# SREE VIDYANIKETHAN ENGINEERING COLLEGE
## (AUTONOMOUS)
### SREE SAINATH NAGAR, A. RANGAMPET-517102

## Agenda for 13th Meeting of Board of Studies for B. Tech.
## (Computer Science and Systems Engineering) on 10.07.2021 at 10:30 AM

1. Action taken report on minutes/resolutions of 12th BOS meeting.

2. Report on implementation of Autonomy with respect to syllabi & academic regulations for II-B.Tech (under SVEC19) and I B.Tech (under SVEC-20 regulations).

3. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of III & IV B.Tech including Minor & Honors Degrees (Under SVEC-19).

4. Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of II, III & IV B.Tech (Under SVEC-20) and Course structure of Minor & Honors Degrees (Under SVEC-20).

5. Regulation-wise, list of courses in which the content of the syllabus is changed more than 20%.

6. List of new courses introduced in SVEC-19 and SVEC-20.

7. Panel of Examiners for Question paper setting.

8. Substitute Courses.

9. Amendments to B. Tech academic regulations under SVEC-19 and SVEC-20 Regulations.

10. Appraisal on research, teaching, extension and other academic activities, achievements of the Department.

11. Any other item.


**Dr. P.Dhana Lakshmi**
Chairperson, BOS (CSSE)

# SREE VIDYANIKETHAN ENGINEERING COLLEGE
## (AUTONOMOUS)
SreeSainath Nagar, Tirupati - 517102
### Department of Computer Science and Systems Engineering
### 13th Board of Studies Meeting held on 10-07-2021

13th Board of Studies Meeting of the department of CSSE was held on 10-07-2021 at 10:30AM in Zoom Platform.

### MEMBERS PRESENT:

| S.No | Name | Designation | Phone Numbers | Mail IDs |
|------|------|-------------|---------------|----------|
| 1 | **Dr.P.Dhana Lakshmi** Associate Professor Dept. of CSSE, SVEC | Chairperson | 9440101946 | bos_csse@vidyanikethan.edu |
| 2 | **Dr.S.VASUNDARA** Professor, Dept. of CSE JNTUA, College of Engineering, JNTU Anantapur, Ananthapuramu-515002 | External Member Nominated by Vice Chancellor, JNTUA | 9440505837 | vasundaras.cse@jntua.ac.in |
| 3 | **Dr. B.K. TRIPATHY** Senior Professor & Dean, School of Computing Science and Engineering, VIT University, Vellore-632014, Tamil Nadu | External Member Nominated by Vice Chancellor, JNTUA | 09489343018 | tripathybk@rediffmail.com |
| 4 | **Dr. P. VARALAKSHMI** Associate Professor of Computer Technology, Madras Institute of Technology, MIT Road, Radha Nagar,Chromepet, Chennai – 600044 | External Member Nominated by Vice Chancellor, JNTUA | 9444485594 | varanip@gmail.com, varanip@annauniv.edu |
| 5 | **Mr. V.K. SATHYAMOORTHY CHELLACHAMY** Project Manager, Motion Control, Siemens Technology and Services Pvt.Ltd.43, Valakani Drive, Doddathoguru, Hosur Road, Electronic City Phase1, Bengaluru-560100 | Industry | 08971129000 | sathyamoorthy.vkc@gmail.com |

| S.No | Name | Designation | Phone Numbers | Mail IDs |
|------|------|-------------|---------------|----------|
| 6 | **Mr. PAVAN YARA** Vice President Technology, First Walkin Technologies #736 4th Floor, Gupta House, 7th Cross Koramangala, Bengaluru-560034 Karnataka | Alumni | 8971100449 | yarapavan@gmail.com |
| 7 | **Prof. C. Madhusudhana Rao** Professor &HoD Dept. of CSSE, SVEC | Internal Member | 9959990001 | hod_csse@vidyanikethan.edu |
| 8 | **Prof.A.Balasubramani** Professor Dept. of CSSE, SVEC | Internal Member | 9440379324 | balasubramani.a@vidyanikethan.edu |
| 9 | **Dr.C.Sushama** Associate Professor Dept. of CSSE, SVEC | Internal Member | 9848307199 | sushama.c@vidyanikethan.edu |
| 10 | **Mr. A. Chandra** Assistant Professor Dept. of CSSE, SVEC | Internal Member | 7799666819 | chandra.adhimulam@vidyanikethan.edu |
| 11 | **Mr.M.Ramu** Assistant Professor Dept. of CSSE, SVEC | Internal Member | 7780680227 | ramu.m@vidyanikethan.edu |
| 12 | **Mr.S.ShivaPraksh** Assistant Professor Dept. of CSSE, SVEC | Internal Member | 9440656515 | shivaprakash.s@vidyanikethan.edu |
| 13 | **Dr.E.Sophiya** Assistant Professor Dept. of CSSE, SVEC | Internal Member | 9566903378 | Sophiya.e@vidyanikethan.edu |

The external members Mr. V. K. SATHYAMOORTHY CHELLACHAMY, Dr. B.K. TRIPATHY and internal member Mr. A. Chandra could not attend the meeting.

13th Meeting of Board of Studies of Computer Science and Systems Engineering (CSSE) was conducted **through online video conferencing** using ZOOM platform. The screenshots taken during the meeting are shown below



**Minutes:**

1. **Action Taken Report on minutes of 12th BOS meeting held on 09th January 2021**

   The Chairperson BOS appraised the members the action taken report on the minutes/ resolutions of 12th BOS meeting held on 09th January 2021. After deliberations the members ratified the report.

2. **Report on implementation of Autonomy**

   The Chairperson BOS presented a report on implementation of autonomy pertaining to

   syllabi & academic regulations for II B.Tech(under SVEC19) and I B.Tech (under SVEC-20) regulations to the members.  The feedback of students and faculty on the courses of IIB.Tech.-CSSE (under SVEC19) and I B.Tech.-CSSE are apprised.

3. **Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of III & IV B.Tech including Minor & Honors Degrees (Under SVEC-19).**

   The chairperson BOS presented the Course Structure of III & IV B.Tech (CSSE), Minor Degree in Cyber Security, Honors Degree in Cyber Security under SVEC-19 Regulations. The draft syllabi of courses prepared by CSSE department was presented for discussion along with Course Objectives, Course Outcomes for the Courses of III & IV B.Tech (CSSE) Program. The Chairperson BOS appraised the members with the procedure followed in articulation of CEOs, COs and mapping of COs with POs & PSOs. After deliberations and discussions the board members suggested modifications and then approved the course structure and syllabi of III & IV B.Tech (CSSE), Minor Degree in Cyber Security and Honor Degree in Cyber Security under SVEC-19 Regulations.

The following suggestions are given by the board members on the syllabi and course structure proposed by the department:

**In CSSE Course structure:**
1. Recommended to rename the open Elective-3 as Inter Disciplinary Elective-1
2. Recommended to introduce Software Architecture , Design Patterns in SVEC-19 Course structures
3. Suggested to move the course soft computing course to Data science Track.
4. Introduce Zulia open source software in Machine Learning or in Data Mining Lab.
5. Recommended to rename the course Information security privacy as Information Security.

The course structure of III & IV B. Tech CSSE, Minor Degree in Cyber Security and Honor Degree in Cyber Security under SVEC-19 regulations was approved subject to the modifications that may arise due to suggestions made by the board (Appendix A).

The syllabi of the courses of III & IV B. Tech CSSE, Minor Degree in Cyber Security and Honor Degree in Cyber Security prepared by CSSE department was approved subject to the modifications that may arise due to suggestions made by the board (Appendix B).

It is resolved to authorize the Chairperson BOS to adapt the improvements suggested and submit to the Chairman (Academic council) for further processing.

4. **Course Structure, Syllabi with Course Objectives, Course Outcomes, for the Courses of II, III & IV B.Tech (Under SVEC-20) Course structure of Minor & Honors Degrees (Under SVEC-20) Course structure.**

The chairperson BOS presented the Course Structure, syllabi with Course Objectives, Course Outcomes for the Courses of II, III& IV B.Tech (CSSE) Program prepared by the CSSE department. The Chairperson BOS appraised the members with the procedure followed in articulation of CEOs, COs and mapping of COs with POs & PSOs. The members suggested modifications and then approved the course structures, syllabus of II, III & IV B.Tech (CSSE) after thorough discussion.

The following suggestions are given by the board members on the syllabi and course structure proposed by the department:

**In CSSE Course structure**
1. Recommended to introduce Artificial Intelligence in SVEC-20 Course structure.
2. Recommended to divide the subject Numerical Methods and Probability statistics into two separate subjects as Numerical Methods and Probability statistics.
3. Suggested to change the title for the skill oriented course Workshop in computer systems engineering as Open source tools lab.

The course structure of II, III & IV B. Tech CSSE under SVEC-20 regulations was approved subject to the modifications that may arise due to suggestions made by the board (Appendix C).

The syllabi of II, III & IV B. Tech CSSE under SVEC-20 regulations was approved subject to the modifications that may arise due to suggestions made by the board (Appendix D).

The chairperson BOS also presented the syllabi with Course Objectives, Course Outcomes for the Course Internet of Things Lab prepared exclusively for the department . The Chairperson BOS appraised the members with the procedure followed in articulation of CEOs, COs and mapping of COs with POs & PSOs and they agreed for the same.

It is resolved to authorize the BOS chairperson to adopt improvements suggested by the board members and submit to the chairman (Academic Council) for further processing.

5. **Regulation-wise, list of courses in which the content of the syllabus is changed more than 20%.**

   Regulation-wise, list of courses in which the content of the syllabus is changed more than 20% was appraised to the members and they agreed for the same.

6. **List of new courses introduced in SVEC-19 and SVEC-20**
   List of new courses introduced in SVEC-19 and SVEC-20 were apprised to the members and they appreciated for including industry demand oriented courses in curriculum.

7. **Panel of Examiners for Question paper setting for III & IV B.Tech courses of CSSE Program(Under SVEC-19) ,II,III & IV B.Tech courses of CSSE Program (Under SVEC-20)**
   The board authorizes the Chairperson, BoS to prepare and submit the model question papers and panel of examiners for question paper setting for III & IV B.Tech courses of CSSE Program (UnderSVEC-19),II,III & IVB.Tech courses of CSSE Program(Under SVEC-20) theory courses as and when requested by the Chairman, Academic Council or Chief Controller of Exams.

8. **Substitute courses**
   The board authorized Head of the Department and BOS chairperson to identify substitute courses for students who rejoin B.Tech program under other regulations and submit to the Chairman (Academic council) for further processing.

9. **Amendments to B. Tech academic regulations under SVEC-19 and SVEC-20 regulations.**
   The BOS Chairperson presented the amendments proposed to the SVEC-19 and SVEC-20 Academic Regulations of B. Tech Board members ratified the same after discussions.

10. **Appraisal on research, teaching, extension and other academic activities, achievements of the Department.**
    The BoS Chairperson apprised the board about the research, teaching, extension and other academic activities, achievements of the Department. The members have appreciated the efforts of the department and suggested to continue the same.

11. **Any other item:**
    The Board members have suggested to the faculty for extensive use of ICT tools for improving teaching and learning process.

Meeting concluded with thanks to the Chair.
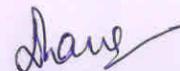
**Chairperson BOS, CSSE**
Dr. P. DHANA LAKSHMI
ASSOCIATE PROFESSOR,
Department of C.S.S.E.
SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A. RANGAMPET
Chittoor (Dist.) - 517 102, A.P., INDIA.

# SREE VIDYANIKETHAN ENGINEERING COLLEGE
## (AUTONOMOUS)
SreeSainath Nagar, Tirupati - 517102
### Department of Computer Science and Systems Engineering
### Board of Studies in Computer Science and Systems Engineering (2021-22)

**MEMBERS PRESENT:**

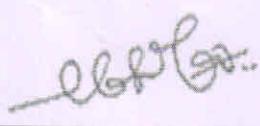| S.No | Name | Signature |
|------|------|-----------|
| **External Members** | | |
| 1. | **Dr.S.VASUNDARA**<br>Professor, Dept. of CSE<br>JNTUA, College of Engineering,<br>JNTU Anantapur,<br>Ananthapuramu-515002<br>Mobile No. 9440505837<br>Mail ID.vasundaras.cse@jntua.ac.in | |
| 2. | **Dr. B.K. TRIPATHY**<br>Senior Professor & Dean,<br>School of Computing Science and Engineering,<br>VIT University,<br>Vellore-632014, Tamil Nadu<br>Mobile No. 09489343018<br>Email ID.tripathybk@rediffmail.com | |
| 3. | **Dr. P. VARALAKSHMI**<br>Associate Professor of Computer Technology,<br>Madras Institute of Technology,<br>MIT Road, Radha Nagar,Chromepet,<br>Chennai – 600044<br>Mobile No. 9444485594<br>Email ID.varanip@gmail.com,<br>varanip@annauniv.edu | |
| **Industrial Member** | | |
| 4. | **Mr. V.K. SATHYAMOORTHY CHELLACHAMY**<br>Project Manager, Motion Control,<br>Siemens Technology and Services Pvt.Ltd.<br>43, Valakani Drive, Doddathoguru, Hosur Road,<br>Electronic City Phase-1, Bengaluru-560100<br>Mobile No. 08971129000<br>Email ID. sathyamoorthy.vkc@gmail.com | |
| **Alumni** | | |
| 5. | **Mr. PAVAN YARA**<br>Vice President Technology,<br>First Walkin Technologies<br>#736 4th Floor, Gupta House,<br>7th Cross Koramangala,<br>Bengaluru-560034<br>Karnataka | *Pavanyara* |
| **Internal Members** | | |
| 6. | **Dr.P.Dhana Lakshmi**<br>Associate Professor& BOSChairperson<br>Dept. of CSSE, SVEC<br>Mobile No. 9440101946<br>Email ID. bos_csse@vidyanikethan.edu | |

| S.No | Name | Signature |
|------|------|-----------|
| 7. | **Prof. C.MadhusudhanaRao**<br>Professor &HoD<br>Dept. of CSSE, SVEC<br>Mobile No. 9959990001<br>Email ID. hod_csse@vidyanikethan.edu | |
| 8. | **Dr. A. Balasubramani**<br>Professor,<br>Dept. of CSSE, SVEC<br>Mobile No. 9440379324<br>Email ID. balasubramani.a@vidyanikethan.edu | |
| 9. | **Dr.C.Sushama**<br>Associate Professor, Dept. of CSSE, SVEC<br>Mobile No. 9848307199<br>Email ID. sushama.c@vidyanikethan.edu | |
| 10. | **Mr. A. Chandra**<br>Assistant Professor<br>Dept. of CSSE, SVEC<br>Mobile No. 7799666819<br>Email ID. chandra.adhimulam@vidyanikethan.edu | |
| 11. | **Mr.S.ShivaPraksh**<br>Assistant Professor<br>Dept. of CSSE, SVEC<br>Mobile No. 9440656515<br>Email ID. shivaprakash.s@vidyanikethan.edu | |
| 12. | **Mr.M.Ramu**<br>Assistant Professor<br>Dept. of CSSE, SVEC<br>Mobile No. 7780680227<br>Email ID. ramu.m@vidyanikethan.edu | |
| 13. | **Dr. E. Sophiya**<br>Assistant Professor<br>Dept. of CSSE, SVEC<br>Mobile No. 9566903378<br>Email ID. sophiya.e@vidyanikethan.edu | |
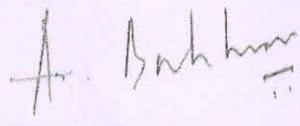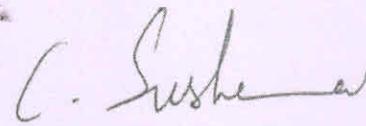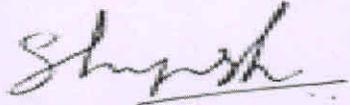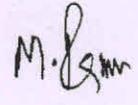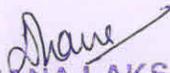
Dr. P. DHANA LAKSHMI
ASSOCIATE PROFESSOR,
Department of C.S.S.E.
SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A. RANGAMPET
Chittoor (Dist.) - 517 102, A.P., INDIA

# Approved Course Structure

**Program:** B. Tech.- Computer Science and Systems Engineering

**Regulations:** SVEC-19

## SVEC-19 CURRICULUM

### Course Structure for B.Tech Program
(Effective from the Academic year 2019-20 onwards)

### COMPUTER SCIENCE AND SYSTEMS ENGINEERING

| Mandatory Induction Program | 03 weeks duration |
|---|---|
| Induction program offered before commencement of the I-Semester course work | Physical activity |
| | Creative Arts |
| | Universal Human Values |
| | Literary |
| | Proficiency Modules |
| | Lectures by Eminent People |
| | Visits to local Areas |
| | Familiarization to Department/Branch and Innovations |

# COURSE STRUCTURE
## COMPUTER SCIENCE AND SYSTEMS ENGINEERING
### I B.Tech.–I Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT1BS01 | Differential Equations and Multivariable Calculus | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 2 | 19BT1BS04 | Engineering Chemistry | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT1HS01 | Communicative English | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | 19BT10501 | Programming for Problem Solving | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 5 | 19BT1BS32 | Engineering Chemistry Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 6 | 19BT1HS31 | Communicative English Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 7 | 19BT10331 | Computer Aided Engineering Drawing | - | 1 | 2 | 3 | 2 | 50 | 50 | 100 |
| 8 | 19BT10531 | Programming for Problem Solving Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| | | Total: | 12 | 3 | 8 | 23 | 19 | 360 | 440 | 800 |

# I B.Tech. – II Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT2BS01 | Transformation Techniques and Linear Algebra | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 2 | 19BT1BS02 | Biology for Engineers | 2 | - | - | 2 | 2 | 40 | 60 | 100 |
| 3 | 19BT1BS03 | Engineering Physics | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | 19BT10201 | Basic Electrical and Electronics Engineering | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 5 | 19BT20501 | Digital Logic Design | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 6 | 19BT21501 | Object Oriented Programming through Java | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 7 | 19BT1BS31 | Engineering Physics Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT10231 | Basic Electrical and Electronics Engineering Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 9 | 19BT20331 | Engineering Workshop | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 10 | 19BT21531 | Object Oriented Programming through Java Lab | - | 1 | 2 | 3 | 2 | 50 | 50 | 100 |
| | | Total: | 17 | 2 | 8 | 27 | 23 | 440 | 560 | 1000 |
| 11 | 19BT1AC01 | Spoken English | 2 | - | - | 2 | - | - | - | - |

## II B.Tech. – I Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | | Scheme of Examination Max. Marks | | |
| | | | L | T | P | Total | C | Int. Marks | Ext. Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19BT3BS01 | Numerical Methods, Probability and Statistics | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 2 | 19BT30502 | Computer Organization | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT31201 | Discrete Mathematical Structures | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | 19BT31501 | Data Structures and Algorithms | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 5 | 19BT31502 | Operating Systems | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 6 | 19BT31503 | System Programming | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 7 | 19BT31531 | Data Structures and Algorithms Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT31532 | Operating Systems Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 9 | 19BT31533 | Workshop in Computer Science and Systems Engineering | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| | Total: | | 18 | 2 | 6 | 26 | 23 | 390 | 510 | 900 |
| 10 | 19BT315AC | Design Thinking | 2 | - | - | 2 | - | - | - | - |

## II B.Tech. – II Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT40502 | Database Management Systems | 3 | 1 | - | 4 | 4 | 40 | 60 | 100 |
| 2 | 19BT40503 | Design and Analysis of algorithms | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT31202 | Software Engineering | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | 19BT41501 | Theory of Computation | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 5 | | **Open Elective-2** | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 6 | 19BT3HS31 | Soft Skills Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 7 | 19BT40532 | Database Management Systems Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT31232 | Software Engineering Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 9 | 19BT41531 | Design and Analysis of Algorithms Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| | | **Total:** | 15 | 1 | 8 | 24 | 20 | 400 | 500 | 900 |
| 10 | 19BT3MC01 | Environmental Science | 2 | - | - | 2 | - | 40 | -- | 40 |

## III B. Tech. – I Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT40501 | Computer Networks | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 2 | 19BT50502 | Artificial Intelligence | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT51202 | Web Technologies | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | **Professional Elective-1** | | | | | | | | | |
| 4 | 19BT51501 | Modern Cryptography | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT51502 | Natural Language Processing | | | | | | | | |
| | 19BT51503 | Parallel Computer Architectures | | | | | | | | |
| | 19BT51504 | Performance Evaluation of Computer Systems | | | | | | | | |
| | 19BT51505 | Software Testing | | | | | | | | |
| 5 | | **Open Elective-1** | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | **Inter Disciplinary Elective-1** | | | | | | | | | |
| 6 | 19BT60314 | Optimization Techniques | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT60402 | Micro Controllers | | | | | | | | |
| | 19BT60407 | Image Processing | | | | | | | | |
| | 19BT51208 | IoT Architecture and Protocols | | | | | | | | |
| 7 | 19BT40531 | Computer Networks Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT51232 | Web Technologies Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 9 | 19BT51531 | Socially Relevant Project-1 | - | - | - | - | 1 | 50 | 50 | 100 |
| | | **Total:** | 18 | - | 4 | 22 | 21 | 390 | 510 | 900 |
| 10 | 19BT5MC01 | Universal Human Values | 2 | - | - | 2 | - | 40 | -- | 40 |

## III B. Tech. – II Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT6HS02 | Organizational Behaviour | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 2 | 19BT60501 | Compiler Design | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT60502 | Machine Learning | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | **Professional Elective-2** | | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT60505 | Soft Computing | | | | | | | | |
| | 19BT61501 | Data Visualization Techniques | | | | | | | | |
| | 19BT61502 | Information Security | | | | | | | | |
| | 19BT61503 | Parallel and Distributed Systems | | | | | | | | |
| | 19BT61504 | Systems Engineering | | | | | | | | |
| 5 | **Professional Elective-3** | | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT51203 | Advanced Databases | | | | | | | | |
| | 19BT71203 | Big Data Technologies | | | | | | | | |
| | 19BT60541 | Ad Hoc and Wireless Sensor networks | | | | | | | | |
| | 19BT61505 | Systems Reliability | | | | | | | | |
| | 19BT61506 | User Interface Design | | | | | | | | |
| 6 | **Inter Disciplinary Elective-2** | | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT60318 | Industrial Internet of Things | | | | | | | | |
| | 19BT70412 | Pattern Recognition | | | | | | | | |
| | 19BT70401 | Embedded Systems | | | | | | | | |
| | 19BT61041 | Sensors and Applications | | | | | | | | |
| 7 | 19BT60531 | Machine Learning Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT61531 | Internet of Things Lab | - | 1 | 2 | 3 | 2 | 50 | 50 | 100 |
| 9 | 19BT61532 | Socially Relevant Project-2 | - | - | - | - | 1 | 50 | 50 | 100 |
| | | **Total:** | 18 | 1 | 4 | 23 | 22 | 390 | 510 | 900 |
| 10 | 19BT503AC | Foundations of Entrepreneurship | 2 | - | - | 2 | - | -- | -- | -- |

## IV B. Tech.–I Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT6HS01 | Principles of Business Economics and Accountancy | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 2 | 19BT51201 | Data Warehousing and Data Mining | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 3 | 19BT71501 | System Simulation and Modeling | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| 4 | **Professional Elective–4** | | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT50503 | Cyber Security | | | | | | | | |
| | 19BT71205 | Decision Support and Intelligent Systems | | | | | | | | |
| | 19BT71201 | Data Analytics | | | | | | | | |
| | 19BT61201 | Cloud Computing | | | | | | | | |
| | 19BT71502 | Computational Statistics | | | | | | | | |
| 5 | **Professional Elective–5** | | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT70503 | Blockchain Technologies | | | | | | | | |
| | 19BT70501 | Augmented Reality and Virtual Reality | | | | | | | | |
| | 19BT70502 | Data Science | | | | | | | | |
| | 19BT71503 | Deep Learning | | | | | | | | |
| | 19BT71504 | High Performance Computing | | | | | | | | |
| 6 | 19BT7MOOC | MOOC | - | - | - | - | 3 | - | 100 | 100 |
| 7 | 19BT51231 | Data Warehousing and Data Mining Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 8 | 19BT71531 | System Simulation and Modeling Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| 9 | 19BT71532 | Internship | - | - | - | - | 2 | -- | 100 | 100 |
| | | **Total:** | **15** | **-** | **4** | **19** | **22** | **300** | **600** | **900** |
| 10 | 19BT715AC | Kernel Programming | 2 | - | - | 2 | - | - | - | - |

## IV B.Tech. – II Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 19BT81531 | Project Work | - | - | - | - | 10 | 100 | 100 | 200 |
| | | Total: | - | - | - | - | 10 | 100 | 100 | 200 |

## LIST OF COURSES FOR OPEN ELECTIVE–1 & OPEN ELECTIVE-2

| Course Code | Open Elective -1 | Course Code | Open Elective -2 |
|---|---|---|---|
| 19BT4BS01 | Material Science | 19BT4HS01 | Banking and Insurance |
| 19BT4HS02 | Business Communication and Career Skills | 19BT4HS03 | Cost Accounting and Financial Management |
| 19BT4HS04 | Entrepreneurship for Micro, Small and Medium Enterprises | 19BT4HS05 | Gender and Environment |
| 19BT4HS06 | German Language | 19BT4HS07 | Indian Economy |
| 19BT4HS08 | Indian History | 19BT4HS09 | Life Skills |
| 19BT4HS10 | Personality Development | 19BT4HS11 | Professional Ethics |
| 19BT4HS12 | Women Empowerment | 19BT4HS13 | Indian Tradition and Culture |
| 19BT4HS14 | Constitution of India | 19BT40106 | Disaster Mitigation and Management |
| 19BT40205 | Reliability and Safety Engineering | 19BT40107 | Sustainable Engineering |
| 19BT50107 | Environmental Pollution and Control | 19BT40108 | Contract Laws and Regulations |
| 19BT50108 | Planning for Sustainable Development | 19BT40306 | Global Strategy and Technology |
| 19BT50109 | Rural Technology | 19BT40307 | Management Science |
| 19BT50505 | Ethical Hacking | 19BT40504 | Cyber Laws and Security |
| 19BT51207 | AI in Healthcare | 19BT50208 | Intellectual Property Rights |
| 19BT51506 | Bioinformatics | 19BT50409 | Green Technologies |

**Honors Degree:** Honors degree is awarded to the students who has undergone additional learning for 18 credits in the same discipline.

## HONORS DEGREE IN COMPUTER SCIENCE AND SYSTEMS ENGINEERING

| Semester | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| III B.Tech. I Semester | 19BT51507 | Digital Forensics | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT51508 | Malware and Risk Analysis | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT51532 | Digital ForensicsLab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| III B.Tech. II Semester | 19BT61507 | Cloud security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT61508 | Network Anomaly Detection Systems | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT61509 | IoT Security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT61533 | Network Anomaly Detection SystemsLab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| IV B.Tech. I Semester | 19BT71505 | Software Security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT71506 | Database and Web Security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT71533 | Database and Web Security Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |

**Note:** If any student has chosen a course from the above list in their regular curriculum then, he/she is not eligible to opt the same course/s for the Honors degree. It is the responsibility of the student to acquire/complete prerequisite before taking the respective course.

# MINORS IN CYBER SECURITY

| Semester | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| III B.Tech. I Semester | 19BT40501 | Computer Networks | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT60541 | Adhoc wireless Networks | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT31502 | Operating Systems | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT40531 | Computer Networks Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| III B.Tech. II Semester | 19BT61201 | Cloud Computing | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT51501 | Modern Cryptography | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT50503 | Cyber security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT61534 | Modern Cryptography Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |
| IV B.Tech. I Semester | 19BT61509 | IoT Security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT61502 | Information Security | 3 | - | - | 3 | 3 | 40 | 60 | 100 |
| | 19BT71534 | Information Security Lab | - | - | 2 | 2 | 1 | 50 | 50 | 100 |

**Chairperson, BOS (CSSE)**

Dr. P. DHANA LAKSHMI
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(AUTONOMOUS)
Sree Sainath Nagar, A. RANGAMPET
Chittoor (Dist.) - 517 102, A.P., INDIA.

# Approved Course Structure

**Program:** B. Tech.- Computer Science and Systems Engineering

**Regulations:** SVEC-20

| Mandatory Induction Program | 03 weeks duration |
|---|---|
| Induction program offered before commencement of the I-Semester course work | Physical activity |
| | Creative Arts |
| | Universal Human Values |
| | Literary |
| | Proficiency Modules |
| | Lectures by Eminent People |
| | Visits to local Areas |
| | Familiarization to Department/Branch and Innovations |

## I B. Tech. – I Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 20BT1BS01 | Differential Equations and Multivariable Calculus | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2 | 20BT1BS02 | Engineering Chemistry | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3 | 20BT1HS01 | Communicative English | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4 | 20BT11201 | Programming for Problem Solving | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 5 | 20BT10201 | Basic Electrical and Electronics Engineering | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 6 | 20BT1BS31 | Engineering Chemistry Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7 | 20BT1HS31 | Communicative English Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8 | 20BT11231 | Programming for Problem Solving Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 9 | 20BT1MC01 | Universal Human Values (Mandatory Course) | 2 | - | - | 2 | - | 30 | - | 30 |
| | | **Total:** | **17** | **-** | **09** | **26** | **19.5** | **270** | **560** | **830** |

## I B. Tech. – II Semester

| Sl. No. | Course Code | Course Title | Contact Periods per week | | | | C | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1 | 20BT2BS01 | Transformation Techniques and Linear Algebra | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2 | 20BT1BS03 | Engineering Physics | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3 | 20BT20501 | Digital Logic Design | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4 | 20BT21501 | Object Oriented Programming through Java | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 5 | 20BT10331 | Computer Aided Engineering Drawing | - | 1 | 4 | 5 | 3 | 30 | 70 | 100 |
| 6 | 20BT1BS32 | Engineering Physics Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7 | 20BT10332 | Engineering Workshop | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8 | 20BT21531 | Object Oriented Programming through Java Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 9 | 20BT1HSAC | Spoken English (Audit Course) | 2 | - | - | 2 | - | - | - | - |
| | | Total: | 14 | 1 | 13 | 28 | 19.5 | 240 | 560 | 800 |

## II B.Tech I–Semester

| S. No. | Course Code | Course Title | Contact Periods per Week | | | | Credits (c) | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1. | 20BT3BS01 | Numerical Methods, Probability and Statistics | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2. | 20BT30501 | Computer Organization | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3. | 20BT31201 | Software Engineering | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4. | 20BT22901 | Data Structures and Algorithms | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 5. | 20BT31501 | Operating Systems | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 6. | 20BT31231 | Software Engineering Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7. | 20BT22931 | Data Structures and Algorithms Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8. | 20BT31531 | Operating Systems Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 9. | 20BT31232 | Programming with Python Lab | - | 1 | 2 | 3 | 2 | 30 | 70 | 100 |
| | | Total | 16 | - | 11 | 26 | 21.5 | 270 | 630 | 900 |
| 10. | 20BT315AC | Design Thinking | 2 | - | - | 2 | - | - | - | - |

## II B.Tech II–Semester

| S. No. | Course Code | Course Title | Contact Periods per Week | | | | Credits (C) | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1. | 20BT40501 | Database Management Systems | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2. | 20BT50502 | Design and Analysis of algorithms | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3. | 20BT12901 | Discrete Mathematical Structures | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4. | 20BT41501 | Theory of Computation | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 5. | Open Elective-2 | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 6. | 20BT40531 | Database Management Systems Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7. | 20BT41531 | Design and Analysis of Algorithms Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8. | 20BT41532 | Workshop in Open source tools | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 9. | 20BT3HS31 | Soft Skills Lab | - | 1 | 2 | 3 | 2 | 30 | 70 | 100 |
| | | Total | 16 | - | 11 | 26 | 21.5 | 270 | 630 | 900 |
| 10. | 20BT3MC01 | Environmental Science | 2 | - | - | 2 | - | 30 | - | 30 |

## III B.Tech I–Semester

| S. No. | Course Code | Course Title | Contact Periods per Week | | | | Credits (C) | Scheme of Examination Max. Marks | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1. | 20BT5HS01 | Organizational Behaviour | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2. | 20BT50501 | Computer Networks | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3. | 20BT51201 | Data Warehousing and Data Mining | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4. | **Open Elective-1** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 5. | **Professional Elective- 1** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT51502 | Performance Evaluation of Computer Systems | | | | | | | | |
| | 20BT51503 | Natural Language Processing | | | | | | | | |
| | 20BT51504 | Modern Cryptography | | | | | | | | |
| | 20BT51505 | Parallel Computer Architectures | | | | | | | | |
| | 20BT51506 | Software Testing | | | | | | | | |
| 6. | 20BT50531 | Computer Networks Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7. | 20BT51231 | Data Warehousing and Data Mining Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8. | 20BT51531 | Linux Programming Lab | - | 1 | 2 | 3 | 2 | 30 | 70 | 100 |
| 9. | 20BT51532 | Summer Internship-1 | - | - | - | - | 1.5 | - | 100 | 100 |
| | | **Total** | 16 | - | 8 | 23 | 21.5 | 240 | 660 | 900 |
| 10. | 20BT5MC01 | Professional Ethics | 2 | - | - | 2 | - | 30 | - | 30 |

## III B.Tech II–Semester

| S. No. | Course Code | Course Title | L | T | P | Total | Credits (C) | Int. Marks | Ext. Marks | Total Marks |
|--------|-------------|--------------|---|---|---|-------|-------------|------------|------------|-------------|
| | | | **Contact Periods per Week** | | | | | **Scheme of Examination Max. Marks** | | |
| 1. | 20BT5HS02 | Principles of Business Economics and Accountancy | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2. | 20BT60501 | Machine Learning | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3. | 20BT51202 | Web Technologies | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 4. | **Professional Elective-2** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT61501 | Systems Engineering | | | | | | | | |
| | 20BT61502 | Data Visualization Techniques | | | | | | | | |
| | 20BT61503 | Information Security | | | | | | | | |
| | 20BT61504 | Parallel and Distributed Systems | | | | | | | | |
| | 20BT60503 | Soft Computing | | | | | | | | |
| 5. | **Professional Elective-3** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT61505 | Systems Reliability | | | | | | | | |
| | 20BT71203 | Big Data Technologies | | | | | | | | |
| | 20BT60541 | Ad Hoc and Wireless Sensor networks | | | | | | | | |
| | 20BT51203 | Advanced Databases | | | | | | | | |
| | 20BT61506 | User Interface Design | | | | | | | | |
| 6. | **Inter disciplinary Elective-1** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT40201 | Control Systems | | | | | | | | |
| | 20BT60314 | Optimization Techniques | | | | | | | | |
| | 20BT61241 | IoT Architecture and Protocols | | | | | | | | |
| | 20BT61041 | Sensors and Applications | | | | | | | | |
| 7. | 20BT60531 | Machine Learning Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8. | 20BT51232 | Web Technologies Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 9. | 20BT61531 | Handheld computing: design and Application Development Lab | - | 1 | 2 | 3 | 2 | 30 | 70 | 100 |
| | | **Total** | 19 | - | 11 | 23 | 23 | 270 | 630 | 900 |
| 10. | 20BT503AC | Foundations of Entrepreneurship | 2 | - | - | 2 | - | - | - | - |

# IV B.Tech I–Semester

| S. No. | Course Code | Course Title | Contact Periods per Week | | | | Credits (C) | Scheme of Examination Max. Marks | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1. | 20BT71202 | Data Analytics | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 2. | 20BT71501 | System Simulation and Modeling | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| 3. | **Professional Elective-4** | | 3 | - | - | 3 | 3 | 3 | 70 | 100 |
| | 20BT71207 | Decision Support and Intelligent Systems | | | | | | | | |
| | 20BT43101 | Artificial Intelligence | | | | | | | | |
| | 20BT70505 | Blockchain Technologies | | | | | | | | |
| | 20BT61201 | Cloud Computing | | | | | | | | |
| | 20BT71502 | Computational Statistics | | | | | | | | |
| 4. | **Professional Elective-5** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT70504 | Augmented Reality and Virtual Reality | | | | | | | | |
| | 20BT70503 | Data Science | | | | | | | | |
| | 20BT50504 | Cyber Security | | | | | | | | |
| | 20BT71503 | High Performance Computing | | | | | | | | |
| | 20BT71504 | Deep Learning | | | | | | | | |
| 5. | **Inter disciplinary Elective-2** | | 3 | - | - | 3 | 3 | 30 | 70 | 100 |
| | 20BT70315 | Industrial Internet of Things | | | | | | | | |
| | 20BT60406 | Image Processing | | | | | | | | |
| | 20BT70441 | Pattern Recognition | | | | | | | | |
| | 20BT70401 | Embedded Systems | | | | | | | | |
| 6. | 20BT71232 | Data Analytics Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 7. | 20BT71531 | System Simulation and Modeling Lab | - | - | 3 | 3 | 1.5 | 30 | 70 | 100 |
| 8. | 20BT71532 | Data Science using R Lab | - | 1 | 2 | 3 | 2 | 30 | 70 | 100 |
| 9. | 20BT71533 | Summer Internship-2 | | | | | 1.5 | - | 100 | 100 |
| | | **Total** | 15 | - | 9 | 24 | 21.5 | 240 | 660 | 900 |
| 10. | 20BT715AC | Kernel Programming | 2 | - | - | 2 | - | - | - | - |

## IV B.Tech II-Semester

| S. No. | Course Code | Course Title | Contact Periods per Week | | | | Credits (C) | Scheme of Examination Max. Marks | | |
|--------|-------------|--------------|---|---|---|-------|-------------|------------------|---|---|
| | | | L | T | P | Total | | Int. Marks | Ext. Marks | Total Marks |
| 1. | 20BT81531 | Project Work | - | - | - | - | 12 | 100 | 100 | 200 |
| 2. | 20BT81532 | Internship | - | - | - | - | - | - | - | - |
| | | Total | - | - | - | - | 12 | 100 | 100 | 200 |

## LIST OF COURSES FOR OPEN ELECTIVE-1 & OPEN ELECTIVE-2

| Course Code | Open Elective -1 | Course Code | Open Elective -2 |
|-------------|------------------|-------------|------------------|
| 20BT4BS01 | Material Science | 20BT4HS01 | Banking and Insurance |
| 20BT4HS02 | Business Communication and Career Skills | 20BT4HS03 | Cost Accounting and Financial Management |
| 20BT4HS04 | Entrepreneurship for Micro, Small and Medium Enterprises | 20BT4HS05 | Gender and Environment |
| 20BT4HS06 | German Language | 20BT4HS07 | Indian Economy |
| 20BT4HS08 | Indian History | 20BT4HS09 | Life Skills |
| 20BT4HS10 | Personality Development | 20BT4HS11 | Indian Tradition and Culture |
| 20BT4HS12 | Women Empowerment | 20BT4HS13 | Constitution of India |
| 20BT40205 | Reliability and Safety Engineering | 20BT50106 | Disaster Mitigation and Management |
| 20BT40105 | Environmental Pollution and Control | 20BT50107 | Sustainable Engineering |
| 20BT40106 | Planning for Sustainable Development | 20BT50108 | Contract Laws and Regulations |
| 20BT40107 | Rural Technology | 20BT50310 | Global Strategy and Technology |
| 20BT40305 | Human Resource Management | 20BT50311 | Management Science |
| 20BT50506 | Ethical Hacking | 20BT40502 | Cyber Laws and Security |
| 20BT51205 | AI in Healthcare | 20BT50206 | Intellectual Property Rights |
| 20BT51501 | Bioinformatics | 20BT50406 | Green Technologies |

**Chairperson, BOS (CSSE)**

DHANA LAKSHMI
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# SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
## Sree Sainath Nagar, Tirupati
## Department of Computer Science and Systems Engineering
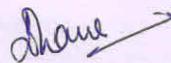
## LIST OF NEW COURSES INTRODUCED

**Program:** B.Tech.- Computer Science and Systems Engineering

**Regulations : SVEC-19**

| S. No. | Course Code | Name of the course |
|---|---|---|
| 1. | 19BT21501 | Object Oriented Programming Through Java |
| 2. | 19BT21531 | Object Oriented Programming Through Java Lab |
| 3. | 19BT31501 | Data Structures And Algorithms |
| 4. | 19BT31503 | System Programming |
| 5. | 19BT31531 | Data Structures And Algorithms Lab |
| 6. | 19BT31532 | Operating Systems Lab |
| 7. | 19BT31533 | Workshop In Computer Science And Systems Engineering |
| 8. | 19BT315AC | Design Thinking |
| 9. | 19BT41531 | Design And Analysis Of Algorithms Lab |
| 10. | 19BT1AC01 | Spoken English |
| 11. | 19BT1BS02 | Biology For Engineers |
| 12. | 19BT1HS01 | Communicative English |
| 13. | 19BT1SS03 | Engineering Physics |
| 14. | 19BT1BS31 | Engineering Physics Lab |
| 15. | 19BT1BS04 | Engineering Chemistry |
| 16. | 19BT1BS32 | Engineering Chemistry Lab |
| 17. | 19BT2BS01 | Transformation Techniques And Linear Algebra |
| 18. | 19BT4BS01 | Material Science |
| 19. | 19BT4HS05 | Gender &. Environment |

| 20. | 19BT4HS09 | Life Skills |
|---|---|---|
| 21. | 19BT4HS11 | Professional Ethics |
| 22. | 19BT4HS12 | Women Empowerment |
| 23. | 19BT40107 | Sustainable Engineering |
| 24. | 19BT10501 | Programming For Problem Solving |
| 25. | 19BT10531 | Programming For Problem Solving Lab |
| 26. | 19BT40532 | Database Management Systems Lab |
| 27. | 19BT31202 | Software Engineering |
| 28. | 19BT31232 | Software Engineering Lab |
| 29. | 19BT10201 | Basic Electrical And Electronics Engineering |
| 30. | 19BT10231 | Basic Electrical And Electronics Engineering Lab |
| 31. | 19BT50409 | Green Technologies |
| 32. | 19BT50502 | Artificial Intelligence |
| 33. | 19BT50503 | Cyber Security |
| 34. | 19BT60502 | Machine Learning |
| 35. | 19BT60531 | Machine Learning Lab |
| 36. | 19BT70501 | Augmented Reality And Virtual Reality |
| 37. | 19BT70502 | Data Science |
| 38. | 19BT70503 | Blockchain Technologies |
| 39. | 19BT60505 | Soft Computing |
| 40. | 19BT31202 | Software Engineering |
| 41. | 19BT61201 | Cloud Computing |
| 42. | 19BT71201 | Data Analytics |
| 43. | 19BT51203 | Advanced Databases Databases |
| 44. | 19BT71205 | Decision Support and Intelligent Systems |

| 45. | 19BT51208 | IoT Architecture and Protocols |
|-----|-----------|-------------------------------|
| 46. | 19BT60402 | Micro Controllers |
| 47. | 19BT70412 | Pattern Recognition |
| 48. | 19BT60318 | Industrial Internet of Things |
| 49. | 19BT60314 | Optimization Techniques |
| 50. | 19BT61041 | Sensors and Applications |
| 51. | 19BT51501 | Modern Cryptography |
| 52. | 19BT51502 | Natural Language Processing |
| 53. | 19BT51503 | Parallel Computer Architectures |
| 54. | 19BT51504 | Performance Evaluation of Computer Systems |
| 55. | 19BT51505 | Software Testing |
| 56. | 19BT61501 | Data Visualization Techniques |
| 57. | 19BT61502 | Information Security |
| 58. | 19BT61503 | Parallel and Distributed Systems |
| 59. | 19BT61505 | Systems Reliability |
| 60. | 19BT61506 | User Interface Design |
| 61. | 19BT71501 | System Simulation and Modeling |
| 62. | 19BT71502 | Computational Statistics |
| 63. | 19BT71503 | Deep Learning |
| 64. | 19BT71504 | High Performance Computing |
| 65. | 19BT715AC | Kernel Programming |

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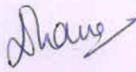(AUTONOMOUS)

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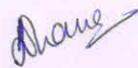
## Department of Computer Science and Systems Engineering

## LIST OF NEW COURSES INTRODUCED

**Program: Minor Degree in Cyber Security**

**Regulations : SVEC-19**

| S. No. | Course Code | Name of the course |
|---|---|---|
| 1. | 19BT60541 | Adhoc wireless Networks |
| 2. | 19BT61201 | Cloud Computing |
| 3. | 19BT51501 | Modern Cryptography |
| 4. | 19BT61534 | Modern Cryptography Lab |
| 5. | 19BT50503 | Cyber security |
| 6. | 19BT61534 | Modern Cryptography Lab |
| 7. | 19BT61509 | IoT Security |
| 8. | 19BT61502 | Information Security |
| 9. | 19BT71534 | Information Security Lab |

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**Program:** Honors in Cyber Security

**Regulations :** SVEC-19

| S. No. | Course Code | Name of the course |
|--------|-------------|--------------------|
| 1. | 19BT51507 | Digital Forensics |
| 2. | 19BT51508 | Malware and Risk Analysis |
| 3. | 19BT51532 | Digital Forensics Lab |
| 4. | 19BT61507 | Cloud security |
| 5. | 19BT61508 | Network Anomaly Detection Systems |
| 6. | 19BT61509 | IoT Security |
| 7. | 19BT61533 | Network Anomaly Detection Systems Lab |
| 8. | 19BT71505 | Software Security |
| 9. | 19BT71506 | Database and Web Security |
| 10. | 19BT71533 | Database and Web Security Lab |

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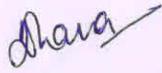
## Department of Computer Science and Systems Engineering

**Program: B.Tech.- Computer Science and Systems Engineering**

**Regulations : SVEC-20**

| S. No. | Course Code | Name of the course |
|--------|-------------|--------------------|
| 1. | 20BT31232 | Programming with Python Lab |
| 2. | 20BT41532 | Workshop in Open source tools |
| 3. | 20BT51531 | Linux Programming Lab |
| 4. | 20BT61531 | Handheld computing: design and Application Development Lab |
| 5. | 20BT71532 | Data Science using R Lab |

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