remote Sensing and GIS in SVEC10.
7. Separate lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" in place of GIS and Computer Aided Design and Detailing Lab in SVEC10.
8. Theory course on "Prestressed Concrete"

Action taken report:

Based on the opinion of students, the following changes were incorporated in the curriculum of SVEC14 Regulations.

1. A common lab course on "Computer-Aided Engineering Drawing" was introduced in place of Engineering Drawing in I B.Tech.
2. Infrastructure Development and Management, a new elective course was introduced.
3. Transportation Management, a new elective course was introduced.
4. Solid Waste Management, a new elective course was introduced.

5. Theory courses on "Water Supply Engineering" and "Waste Water Technology" were introduced in SVEC14 in place of Environmental Engineering-I and II in SVEC10.
6. A theory course on "Geospatial Technologies" was introduced in SVEC14 in place of Remote Sensing and GIS in SVEC10.
7. Separate lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" were introduced in SVEC14 in place of GIS and Computer Aided Design and Detailing Lab in SVEC10.
8. A theory course on "Prestressed Concrete" was introduced as program core in SVEC14.

Feedback report from Faculty Members:

All faculty members, who have taught courses during the academic years 2012-13 and 2013-14, were given their opinion on curriculum improvements. Faculty opined that the following curricular modifications to be incorporated in the next curriculum revision (SVEC14 Regulations).

1. Inclusion of lab course on Computer-Aided Engineering Drawing in place of Engineering Drawing
2. Addition of single theory course on "Steel Structures" in place of Steel Structures-I and II
3. Addition of separate lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" in place of GIS and Computer Aided Design and Detailing Lab.
4. Inclusion of theory course on "Prestressed Concrete" as program core
5. Inclusion of indeterminate beams topic in the Structural Analysis – I course
6. Removing the topics T and L beams, shear, torsion and bond topics in Reinforced Cement Concrete Structures-I course.
7. Removing pile foundations, inclusion of design of silos and design of chimneys in Reinforced Cement Concrete Structures-II course.
8. Addition of experiments on water content and specific gravity in the course Geotechnical Engineering Lab
9. Inclusion of new chapter as Erosion and Reservoir sedimentation in the course Engineering Hydrology
10. Removing the experiments on Determination of loss of head due to sudden expansion, Determination of coefficient of discharge for an external mouth piece by variable head method, Calibration of triangular notch in Fluid Mechanics and Hydraulics Lab course.

11. Renaming the theory course "Estimation and Quantity Surveying" as "Estimation, Costing and Valuation".
12. Introduction of an elective course on "Infrastructure Development and Management"
13. Addition of two separate theory courses on "Transportation Engineering-I" and "Transportation Engineering-II" in place of Transportation Engineering in SVEC10.
14. Inclusion of bituminous mix design and concrete mix design in Highway Lab course
15. Introduction of an elective course on "Transportation Management"
16. Introduction of two theory courses on "Water Supply Engineering" and "Wastewater Technology" in place of Environmental Engineering-I and II in SVEC10.
17. Removing of E-Coli test and inclusion of test on sulphates in Environmental Engineering Lab course
18. Inclusion of a new theory course on Solid Waste Management
19. Inclusion of a theory course on "Geospatial Technologies" in place of Remote Sensing and GIS in SVEC10.
20. Addition of lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" in place of GIS and Computer Aided Design and Detailing Lab in SVEC10.

Action taken report:

Based on the feedback obtained from faculty, following changes were incorporated in the curriculum of SVEC14 Regulations.

1. A lab course on "Computer-Aided Engineering Drawing" was introduced in place of a lab course on "Engineering Drawing" in SVEC10.
2. A single theory course on "Steel Structures" was introduced in place of Steel Structures-I and II as in SVEC10
3. Lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" were introduced in place of GIS and Computer Aided Design and Detailing Lab in SVEC10
4. A theory course on "Prestressed Concrete" was introduced as program core
5. Included the indeterminate beams topic in the "Structural Analysis – I" course
6. Removed the topics T and L beams, shear, torsion and bond topics in "Reinforced Cement Concrete Structures-I" course.
7. Removed the topics on pile foundations included the topics on design of silos and design of chimneys in the course "Reinforced Cement Concrete Structures-II"

8. Added of experiments on water content and specific gravity in the course "Geotechnical Engineering Lab"
9. Included the new chapter as erosion and reservoir sedimentation in the course "Engineering Hydrology"
10. Removed the experiments on determination of loss of head due to sudden expansion, determination of coefficient of discharge for an external mouth piece by variable head method, calibration of triangular notch in "Fluid Mechanics & Hydraulics Lab" course.
11. A theory course on "Estimation, Costing and Valuation" was renamed in place of Estimation and Quantity Surveying in SVEC10.
12. An elective course on "Infrastructure Development and Management" was introduced
13. Theory courses on "Transportation Engineering-I" and "Transportation Engineering-II" were introduced in place of "Transportation Engineering" in SVEC10
14. Included bituminous mix design and concrete mix design in "Highway Lab" course
15. An elective course on "Transportation Management" was introduced
16. Theory courses on "Water Supply Engineering" and "Wastewater Technology" were introduced in place of "Environmental Engineering-I and II" in SVEC10
17. Removed E-Coli test and included sulphates in "Environmental Engineering Lab" course
18. Included a new theory course on "Solid Waste Management"
19. Included a theory course on "Geospatial Technologies" in place of "Remote Sensing and GIS" in SVEC10.
20. Added a lab courses on "Remote Sensing and Geographical Information Systems Lab" and "Computer Aided Design and Detailing Lab" in place of GIS and Computer Aided Design and Detailing Lab in SVEC10.

B. Tech. in Electrical and Electronics Engineering

Feedback report from Alumni:

Feedback was taken from 2010-2011and 2011-12 passed out batch during the academic years 2012-2013 and 2013-14 respectively. About 40% of them had responded to the survey. Their feedback was summarized and is as follows:

1. Courses like Signals and systems, 8085 microprocessor could be included so as to enable the students to write competitive exams like GATE, IES and Written tests conducted by various companies.
2. Courses like Power Quality, Smart Grid technologies and PIC Microcontrollers could be included, so as to enable the students to succeed in the interviews for jobs in core companies.
3. Courses on analog electronics should be introduced, so as to enable the students to do well in competitive exams.
4. Some courses could be introduced to develop entrepreneurial skills, awareness and exposure on various banking, insurance and financial accounting.
5. A laboratory course related to drives should be introduced which would give a deep insight on the drives that would help students in industry.

Action taken report:

1. New courses Signals and Networks, Power Quality and Smart Grid technologies were introduced into the curriculum in appropriate semesters of the program.
2. A new course Advanced Microcontrollers was included in the curriculum. Also an in- depth coverage on 8085 processor was made in the course "Computer Architecture and Organization" to enable the students to write competitive exams.
3. New courses "Analog Electronic circuits" and its associated laboratory "Analog Electronics and IC lab" were introduced.
4. New courses "Banking and Insurance", "Cost Accounting and Financial Management", "Entrepreneurship for Micro, Small and Medium Enterprises" were introduced into the curriculum to develop entrepreneurial skills, awareness on various banking and insurance related fields.
5. New course "Power Electronics and Drives Lab" was introduced as a lab course in the curriculum.

Feedback report from Students:

An exit survey was conducted. The feedback of the students of 2012-2013 and 2013-14 passed out batches during the academic years 2012-13 and 2013-14 respectively and were summarized as detailed below. About 80% of the students had participated in the exit survey.

1. Courses on Analog Electronics should be introduced, so as to enable the students to do well in competitive exams and hardware oriented projects.
2. A course on Machine Design using computers should be introduced, so that the students can take-up and work on design projects in industries.
3. Courses on Computer domain like Computer Networks shall be taught as these courses would help students in facing interviews.
4. Some courses on renewable energy conversion and their applications could be introduced in the curriculum.
5. Student"s presentation and communication skills have to be improved further to make them employable through some mandatory courses.

Action taken report:

1. New courses "Analog Electronic circuits" and its associated laboratory "Analog Electronics and IC lab" were introduced.
2. Emphasis was given on design and problem solving skills exclusively through a new course "Computer Aided Electrical Machine Design". Possible design aspects among the other courses were stressed in respective theory and lab courses appropriately.
3. A new course "Computer Networks" was introduced in the curriculum and was made as an elective course.
4. A new course on Solar and Wind Energy Conversion Systems was introduced as an elective course.
5. To improve the communication and presentation skills, a new course "Business Communication and Presentation Skills" was introduced.

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members who taught the courses of the program. Their suggestions were consolidated as detailed below:

1. Topics like Renewable Energy Sources shall be taught as the electrical energy generation through these sources is gaining importance now-a-days.
2. The concepts of energy auditing could be added somewhere in the curriculum.
3. A full course on Fluid Mechanics and Hydraulic machines is not required and could be recalled.

4. The concepts of the FACTS and HVDC shall be made mandatory as these were in use in power industry.

Action taken report:

1. Concepts of Renewable Energy Systems were incorporated in the course Generation of Electric Power.
2. The concepts of energy auditing were added in the course "Utilization of Electrical Energy". The concepts energy efficient motors and smart meters were also included.
3. Fluid Mechanics and Hydraulic machines course was condensed to a required extent and was included in the appropriate course "Generation of Electric Power".
4. A new course merging the concepts of HVDC Transmission and FACTS was introduced as "HVDC Transmission and FACTS".

B. Tech. in Mechanical Engineering

Feedback report from Alumni:

Not applicable as the First Batch passed out in the Academic year 2014- 15.

Action taken report:

Not applicable.

Feedback report from Students:

Not applicable as the First Batch passed out in the Academic year 2014-15.

Action taken report:

Not applicable

Feedback report from Faculty members:

The feedback from the entire faculty who taught the courses of the program was collected in the academic year 2012-13 and 2013-14 and summarized as follows.

2. Suggested to introduce latest trends of Mechanical Engineering like computer based Mechanical software tools.
3. Suggested to incorporate soft skills oriented courses to improve the employability.
4. Suggested to introduce industry relevant courses in core areas of Mechanical Engineering.
5. Suggested to include open electives to make engineering learning processes much broader than restricted to core subjects of Mechanical Engineering.
6. Suggested to incorporate courses related to societal and environmental context.
7. Suggested to introduce courses related to ethical principles and responsibilities for engineering practices.
8. Suggested following improvements in the existing syllabus of various courses.
    - Material Science and Metallurgy – Introduce the topic „Composite Materials".
    - Thermodynamics: Introduce the topic „Gas power cycles" in Thermodynamics and remove in the course Thermal Engineering – I.
    - Thermal Engineering - I: Introduce topic „Non-conventional Engines".

Action taken report:

1. Computer oriented Lab courses were introduced on latest trends of Mechanical Engineering such as Computer-Aided Engineering Drawing, Computer Aided Machine Drawing Lab and Manufacturing Systems Simulation Lab in SVEC-14 curriculum.

2. Introduced a course titled "Business Communication and Presentation Skills" in SVEC- 14 curriculum.
3. Introduced industry relevant courses such as Advanced Welding Technology, Product Design, Advanced Casting Technology, Quality Management and Reliability, Project Management.
4. Introduced open electives such as Entrepreneurship for Micro, Small and Medium Enterprises, Planning for Sustainable Development, Artificial Intelligence and Robotics, Global Strategy and Technology, Micro electro mechanical Systems for the benefit of the students.
5. Introduced courses entitled Disaster Mitigation and Management and Environmental Pollution and Control which related to societal and environmental context.
6. Courses entitled Professional Ethics, Intellectual Property Rights and Management are introduced, which are related to ethical principles and responsibilities for engineering practices.
7. All the suggestions given by the teachers for the improvement of the existing syllabus were incorporated.

B. Tech. in Electronics and Communication Engineering

Feedback report from Alumni:

Feedback was taken from 2010-11and 2011-12 passed out batch during the academic years 2012-13 and 2013-14. About 40% of them responded to our survey in each year. Their feedback is summarized as follows:

1. To meet the industrial requirements, advanced knowledge in latest technologies has to be gained through the introduction of new courses in digital domain.
2. Experiments on Design concepts have to be included in the laboratories.
3. In order to work efficiently in industries, courses like Control systems and Network Analysis have to be strengthened.
4. To sustain in competitive job market today, graduates should have entrepreneurial skills. So, a course on Entrepreneurship can be introduced in the curriculum.
5. To focus on employability in banking sector as it is growing rapidly, courses on Banking and Insurance, Cost Accounting and Financial Management can be introduced as open electives in the curriculum.

Action taken report:

1. New courses like Analog IC Design and Mixed IC Design in digital domain were included to fulfill the industrial needs.
2. In almost all the Laboratories, Design concepts were included to improve the standards.
3. Topics like Mechanical and Electrical Systems, AC Servo Motor, Integral and Derivative Controllers, Difficulties in formation of rough table, Applications of R-H Criterion, Relative Stability Analysis and Compensation Techniques were included in control systems. Two Port Networks and Filters also were added in Network Analysis to strengthen the course.
4. Courses like Entrepreneurship for Micro, Small and Medium Enterprises, Banking and Insurance & Cost Accounting and Financial Management were included in the curriculum.

Feedback report from Students:

The students of 2012-13 and 2013-14 Passed out batch were asked to give feedback for the curriculum improvement. About 80% of them responded to our survey in each year. Their feedback is summarized as follows:

1. In competitive examinations point of view, chapters on Two Port Networks and Filters have to be included in Network Analysis.

2. In Electronic Measurements and Instrumentation, more importance can be given to measurements related to real-time applications.
3. Latest topics such as sensors, solar cells and measures to control pollution have to be introduced in physics or chemistry.

Action taken report:

1. Network analysis syllabus was strengthened. New courses were introduced to improve the standard of the program.
2. More number of real-time applications was included in Electronic Measurements and Instrumentation.
3. The latest topics like Electrochemical Sensors, Composites, Numerical problems on measurement of hardness of water, Phosphoric acid fuel cells, proton exchange membrane fuel cells, Solid oxide fuel cells, Fuel Technology, Green Chemistry and Green Engineering , Special theory of relativity , Black body radiation, Wein's law, Rayleigh-Jeans law, Planck's law and solar cell were included. in physics and chemistry.

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members who taught the courses of the program during 2012-13 and 2013-14. The following suggestions were considered for improvement in curriculum.

1. Course Contents in subjects like DICA and VLSI Design should be logically arranged.
2. Due to strong demand in Electronic industry especially in digital domain, new courses in VLSI have to be introduced.
3. Open Electives have to be introduced

Action taken report:

1. In few subjects, Course title and syllabi were better correlated and the contents were Reorganized logically. The standard of some of the courses is further improved.
2. New courses in digital domain like Analog IC Design, Mixed IC Design, Digital CMOS Design were introduced.
3. Open electives were introduced.

B. Tech. in Computer Science and Engineering

Feedback report from Alumni:

Feedback was taken from 2010-2011 and 2011-2012 passed out students during the academic year 2012-2013 and 2013-2014 respectively. About 41% of the Alumni responded to the request in each year. The summary of the feedback is as follows:

- Course which improves the skills of the students towards simulation of a problem can be introduced
- Practice sessions on data mining concepts were essential
- Courses like computer forensics, Engineering systems analysis and design, semantic web, machine learning, big data were needed
- Subjects like enterprise applications, mainframe systems can be eliminated
- Communication Skills of students need to be enhanced
- Courses from various fields can be introduced to provide diversified opportunities for the students

Action taken report:

Based on the feedback received from Alumni, the following actions were taken and were reflected in SVEC14 regulations:

- Simulation and modeling subject was introduced to improve the skills of the students towards simulation of a problem
- Data warehousing and data mining lab was introduced.
- Computer Forensics, semantic web, machine learning and big data were introduced as core courses and engineering systems analysis and design was introduced as open elective.
- Courses like web mining, parallel processing, high speed networks, enterprise applications and mainframe systems were removed from the curriculum to include new courses like big data, machine learning.
- Six new topics were added to enhance/improve LSRW skills. New Software were added to support the experiments such as Centronix – Phonetics, Let"s Talk English, Regional Institute of English South India in English Language Communication Skills Lab
- Courses like Banking and Insurance, Cost Accounting and Financial Management and Entrepreneurship for Micro, Small and Medium Enterprises were introduced to provide opportunities for students in various fields

Feedback report from Students:

Feedback was taken from the students who were passing out during the academic years, 2012-2013 and 2013-2014. About 82% of the Students responded to the request. The summary of the feedback is as follows:

- Presentation and communication skills of students have to enhanced
- More advanced topics in computer architecture can be included
- Most of the student opinion is to include new courses like Machine Learning, big data, information retrieval system as they were current trends in the industry.
- Practice in data mining concepts would help students to understand the concepts in a better way
- Subjects like distributed systems, semantic web can be introduced
- Redundancy of some topics such as Partial differentiation and applications of derivatives are merged to remove redundancy, Solutions of linear equations by Gauss - Siedel and Gauss Jordon methods from various subjects like Engineering Mathematics, Mathematical methods respectively appear with IPE syllabus. Redundancy can be eliminated.

Action taken report:

Based on the feedback received from students, the following actions were taken and were reflected in SVEC14 regulations:

- Business Communication and Presentation Skills subject was introduced to enhance the presentation and communication skills of students
- As it was not possible to include in Computer Architecture course, new course titled as "Advanced Computer Architecture" was introduced as an elective.
- Based on the feedback of the students related to the introduction of new courses, courses like Machine learning, big data, information retrieval system were introduced as electives and design patterns was introduced as core course
- Data warehousing and Data Mining lab was included to make students practice on the related concepts.
- Distributed systems and semantic web courses were introduced as elective courses
- Partial differentiation and applications of derivatives are merged from Engineering Mathematics, Solutions of linear equations by Gauss - Siedel and Gauss Jordon methods was removed from Mathematical methods, The topics Bravais Lattices, Crystal systems, structure of SC, BCC, FCC was removed from Engineering Physics to eliminate redundancy with IPE Course.

Feedback report from Faculty members:

Feedback was taken from all the faculty members who taught the courses of the program during the academic years 2012-2013 and 2013-2014. The following were the suggestions made by the faculty which were considered for the improvement of the curriculum:

- Problem solving and computer programming lab need to be strengthened to enhance the programming skills of the students which improves employability skills in them
- Exercises based on Latex were to be removed for 1st year students as it is very advanced and it could be included for the next semesters
- Basics of data structures were overlapping with problem solving and computer programming
- Object oriented programming syllabus need to be modified
- Strong foundation of Unix was required
- Case studies in object oriented analysis and design lab need to be enhanced
- Mobile computing syllabus needs revision to include more topics like GPRS, synchronization.
- Tools like UniCon could be introduced and case studies can be updated in software architecture syllabus
- Computer graphics and multi-media systems can be divided into two different subjects such that more in-depth discussion can be carried out in the subject
- Subjects like C# and .Net framework can be removed to introduce new courses like machine learning

Action taken report:

Based on the feedback from the faculty, the following actions were taken:

- Two Mini projects were introduced as case studies to enhance the programming skills of the students
- Exercises based on Latex were removed and the remaining exercises were revised.
- Basics of data structures were removed as they were discussed as a part of Problem Solving and Computer programming
- Object oriented programming syllabus was modified and also topics such as applets, JDBC, servlets were introduced
- Basic concepts such as Buffer Cache, Buffer Pool and Headers concepts were introduced in Unix Internals to make fundamentals strong.
- Case studies such as Two Floor Elevator Simulator and Home Appliance Control System in object oriented analysis and design lab were introduced.

- Mobile Computing syllabus was revised with the deletion of topics such as Wireless LAN, MANET and inclusion of topics such as GPRS, Mobile transport layer, mobile synchronization.
- UniCon was introduced in software architecture syllabus and case study like CORBA was replaced with J2EE/EJB.
- Computer graphics and multi-media systems were divided into computer graphics subject and multimedia application development subject to include more related concepts.
- Subjects like C# and .Net framework was removed and machine learning course was introduced

B. Tech. in Electronics and Instrumentation Engineering

Feedback report from Alumni:

The feedback was collected from 2010-11 & 2011-12, passed out students during 2012-13 & 2013-14 academic years. About 40% of the Alumni gave their feedback.

4. Alumni suggested including job oriented courses in theory and lab to enhance employability in core companies.
5. They also suggested including more instrumentation oriented courses.
6. Provide an opportunity to the students to study a course from other disciplines.

Action taken report:

Based on the feedback received from Alumni the following new courses were included in the curriculum to improve the employability of the students in core companies.

5. The new courses offered for enhancing employability in core companies were:
    - Logic and Distributed Control Systems
    - Instrumentation in Process Industries
    - Industrial Automation Lab
6. Courses like Aircraft Instrumentation and Automotive Instrumentation were included to strengthen the instrumentation oriented courses.
7. Courses like Banking and Insurance, Entrepreneurship for Micro, Small & Medium enterprises, Artificial Intelligence and Robotics, Engineering System Analysis and Design, Cyber Security and Laws, are offered under open elective.

Feedback report from Students:

Feedback has been taken from 2012-13 & 2013-14 passed out students. About 85% of the students have given their feedback. The following were the suggestions given by the students.

4. The content of the course Electrical and Electronic Measurements is more.
5. Include applications of mathematical formulas in engineering.
6. Include more courses to improve the communication skills to enhance employability.

Action taken report:

The following changes were made based on the feedback from the students.

3. The course Electrical and Electronic Measurements is reorganized as two courses named Principles of Electrical Measurements and Electronic Instrumentation by adding additional topics to strengthen the core knowledge of the students.

4. Applications of Laplace transforms and partial differential equations were introduced in the courses Engineering Mathematics and Mathematical Methods respectively.
5. A new course Business Communication and Presentation Skills is introduced and new topics were added on LSRW skills in English Language Communication Skills Lab.

Feedback report from Faculty members:

Feedback is taken from all the faculty who taught the subjects of the program and the salient points are:

11. In the course circuit theory, topics related to two port network may be included.
12. The subject Electrical and Electronic Measurements needs to be reorganized.
13. Design the syllabi of Control System with more application oriented topics.
14. Include design component in the subject Electronic Circuit Analysis and Design.
15. Digital sensors need to be included in Transducers in Instrumentation.
16. Remove LabVIEW programming and Introduce P&ID.
17. In the course Microprocessors and Microcontrollers, the topics on 8085 microprocessor may be included as it is present in gate syllabus and other competitive examinations.

Action taken report:

Based on feedback from faculty the following courses were modified.

10. The course Circuit theory is renamed as Network Analysis and topics on solutions for RLC Circuits, Two Port Networks and Filters were included to strengthen the course.
11. The course Electrical and Electronic Measurements is reorganized as two courses named Principles of Electrical Measurements and Electronic Instrumentation by adding additional topics to strengthen the core knowledge of the students.
12. Topics on Mechanical and Electrical Systems, AC Servo Motor, Integral and Derivative Controllers, Difficulties in formation of rough table, Applications of R-H Criterion, Relative Stability Analysis and Compensation Techniques were included in the Control Systems to strengthen the course.
13. Design components were introduced in the course Electronic Circuit Analysis and Design.
14. Digital and other sensors are added in the course Transducers in Instrumentation and renamed as Sensors and Transducers to suit the contents.
15. LabVIEW programming was removed and P&ID experiments were added.
16. 8085 microprocessor is included in the course Computer Architecture and Organization.

B. Tech. in Information Technology

Feedback report from Alumni:

Feedback was received from 40% of alumni belonging to 2010-11 and 2011-12 passed out batches and they are:

1. Suggested to introduce more industry oriented courses such as Big Data, High Performance Computing and Mobile Application Development.
2. Suggested to carryout students project work at industries through internship.
3. Suggested to include more practical component.
4. Recommended to encourage students towards online and blended learning on Emerging areas of Computer Science and Information Technology.
5. Suggested to introduce more industry oriented programming languages such as .Net Technologies and Scripting Languages.
6. Recommended to include open source tools in English Language Communication Skills related laboratory courses.

Action taken report:

1. Industry oriented courses were introduced such as Big Data, High Performance Computing, .Net Technologies, Mobile Application Development and Scripting Languages.
2. More number of internship opportunities was provided through MoUs with industries.
3. Mobile Application Development and Data Mining laboratory courses were included.
4. The students were encouraged to attend on-line programs such as Spoken Tutorial Project conducted by IITB, QEEE programs conducted by IITM and programs conducted by Andhra Pradesh State Skill Development Corporation (APSSDC) and APPSC-NASSCOM.
5. Introduced industry oriented programming languages such as .Net Technologies and Scripting Languages.
6. Included new software in English Language Communication Skills laboratory course.

Feedback report from Students:

Feedback was received from 80% of students belonging to 2012-13 and 2013-14 passed out batches and they are:

1. Requested to offer Java Programming as separate course instead of Object Oriented Programming including C++ and Java Programming.
2. Requested to include a lab course on Data Mining.

3. Suggested to introduce a course on Business Communication and Presentation Skills.
4. Suggested to include group activities through co-curricular and extra-curricular activities.
5. Requested to reduce syllabus of Database Management System, Software Engineering and Computer Network courses.
6. Requested to introduce a course on Entrepreneurship for Micro, Small and Medium Enterprises.

Action taken report:

1. Introduced Java Programming in SVEC-14 curriculum offering at II B.Tech II Semester.
2. Data mining laboratory course was introduced in SVEC-14 curriculum offering at III B.Tech II semester.
3. Introduced a course on Business Communication and Presentation Skills in II B.Tech, II Semester.
4. Individual and Group activities were conducted under Technical Associations and CSI student chapter.
5. Removed other kinds of dependencies and Recovery System concepts in Database Management System, Product and Process Metrics concepts in Software Engineering and IEEE standards concepts in Computer Networks courses respectively.
6. Entrepreneurship for Micro, Small and Medium Enterprises course was introduced as open elective.

Feedback report from Faculty members:

Feedback was received from all the members of faculty who taught the courses for R09 and SVEC-10 curriculum and they are:

1. Advised to introduce latest trends of Computer Science and Information Technology courses like Machine Learning, Advanced Computer Architecture, Mobile Application Development and Semantic Web.
2. Suggested to remove redundant topics which were covered in I B.Tech Problem Solving and Computer Programming course such as fundamentals of data structures, basics of sorting and searching techniques in Data Structures course for II B.Tech I semester.
3. Suggested to include Fourier Integrals topic in Matrices and Numerical Methods course, Special Theory of relativity topic in Engineering Physics course and Determination of rigidity modules topic in Engineering Physics Laboratory and topics to enhance LSRW skills in English Language Communication Skills Laboratory course.

4. Advised to move Database Management System and Web Programming courses from III B.Tech I semester to II B.Tech II semester and IV B.Tech I semester to III B. Tech II semester respectively to carryout mini-projects/internship projects.
5. Suggested to offer Seminar and include one more core course in IV B.Tech II semester.
6. Suggested to introduce Cyber Security Laws, Banking and Insurance and Cost Accounting and Financial Management courses and include self learning topics in each course.

Action taken report:

1. Industry oriented courses were introduced on latest trends of Computer Science and Information Technology such as Machine Learning, Advanced Computer Architecture, Mobile Application Development and Semantic Web.
2. Removed redundant topics which were covered in I B.Tech Problem Solving and Computer Programming course such as fundamentals of data structures, basics of sorting and searching techniques in Data Structures course for II B.Tech I semester.
3. Included Fourier Integrals topic in Matrices and Numerical Methods course, Special Theory of relativity topic in Engineering Physics course and Determination of rigidity modules topic in Engineering Physics Laboratory and topics to enhance LSRW skills in English Language Communication Skills Laboratory course.
4. Moved Database Management System and Web Programming courses from III B.Tech I semester to II B.Tech II semester and IV B.Tech I semester to III B.Tech II semester to carryout mini-projects in laboratory courses and internship projects.
5. Seminar course was added in IV B.Tech I semester.
6. Introduced Cyber Security Laws, Banking and Insurance and Cost Accounting and Financial Management courses and included self learning topics in each course.

B. Tech. in Computer Science and System Engineering

Feedback report from Alumni:

After summarizing the feedback collected from 42% of Alumni respondents of 2010-11 & 2011-12 batches during the academic years 2012-13 & 2013-14, following are few valuable suggestions made by them for SVEC-14 regulations.

- Suggested to introduce advanced subjects like Real-Time Systems, Kernel Programming which add more impetus to subjects relevant to software Systems Engineering
- Suggested to include Hardware Programming concepts into curriculum as they have high placement potential
- It was suggested to incorporate advanced subjects in the areas of Artificial Intelligence
- Advanced courses in the areas of Computing were suggested to be included

Action taken report:

Based on suggestions from Alumni following actions were taken

- New Subjects such as Kernel Programming and Real-Time Systems were introduced as part of improved emphasis on Software Systems.
- A course on Embedded Systems Programming was introduced in IV B.Tech. I Semester.
- Machine Learning course was introduced into curriculum
- Service Oriented Architecture was introduced into the course structure

Feedback report from Students:

After summarizing the feedback collected from 2012-13 & 2013-14 passed out student batches, 82% of students responded and the following are few valuable suggestions made by them for SVEC-14 regulations

- Requested to introduce new courses with focus on employability
- Suggested to introduce course on .NET Technologies
- Information Retrieval Systems was suggested to be included into curriculum as it is an evolving trend
- Big Data Concepts were requested to be included in the course structure

Action taken report:

Based on suggestions from students following action was taken

- Courses on Mobile Application development was introduced in the curriculum

- Introduced .NET Technologies course into curriculum
- A Course on basics of Information Retrieval Systems was introduced into course structure
- Big Data course was introduced for the first time in the curriculum

Feedback report from Faculty members:

After summarizing the feedback collected during 2012-13 and 2013-14 academic years from all faculty respondents, following are few valuable suggestions made by them for SVEC-14 regulations

- Suggested to remove data structures concepts from Problem solving and Computer Programming course and laboratory as they are repeated in Data Structures Course
- Demarcate C++ programming contents from Object Oriented Programming subject and introduce Objected Oriented Programming through Java
- Introduce two separate courses, Software Engineering and Object Oriented analysis and Design in place of existing course on Object Oriented Software Engineering
- Web Programming was suggested to be studied through scripting language like PHP which has versatile applications.
- In System Software course it was suggested to cover topics under Machine Architecture
- In Cryptography and Network Security course it was suggested to include more knowledge about different types of system attacks
- It was suggested in Operating Systems Course that Security concepts can be studied in other courses like network security and Computer Networks and more emphasis to be given on Process Management
- Hash Based indexing techniques were suggested to be included in Database Management Systems
- Topics on classification Methods in Data Warehousing and Data Mining Course were suggested to be included
- Suggested to unify among applications of dynamic programming in Design and Analysis of Algorithms course

Action taken report:

Action taken on feedback from Faculty members

- Contents like Linked lists, circular lists were excluded from Problem Solving and Computer Programming.
- A course on Object Oriented Programming through Java programming language was introduced after inclusion of JDBC and Servlets concepts.

- Two Courses namely Software Engineering and Object oriented Analysis and Design were introduced in the curriculum replacing existing course on Object Oriented Software Engineering
- Concepts of HTML 5, PHP, JQUERY and MYSQL were introduced into Web Technologies course
- In System Software course more topics relevant to Machine architecture of Simplified Instructional Computer were embraced
- In Cryptography and Network Security concepts related to intrusion detection and prevention and firewalls were include
- In Operating Systems Subject more emphasis on Process Management was given after removing concepts relevant to Security
- In Database Management Systems topics on Hash based indexing were integrated into syllabus and topics on performance indexing and tuning were excluded
- Topics on Bayesian classification network , Bagging and Boosting were incorporated into Data Warehousing and Data Mining course
- Topics on reliability design and string editing were unified into Design and Analysis of Algorithms course

M. Tech. in Computer Science

Feedback report from Alumni:

Feedback was taken from 2010-2011 passed out students during the academic year 2012- 2013. About 44% of the Alumni responded to the request. The summary of the feedback is as follows:

- Data structures and Database Management Systems lab can be strengthened
- More courses like Soft Computing and Cognitive networks can be introduced
- Concepts related to Automata Theory can be introduced as a course
- Diversified courses like Service Oriented Architecture can be introduced

Action taken report:

Based on the feedback received from students, the following actions were taken:

- Implementation of B-Trees, AVL Trees, Red-Black trees, implementation of database objects, implementation of C program segment with embedded SQL were incorporated in Data structures and Database Management Systems lab
- Courses like Soft Computing, Digital Image Processing and Pattern Recognition, Cloud Computing, Embedded Systems were introduced
- Concepts of Automata Theory such as fundamentals of finite automata, regular languages, CFGs, PDAs, TMs, Computability were integrated in the course titled, Discrete Structures and Automata Theory
- Diversified courses like Service Oriented Architecture and System Thinking were introduced

Feedback report from Students:

Feedback was taken from the students who were passing out during the academic year, 2012-2013. About 83% of the Students responded to the request. The summary of the feedback is as follows:

- Course such as soft computing would help to enhance the knowledge related to optimization techniques
- Courses related to Image Processing would be required as there was a lot of demand in the industry
- Industry demand courses like cloud computing would be helpful in getting more placements
- Embedded systems would be an interesting course

Action taken report:

Based on the feedback received from students, the following actions were taken and were reflected in SVEC14 regulations:

- Soft Computing course was introduced to enhance the skills of the students in the field of optimization
- Digital Image Processing and Pattern Recognition course was introduced as a course related to computer vision which increases employability and also as there is more scope of research
- Cloud computing was introduced as elective
- Embedded systems course was introduced as an elective

Feedback report from Faculty members:

Feedback was taken from **all** the faculty members of M.Tech(CS) program. The following were the suggestions made by the faculty which were considered for the improvement of the curriculum:

- Advanced Database Management Systems could be refined
- Mining of Spatial data, web can be included in Data Warehousing and Data Mining course
- Concepts related to graphics can be introduced as a course

Action taken report:

Based on the feedback from the faculty, the following actions were taken:

- Advanced Database Management Systems was refined by including topics such as Introduction to SQL programming techniques, Disk storage, hashing, indexing, concepts of object DB, Enhanced data models for advanced applications, web database programming, emerging database technologies and applications
- Mining Object-Spatial-Multimedia- Text and Web data concepts were included in Data Warehousing and Data Mining Course.
- Concepts of graphics were included into the computer vision course and the title was changed as Computer Vision and Graphics

M. Tech. in Electrical Power Systems

Feedback report from Alumni:

Feedback was taken from 2010-11 Passed out batch during the academic year 2012-2013. About 40% of them had responded to the survey. Their feedback was summarized and is as follows:

1. To meet the industrial requirements, advanced courses on power system security and stability in the area of power systems should be introduced, as such concepts were used vastly in industry.
2. An Advanced course addressing the latest developments in the power electronics domain should be introduced into the curriculum which will open the new avenues for research.
3. A course of energy conversion in wind, solar and other technologies could be introduced in the curriculum.

Action taken report:

1. Advanced new courses like "Power System Security and State Estimation" and "Advanced Power System Stability Analysis" were introduced in the power systems domain.
2. A new course "Power Electronics Converters" was introduced into the curriculum to impart latest advances in the power electronics domain and its applications in power systems.
3. A new course "Solar and Wind Energy Conversion Systems" was introduced into the curriculum to impart advanced knowledge on solar and wind energy conversion technologies which are widely used in renewable energy conversion.

Feedback report from Students:

Feedbacks of the students of 2012-2013 Passed out batch during the academic year 2012-13 had been collected and were summarized as follows. About 80% of students gave the feedback.

1. Emerging courses like smart grids, their realization and implementation aspects should be introduced as a new course into the curriculum.
2. To provide awareness and deep insight about the research process an exclusive course should be dedicated.
3. A course consisting of various methods of optimization should be introduced.

Action taken report:

1. A new course "Smart Grid Technology" was introduced into the curriculum so as to provide deep insight on the emerging technology.
2. A new course "Research Methodology" was introduced into the curriculum to provide orientation, awareness on the research avenues, process & documentation skills among the students, and also to take up research programs after graduation.
3. A new course "Optimization Techniques" was introduced to educate the principles and

methods of optimization which would be helpful to carry out their projects.

Feedback report from Faculty members:

Feedback from all the Faculty members who taught the courses of the program were collected and are summarized as follows:

1. Concepts on usage and application of Software tools like MATLAB, PSCAD shall be stressed seriously.
2. More Lab exercises on MATLAB, PSCAD could be introduced.
3. The course "Advanced Microprocessors and Microcontrollers" shall be discontinued as it doesn"t have relevance to power systems. A new course discussing the applications of Microcontrollers in power system domain may be introduced in its place.
4. The concepts such as power quality enhancement using custom power devices and power quality issues in distributed generation should be considered for inclusion into the course power quality.
5. The concept coordination of FACTS controllers is crucial for mitigating various power quality issues and must be included somewhere into the power system courses.
6. Some nonconventional search/optimization algorithms and smart techniques should be included somewhere in the curriculum appropriately.
7. Some advanced concepts on observability and controllability of control system should be included into the course to substantiate the domain.
8. Programming skill on a micro controller should be imparted among the students through more practical exercises.
9. Some more real time exercises should be added into laboratory power systems and relays lab.

Action taken report:

1. Modeling and analysis of power system using the modern simulation tools such as MATLAB and PSCAD were reinforced in the laboratory course "Power Systems Simulation lab".
2. Advanced lab exercises related to power system using MATLAB and PSCAD were introduced in the lab course "Power Systems Simulation lab".

3. A new course "Microcontrollers and Applications" was introduced in place of "Advanced Microprocessors and Microcontrollers".
4. The concepts Power Quality enhancement using custom power devices and power quality issues in distributed generation was introduced in the course "Power Quality".
5. The concepts of Coordination of FACTS controllers were introduced into the course "Flexible AC Transmission System" to enable the students to understand the coordinating and other aspects of various FACTS devices.
6. The concepts of genetic algorithms and intelligent hybrid algorithms were introduced into the course "Intelligent Control" which enables the students to carry out their projects and also to transform them into research.
7. The concepts such as Full order Observer & reduced order observer and State regulator were introduced into the course "Advanced Control Systems".
8. The concepts of programming & Interfacing of PIC Microcontrollers were included in the course "Microcontrollers and Applications".
9. The Power Systems and Relays lab was substantiated with new experiments related to reactive power compensation and long transmission line analysis.

M. Tech. in Software Engineering

Feedback report from Alumni:

Feedback was received from 40% of alumni belonging to 2010-11 passed out batch and they are:

1. Suggested to introduce advanced courses such as Big Data and Machine Learning.
2. Recommended to introduce User Interface Design as course in curriculum.
3. Suggested to introduce Software Development laboratory.
4. Suggested to include PHP, HTML 5, JQuery concepts in Web Technologies course.

Action taken report:

1. Industry oriented courses were introduced for M.Tech such as Big Data Technologies, and Machine Learning.
2. User Interface Design is introduced in M. Tech (SE), I Semester as an elective course.
3. Software Development laboratory introduced in M. Tech(SE), II Semester with Software Requirements and Estimation, Software Metrics, Software Design and Design Patterns exercises.
4. The syllabus of Web Technologies was designed including PHP, HTML 5, JQuery and AJAX concepts.

Feedback report from students:

Feedback was received from 80% of students belonging to 2012-13 passed out batches and they are:

1. Opined to offer Data Structures and algorithms as a course instead of Advanced Data Structures.
2. Advised to introduce a Software Process Management and Software Project Management as a single core course.

Action Taken Report:

1. Introduced Data Structures and Algorithm course in M. Tech (SE), I-Semester.
2. Introduced Software Process and Project Management course in M. Tech (SE), I-Semester.

Feedback report from Faculty Members:

Feedback was received from all the members of faculty who taught the courses of the program and they are:

1. Suggested to introduce Software Reverse Engineering course.
2. Requested to introduce Software Reuse and Big data courses.
3. Recommended to introduce an exclusive course Research Methodology to enhance research skills of the students.

Action Taken:

1. Software Reverse Engineering course was introduced in II Semester.
2. Introduced Big Data Technologies and Software Reuse elective courses in II-Semester.
3. Research Methodology course was introduced in I-Semester.

M. Tech. in Digital Electronics and Communication Systems

Feedback report from Alumni:

Feedback was taken from 2010-11 Passed out batch during the academic year 2012-2013. About 40% of them responded to our survey. Their feedback is summarized as follows:

1. To meet the industrial requirements, advanced knowledge in latest technologies has to be gained through the introduction of new courses in digital domain .
2. Experiments on image processing have to be included in Signal Processing Laboratory.
3. Course on Microcontroller has to be strengthened by introducing concepts on Advanced controllers.

Action taken report:

1. New courses like Testing and Testability of Digital Systems, Neural Networks and Fuzzy Systems, Display Technologies and Devices and Low Power CMOS VLSI Design in digital domain were included to fulfill the industrial needs.
2. Experiments on image processing were included in Signal Processing Laboratory.
3. Industry-based hardware choice involving modern ARM and PIC controllers and system design based on these controllers were included.

Feedback report from Students:

The students of 2012-13 Passed out batch were asked to give feedback for the curriculum improvement. The following were the suggestions given by 80% of them:

1. Focus on various commercial RTOS has to be included.
2. Syllabus in Wireless Communications has to be compressed.
3. Courses on Advanced Signal and Image processing can be included in the curriculum.

Action taken report:

4. The course on Real Time Systems was strengthened and improved by including Scheduling relating to multiprocessor and distributed systems. Also focus on various commercial RTOS was made.
5. Syllabus in Wireless Communications was compressed. New contents on Equalization, Wireless Networks and Multicarrier Modulation were added to suit to the current trends.
6. Advanced courses in the field of Signal and Image processing titled Adaptive Signal Processing and Compression Techniques were introduced.

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members who taught the courses of the program during 2012-13. The following suggestions were considered for improvement in curriculum.

1. A new course in the curriculum can be included to enhance the research skills of the students.
2. Course Contents in subjects like Computer Networks, Optical Communications and Networks, Embedded System Design and Wireless Communications should be compressed and logically reorganized.
3. A course on wavelet transformation techniques can be introduced to work in areas like Digital signal and Image processing.

Action taken report:

4. A course on Research Methodology was included to enhance research skills of the students.
5. Content on Wireless Networks and Network Security was included and redundant topics were removed. The syllabus in Optical Communications and Networks was logically reorganized and new topics on error detection and correction were included. Programming concepts using C, C++, and Java were included in Embedded System Design.
6. Courses on Transform Techniques and Speech processing were included in the curriculum.

M. Tech. in VLSI

Feedback report from Alumni:

Feedback was taken from 2010-11 Passed out batch during the academic year 2012-13. About 40% of them responded to our survey. Their feedback is summarized as follows:

1. To meet the industrial requirements, advanced knowledge in latest technologies has to be gained through the introduction of new courses.
2. Experiments on front-end and back-end design have to be included in Mixed Signal Laboratory.
3. Course on Physical Design Automation, Co-Design and Analog IC Design has to be Strengthened by introducing concepts related to analysis and design.

Action taken report:

1. New courses like Computational Techniques in Microelectronics, Device Modeling, Low Voltage Analog Circuit Design, ULSI Technology, IC Fabrication and RF IC Design were included to fulfill the industrial needs.
2. Experiments on front-end and back-end design were included in Mixed Signal Laboratory.
3. More relevant algorithms and the design aspects were included in Physical Design Automation. Contents on COSYMA and LYCOS co-design systems were elaborated. Topics on stability and noise analysis were included in Analog IC Design.

Feedback report from Students:

The students of 2012-13 Passed out batch were asked to give feedback for the curriculum improvement. The following were the suggestions given by 80% of them:

1. More applications on FIR and IIR digital filters can be dealt in detail for FPGA based designs.
2. Suggested to include experiments on Analog IC design.
3. To enhance the analytical skills of the students a course on Computational Techniques in Microelectronics can be included in the curriculum.
4. To focus on employability and emphasize fabrication issues, a course on fabrication can be included.

Action taken report:

1. The course on FPGA Applications was strengthened .More number of applications were included.
2. Experiments on Analog IC design were added in Analog and Digital IC Design Lab.

3. A course titled Computational Techniques in Microelectronics was included in the curriculum.
4. Two new courses on fabrication titled IC Fabrication and ULSI Technology were included in the curriculum.

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members who taught the courses of the program during the academic year 2012-13. The following suggestions were considered for improvement in curriculum.

1 A new course in the curriculum can be included to enhance the research skills of the students. Self-study content with emphasis on advanced and research topics has to be included in almost all the courses.

2 A new course has to be introduced to gain in-depth knowledge in fabrication process pertaining to ICs and fabrication issues in ULSI technology.

3 Courses on Digital signal processing and wireless sensor networks can be introduced in the curriculum to emphasize signal processing techniques in VLSI design in order to work in areas like wireless communications, Digital signal and Image processing.

4 Redundancy has to be removed in Testing and Testability. Also the syllabus should be reorganized logically.

Action taken report:

1. A course on Research Methodology was included to enhance research skills of the students. Self-study concepts were included in all the lesson plans.
2. Courses on FPGA Applications and ULSI Technology were introduced in the curriculum to help the students to get adapted to the latest technology.
3. New courses like Advanced Digital Signal Processing, DSP Processors and Wireless Sensor Networks were introduced to build research environment.
4. Syllabus in Testing and Testability was compressed and logically reorganized.

M. Tech. in Communication Systems

Feedback report from Alumni:

First batch of the program has passed out only in the academic year 2012-13 and hence no feedback is applicable.

Action taken report:

Not applicable.

Feedback report from Students:

The students of 2012-13 Passed out batch were asked to give feedback for the curriculum improvement. The following were the suggestions given by 80% of them:

1. Courses like Software defined Radio can be introduced.
2. Syllabus in Wireless Communications has to be compressed.
3. Suggested to add experiments on Spread spectrum systems.

Action taken report:

1. The course on Software defined Radio was introduced in the curriculum.
2. Syllabus in Wireless Communications was compressed. New contents on Equalization, Wireless Networks and Multicarrier Modulation were added to suit to the current trends.
3. An experiment on Design and simulation of Base Band sequence Spread spectrum system was included in Communication Lab.-I

Feedback report from Faculty members:

Feedback report was taken from all the Faculty members during 2012-13 academic year who taught the courses of the program. The following suggestions were considered for improvement in curriculum.

1. A new course in the curriculum can be included to enhance the research skills of the students.
2. The course on Advanced Mathematics for Communication Systems can be Strengthened by introducing Eigen analysis, Engineering applications and vector space concepts so that these concepts will be helpful in designing various systems.
3. Experiments on Design of WDM systems have to be included.

Action taken report:

1. A course on Research Methodology was included to enhance research skills of the students.
2. Advanced Mathematics for Communication Systems is renamed as Linear Algebra and was strengthened by including chapters on Eigen analysis, engineering applications in Linear Algebra, Design of Dynamic Systems and vector space concepts.
3. An experiment on WDM system design was included in communication Lab.-II.

M. Tech. in Computer Networks and Information Security

Feedback report from Alumni:

M.Tech (CNIS) Program was started in the academic year 2011-12 and the first batch of students were passed out in academic year 2012-13. Hence, the feedback from the alumni would not be there.

Action taken report:

Not Applicable

Feedback report from Students:

Feedback was taken from the students who were passing out during the academic year, 2012-2013. About 82% of the Students responded to the request. The summary of the feedback is as follows:

- More electives can be introduced based on the recent trends
- Fundamental courses like advanced computer networks can be introduced
- Practical sessions can be introduced for wireless networks and information security
- Courses like Adhoc wireless networks, web programming are essential

Action taken report:

Based on the feedback received from students, the following actions were taken and were reflected in SVEC14 regulations:

- Subjects like software testing and techniques, database security were introduced as electives
- Advanced Computer Networks was introduced as core subject to make the fundamentals of the students strong enough
- Qualnet Software is used to develop Computer Network programs which was newly introduced as Computer Network and Information Security lab course
- Courses such as Ad hoc Wireless Networks, Web Programming, Computer Forensics, Research Methodology were introduced

Feedback report from Faculty members:

Feedback was taken from all the faculty members of M.Tech (CNIS) program in the year 2012-13. The following were the suggestions made by the faculty which were considered for the improvement of the curriculum:

- Security Engineering Concepts can be removed from Software Security Engineering to avoid the redundancy in the Information Security

- Virtualization concepts can be included in cloud computing
- Concepts related to security can be included in wireless networks

Action taken report:

Based on the feedback from the faculty, the following actions were taken:

- Security Engineering Concepts were removed from Software Security Engineering to avoid the redundancy in the Information Security course which is newly introduced.
- Virtualization concepts were added in the first unit of the cloud computing course and the title of the course is renamed as "Virtualization and Cloud Computing"
- Wireless Security Concepts were included into the Wireless Networks Course.

Master of Computer Applications

Feedback report from Alumni:

Feedback was taken from 2010-11 passed out batch during the academic year 2012-13. About 40% of them responded to our survey. Their feedback is summarized as follows:

1. Suggested to implement laboratory for Cloud Computing, Object Oriented Analysis and Design and Computer Networks, as these courses enhance the programming skills among students.
2. Recommended to included advanced courses like Big Data Analytics, Social Media, Network Management, Design patterns, AJAX and PHP programming which plays an essential role in industry.
3. Include separate laboratory sessions for Programming through C and Data Structures as these are core courses to improve the programming skills among students.

Action taken report:

1. Laboratories were included for Cloud Computing, Object Oriented Analysis and Design and Computer Networks courses to enhance programming skills among students.
2. Big Data Analytics, Social Media, Network Management, design patterns, AJAX and PHP programming courses were introduced.
3. Included laboratories for Programming through C and Data Structures to acquire advanced programming skills among students.

Feedback report from Students:

Feedback was taken from 2012-13 passed out batch during the academic year 2012-13. About 80% of them were responded to our survey. Their feedback was summarized as follows:

1. Suggested to introduce foundation concepts in programming through C, Computer Organization and Mathematical Foundation of Computer Science courses.
2. Suggested to include Data Warehouse Transformations in Data Warehousing and Data Mining Lab to improve skills in database field.
3. Recommended to include the related topics on Java collections in Object Oriented Programming, open source tools in cloud computing Laboratory as most of the industries adapt open source tools and Implement RDBMS as back end for development of web applications.

Action taken report:

1. The syllabi of programming through C, Computer Organization and Mathematical Foundation of Computer Science were refined.
2. Data warehousing transformations were introduced in Data Warehousing and Data Mining laboratory.
3. Included topics like Java collections in Object Oriented Programming, open source tools in cloud computing Laboratory as most of the industries adapt open source tools and Implement RDBMS as back end for development of web applications.

Feedback report from Faculty members:

Faculty feedback was received from all the members of faculty who taught the courses for SVEC 10 regulations for the academic year 2012-13. All the faculty members were responded and following are few valuable suggestions made on SVEC 14 regulations:

1. Suggested to include Networks lab and Cloud Computing as core courses instead of elective.
2. Student"s presentations and communication skills have to be improved through introduction of new course to exhibit their talent and skills at their work place.
3. Recommended to incorporate more laboratories, Implementation of Network Lab using UNIX programming, Cloud Computing as Core course, Professional Ethics, UNIX Internals, Separate laboratory sessions for Programming through C and Data Structures.
4. Recommended to include professional ethics, tutorials for core courses and Case studies to nurture the domain skills of students.
5. Suggested to revise the syllabus of Object oriented analysis and Design, Mathematical Foundations of Computer Science, Data Structures and Database management systems.
6. IT- Workshop would be considered as a regular course.

Action taken report:

1. Skill enhancement courses like Network lab and Cloud Computing as a core course were introduced.
2. Courses on Business Communication and Presentation Skills and Seminar were introduced for the benefit of the students.
3. Courses were introduced to incorporate more laboratories, Implementation of networks Lab using UNIX programming, Cloud Computing as Core course, Professional Ethics, Unix internals, Separate laboratory sessions for Programming through C and Data Structures.

4. Refinement of syllabus were done on Object oriented analysis and Design, Mathematical Foundations of Computer Science, Data Structures and Database management systems along with better correlation of concepts.

5. IT- Workshop was considered as core course in SVEC14 regulations.

Feedback report from Employer for all B. Tech. Programs:

Employer feedback was taken centrally. About twenty companies have visit our campus for recruitment of each of 2010-11 and 2011-12 passed out batches of our students. The feedback on curriculum is requested from these companies and also companies where our alumni are employed directly in the academic years 2012-13 and 2013-14. The salient features of feedback report are summarized below:

1. Companies such as Tata Consultancy Services, Wipro Technologies, Tech Mahindra, Patni Computer Systems, IBM, Sonata suggested to include the following new courses in the relevant programs of computer sciences.
    (a) Mobile computing
    (b) Machine learning
    (c) Big data
    (d) .Net technology
    (e) Human computer interaction
    (f) Real time systems
2. Companies such as Robert Bosch, Amara Raja, Ravands Controls suggested to include the following new courses in the relevant programs of electrical sciences.
    (a) Power quality
    (b) Smart grid technologies
    (c) Mixed IC design
    (d) Distributed control systems

As first batch of Civil Engineering passed out in 2012-13 and that of Mechanical Engineering in 2014-15, no employer feedback is available.

Action taken report:

Based on the employer feedback, new courses are included in the respective program as given below:

1. Courses on Mobile computing and Machine learning are included in Computer Science and Engineering.
2. Courses on Big data and .Net technology are included in Information Technology.
3. Courses on Human computer interaction and Real time systems are included in Computer Science and System Engineering.
4. Courses on Power quality and Smart grid technologies are included in Electrical and Electronics Engineering.
5. Course on Mixed signal design is included in Electronics and Communication Engineering
6. Course on Distributed control systems is included in Electronics and Instrumentation Engineering.

Feedback report from Employer for all M. Tech. Programs:

Employer feedback was taken centrally. The feedback on curriculum was taken from employers who recruited 2010-11 passed out batches of our students in the academic year 2012-13. Companies such as **Patni Computer Systems**, Wipro Technologies, have responded our request. They suggested to include the following new courses in relevant specilisation.

1. Information retrieval systems
2. Software project management
3. Web programming
4. Power system security and state estimation
5. Smart grid technology
6. Display technologies and devices
7. Transformation techniques
8. Computational techniques in microelectronics
9. ULSI technology
10. Software defined radio
11. Mobile computing and information security
12. Software testing and techniques

Action taken report:

As suggested by the employers, new courses were included in the various specializations.

1. Courses on Information retrieval systems, Software project management, and Web programming are included in Computer Science.
2. Courses on Power system security and state estimation, and Smart grid technology are included in Electrical Power Systems.
3. Courses on Display technologies and devices and Transformation techniques are included in Digital Electronics and Communication Systems.
4. Courses on Computational techniques in microelectronics and ULSI technology are included in VLSI.
5. Course on Software defined radio is included in Communication Systems.
6. Courses on Mobile computing and information security, and Software testing and techniques are included in Computer Networks and Information Security.

Feedback report from Employer for MCA Program:

Employer feedback is taken centrally. The feedback on curriculum is taken from employers who recruited 2010-11 passed out batches of our students in the academic year 2012-13. Companies such as Tata Consultancy Services, Sonata Software Pvt. Ltd., Virtusa, Hyderabad; Wipro Technologies, Hyderabad; Patni Computer Systems Ltd., Hyderabad; Tech Mahindra & Mahindra Satyam, have responded our request. They suggested to include the following new courses.

1. Social media and network management
2. Information security lab
3. Professional ethics

Action taken report:

As suggested by the employers, all the above new courses are included.

BS&H courses for B. Tech. Programs

To reduce the redundancy, the feedback reports from faculty members of **Basic Sciences and Humanities (BS&H)** department and the action taken reports are summarized below:

Feedback report from Faculty members of BS&H:

All faculty members of BS&H department, who have taught their courses to students of various B. Tech. Programs, were given their opinion on curriculum improvements. Faculty opined that the following curricular modifications to be incorporated in the next curriculum revision (SVEC14).

1. Merging of first order and higher order differential equations; merging of partial differentiation and applications of derivatives; and introduction of applications of Laplace transform to higher order differential equations in Engineering Mathematics course.
2. Removing of uniform and exponential distributions in Probability and Statistics course
3. Removing of Gauss Jordan method of solving the linear equations, relationship between different types of difference operators; and introduction of Fourier integral in Matrices and Numerical Methods course syllabus.
4. Introduction of concept of supply and capital concepts in the Managerial Economics and Principles of Accountancy syllabus.
5. New open elective course on Banking and Insurance.
6. New open elective course on Cost Accounting and Financial Management.
7. Open elective course on Entrepreneurship for Micro, Small and Medium Enterprises.
8. Removing of the sub-chapter Crystal defects and Acoustics Quieting, the topics Bravais Lattices, Crystal systems, structure of SC, BCC, FCC; and inclusion of special theory of relativity in Engineering Physics course syllabus.
9. Introduction of composites and sensors, lubricants municipal water treatment and desalination of brackish water by electro-dialysis, fuel technology and green chemistry and removing of polymers, surface chemistry and analytical techniques in Engineering Chemistry syllabus.
10. Addition of new experiments: Estimation of ferrous iron by Potentiometry, Synthesis of nano metal-oxide, and Determination of capacity of cation-exchange resin in Engineering Chemistry lab course.

11. Addition of new topics to enhance LSRW skills and new software to support the experiments: Centronix – Phonetics, Let"s Talk English, Regional Institute of English South India in English Language Communication Skills Lab course.

12. Introduction of new theory courses on "Business Communication and Presentation Skills" and "Professional Ethics".

13. Introduction of an experiment on determination of rigidity modulus in Engineering physics lab course.

14. Topics on solutions of linear equations by Gauss - Siedel and Gauss Jordon methods may be removed as they are existing in IPE syllabus, the units comprising of Fourier series, Fourier transforms and z-transforms may be merged under the new unit transformation techniques, applications of partial differential equations may be introduced in the course Mathematical Methods.

15. The unit on partial differential equations may be moved to the course Mathematical Methods course, Rouche"s theorem and its applications may be removed view of its non/lesser usage in core subjects from the course Special Function and Complex Analysis.

Action taken report:

1. First order and higher order differential equations were merged, partial differentiation and applications of derivatives were merged to remove redundancy (some topics are in IPE syllabus), applications of Laplace transform to higher order differential equations were introduced in "Engineering Mathematics" course.

2. Uniform and exponential distributions were removed as they were not significant compared to normal distribution, statistical quality control , correlation and regression were unified in "Probability and Statistics" course.

3. Gauss Jordan method of solving the linear equations was removed (existing in IPE syllabus), relationship between different types of difference operators was removed (was not a directly application oriented), fourier integral was is introduced in the "Matrices and Numerical Methods" syllabus.

4. Concepts on supply and capital concepts were introduced in "Managerial Economics and Principles of Accountancy" syllabus

5. A new course on "Banking and Insurance" was introduced as open elective

6. A new course on "Cost Accounting and Financial Management" was introduced as open elective

7. A new open elective theory course on "Entrepreneurship for Micro, Small and Medium Enterprises" was introduced

8. The sub chapter crystal defects and acoustics quieting were removed and special theory of relativity was introduced, the topics bravais lattices, crystal systems, structure of SC, BCC, FCC were removed due to redundancy, (these topics were introduced by Govt. of AP, IPE syllabus) in "Engineering Physics" course syllabus.

9. Two new concepts, composites and sensors were introduced, the concepts related to lubricants municipal water treatment and desalination of brackish water by electro-dialysis were introduced, fuel technology and green chemistry were introduced, polymers, surface chemistry and analytical techniques were removed due to redundancy (existing in IPE Syllabus) in "Engineering Chemistry" syllabus.

10. Three new experiments on estimation of ferrous iron by potentiometry, synthesis of nano metal-oxide and determination of capacity of cation-exchange resin were introduced in "Engineering Chemistry Lab" course.

11. Six new topics were added to enhance/improve LSRW skills and new Software was added to support the experiments on Centronix – Phonetics, Let"s Talk English, Regional Institute of English South India in "English Language Communication Skills Lab" course.

12. Theory courses on "Business Communication and Presentation Skills" and "Professional Ethics" were introduced

13. Determination of rigidity modulus was introduced in "Engineering physics Lab" course.

14. Topics on solutions of linear equations by Gauss - Siedel and Gauss Jordon methods have been removed, the units comprising of Fourier series, Fourier transforms and z-transforms were merged under the new unit transformation techniques, applications of partial differential equations were introduced in the course Mathematical Methods.

15. The unit on partial differential equations were moved to the course Mathematical Methods course, Rouche"s theorem and its applications were removed from the course Special Function and Complex Analysis.