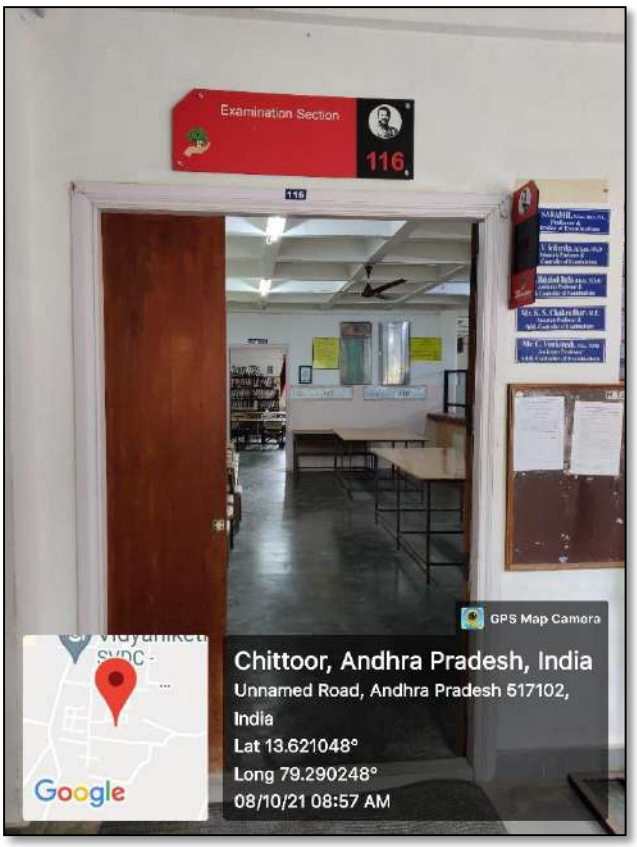
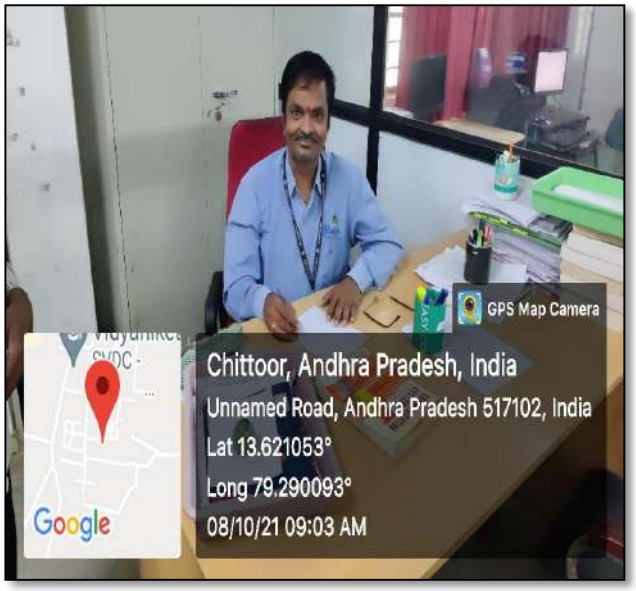


Exam Section and Dr. K. Saradhi, Controller of Examinations

Mr. P. Basha

Addl. Controller of Examinations (UG)



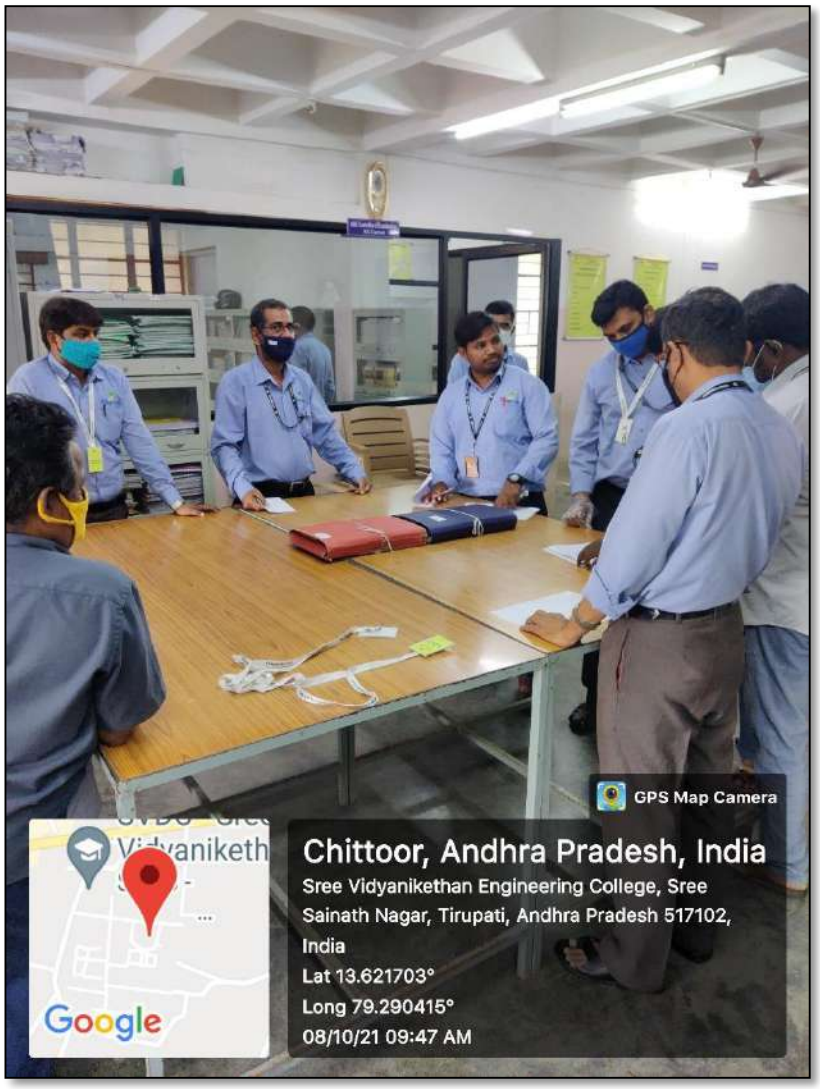
Mr. K. S. Chakradhar

Addl. Controller of Examinations (PG)

Mr. A. Venkatesh
Addl. Controller of Examinations (UG)

Mr. A. V. Sree Harsha
Addl. Controller of Examinations (Technical)

Principal and Controller of Examinations Addressing the Coordinators

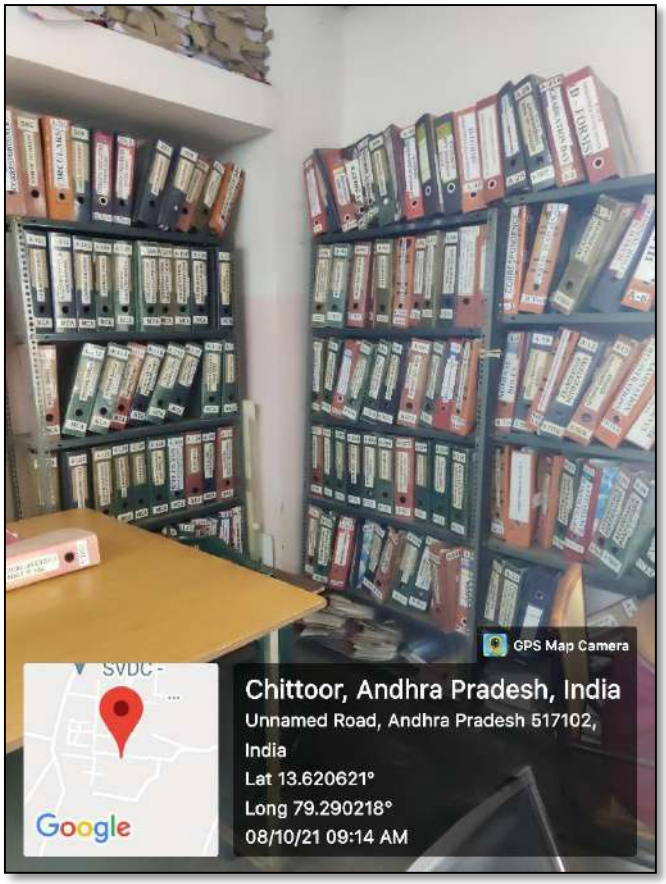


Coordinators Distributing Answer Scripts to the Invigilators

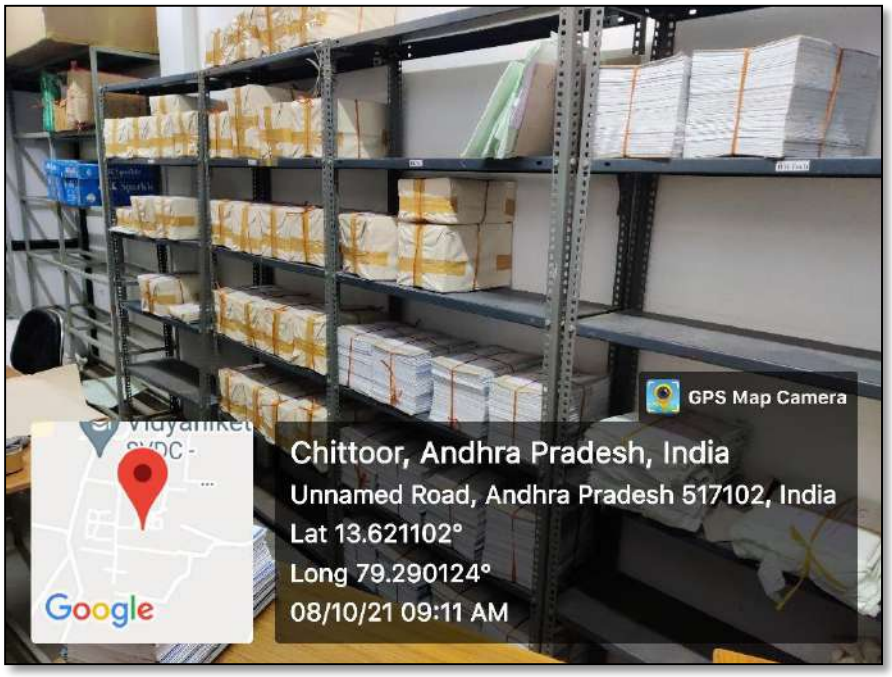
Exam Section Supporting Staff

Computer Systems for Data entry and Reprographic facilities

Strong Room Facility



Examination Related Files



Stationary for Examinations

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SREE VIDYANIKETHAN ENGINEERING COLLEGE

(AUTONOMOUS)
SREE SAINATH NAGAR, TIRUPATI-517 102
(Approved by AICTE; Programs Accredited by NBA; NAAC with 'A' Grade)

Academic Calendar for the Year 2019-20

For

III B. Tech – I Semester

I Spell of Instruction	24.06.2019 to 17.08.2019	8 weeks
Diagnostic Tests	From 04.07.2019 (3 working days)	
I Mid-term Examinations	19.08.2019 to 26.08.2019	1 week
II Spell of Instructions	27.08.2019 to 26.10.2019	9 weeks
Remedial Classes	From 03.09.2019 (12 working days)	
II Mid-term Examinations	28.10.2019 to 02.11.2019	1 week
Preparation & Practical Examinations	04.11.2019 to 16.11.2019	2 weeks
Semester-End Examinations	18.11.2019 to 30.11.2019	2 weeks
Semester-Break	01.12.2019 to 15.12.2019	2 weeks
Commencement of Class work for III B.Tech II- Semester	16.12.2019	-

III B. Tech – II Semester

I Spell of Instruction	16.12.2019 to 08.02.2020	8 weeks
Diagnostic Tests	From 26.12.2019 (3 working days)	
I Mid-term Examinations	10.02.2020 to 15.02.2020	1 week
II Spell of Instruction	17.02.2020 to 18.04.2020	9 weeks
Remedial Classes	From 24.02.2020 (12 working days)	
II Mid-term Examinations	20.04.2020 to 25.04.2020	1 week
Preparation & Practical Examinations	27.04.2020 to 09.05.2020	2 weeks
Semester-End Examinations	11.05.2020 to 23.05.2020	2 weeks
Summer Vacation	24.05.2020 to 21.06.2020	4 weeks
Commencement of Class work for IV B. Tech. I Semester	22.06.2020	-

Date: 13-05-2019

PRINCIPAL

III B.Tech - II Semester

(16BT60201) POWER SEMICONDUCTOR DRIVES

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
30	70	100	3	1	–	3

PREREQUISITES:Courses on Power Electronics, Synchronous Machines and Control Systems.

COURSE DESCRIPTION:
DC drives: Rectifier fed and Chopper fed drives; AC Drives: Induction motor drives, Synchronous and Stepper motor drives.

COURSEOUTCOMES:On successful completion of the course, students will be able to

CO1. demonstrate knowledge on
- dynamics of electrical drives.
- operation and speed control of various DC & AC drives.
- open loop and closed loop control of DC & AC drives.

CO2. analyze single and multi-quadrant operations of DC & AC drives with speed-torque characteristics.

CO3. design and develop various configurations of power elec tronic converters for AC & DC drives.

CO4. investigateopen and closed loop operations of various drives using different speed control techniquesto enhance the drive performance.

CO5. applyappropriate power converters for controlling the drives in real time applications.

CO6. apply the conceptual knowledge of power semiconduc tor drivesin relevance to industry and society.

DETAILED SYLLABUS:

UNIT-I: INTRODUCTION TO ELECTRICAL DRIVES (08 periods)

Concept of electrical drives.Dynamics of electrical drives - fundamental torque equations, speed-torque conventions and multi-quadrant operation; Load torques - components, nature and classification.Steady state stability.Electric braking methods - regenerative dynamic and plugging.Modes of operation of electrical drive. Speed control and drive classifications, closed loop control of drives.

UNIT-II: SINGLE PHASE AND THREE PHASE CONVERTER FED DC DRIVES (11 periods)

Introduction to DC drives, control of DC separately excited motor by single-phase and three-phase half and full converters - voltage and current waveforms for continuous and discontinuous motor currents, speed-torque equations and characteristics. Dual converter control of DC separately excited motor.

UNIT-III: DC CHOPPER FED DRIVES **(08 periods)**

Control of DC separately excited motor by one, two and four quadrant choppers, voltage and current waveforms for continuous conduction mode. Closed loop model of separately excited DC motor, closed loop speed control scheme.

UNIT-IV: INDUCTION MOTOR DRIVES **(10 periods)**

Introduction, stator voltage control by AC voltage controllers.Stator frequency control - slip speed control, torque and power limitations, modes of operation.Variable frequency control by voltage source inverters (VSI), current source inverters (CSI).Static rotor resistance control. Slip power recovery schemes - static Scherbius drive, static Kramer drive.

UNIT-V: SYNCHRONOUS AND STEPPER MOTOR DRIVES **(08 periods)**

Modes of variable frequency control. Operation of self-controlled synchronous motors byVSI, CSI. Load commutated CSI fed synchronous motor drive - operation and waveforms. Stepper motor drives - torque Vs stepping rate characteristics, drive circuits.

Total Periods: 45

TEXT BOOKS:

1. Gopal K. Dubey, *Fundamentals of Electric Drives*, Narosa Publications, 2nd edition, 2004.
2. VedamSubramaniam, *Electric drives (concepts and applications)*,Tata Mc Graw-Hill Education, 2011.

REFERENCE BOOKS:

1. Gopal K. Dubey, *Power Semiconductor Controlled Drives*, Prentice-Hall International, 1989.
2. Paresh C. Sen, *Thyristor DC Drives*, Wiley-Interscience, 1981.

SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)

Sree Sainath Nagar, A. Rangampet – 517 102

Department of Electrical and Electronics Engineering

Lesson Plan/Diary 2019-20

Name of the Subject : **Power Semiconductor Drives [16BT60201]**

Name of the faculty Member : **Dr. E. Parimalasundar**

Class & Semester : **III B.Tech. & II Semester**

Section : **EEE 'B'**

Topic	No. of Periods required	Date(s) covered	No. of periods used	Book(s) followed	Topics for Self Study	Teaching Aids (PPT / Video / Role Play etc.,)
UNIT – I:*INTRODUCTION TO ELECTRICAL DRIVES*						
Introduction (concept of electric drives)	1			T1	Selection and determination of power ratings for various electrical motors used in drive applications.	
Dynamics of electrical drive, Fundamental torque equations	1			T1		
Load torques components, nature and classification	1			T1		
Speed Torque conventions and Multi quadrant operation	1			T1		
Tutorial-1	1			T1		
Steady state stability	1			T1		
Introduction to Methods of Electric braking, Regenerative, Dynamic and Plugging	1			T1		
Modes of operation of electrical drive	1			T1		
Classifications of drives and its Speed controlling techniques, closed loop control of drives.	1			T1		
Tutorial-2	1			T1		
Formative Test-1						
Total of periods required:	**10**	**Periods used:**		**-**		
UNIT – II: *SINGLE PHASE AND THREE PHASE CONVERTER FED DC DRIVES*						
Introduction to DC Drives	1			T1	DC Motors – steady state speed torque relations and speed control methods.	
Operation, voltage and current waveforms for continuous motor currents, Speed-torque equations and the characteristics of DC separately excited motor by single-phase semi-converter	1			T1		
Operation, voltage and current waveforms for discontinuous motor currents, Speed-torque equations and the characteristics of DC separately excited motor by single-phase semi-converter	1			T1		
Operation, voltage and current waveforms for continuous motor currents, Speed-torque equations and the characteristics of DC separately	1			T1		

Topic	No. of Periods required	Date(s) covered	No. of periods used	Book(s) followed	Topics for Self Study	Teaching Aids (PPT / Video / Role Play etc.,)
excited motor by single-phase full converter1						
Operation, voltage and current waveforms for discontinuous motor currents, Speed-torque equations and the characteristics of DC separately excited motor by single-phase full converter2	1			T1		
Tutorial-3	1			T1		
Operation, voltage and current waveforms for continuous motor currents of three-phase semi- converter fed DC separately excited motor	1			T1		
Speed-torque equations and the characteristics of DC separately excited motor fed by three-phase semi-converter	1			T1		
Operation, voltage and current waveforms for continuous motor currents of three-phase full converter fed DC separately excited motor.	1			T1		
Speed-torque equations and characteristics of DC separately excited motor fed by three-phase full converter	1			T1		
Tutorial-4	1			T1		
Operation, Speed-torque characteristics of DC separately excited motor by single-phase dual converter	1			T1		
Operation, Speed-torque characteristics of DC separately excited motor by three phase dual converter	1			T1		
Formative Test-2				T1		
Total of periods required:	**13**	**Periods used:**		-		
UNIT -III: *DC CHOPPER FED DRIVES*						
Operation of a Separately Excited DC motor by I Quadrant chopper with voltage and current waveforms for continuous motor currents, speed torque equations and characteristics	1			T1		
Operation of a Separately Excited DC motor by II Quadrant chopper with voltage and current waveforms for continuous motor currents, speed torque equations and characteristics	1			T1		
Tutorial-5	1			T1		
Operation of a Separately Excited DC motor by two Quadrant (type-A) chopper with voltage and current waveforms for continuous motor current	1			T1		
Operation of a Separately Excited DC motor by two Quadrant (type-B) chopper	1			T1		
Voltage and current waveforms for continuous motor current of two Quadrant (type-B) chopper fed Separately Excited DC motor	1			T1		
Operation of a Separately Excited DC motor by four Quadrant chopper	1			T1		
Voltage and current waveforms for continuous motor current of four	1			T1		

Topology of DC Chopper fed drives in Battery powered Vehicles.

Topic	No. of Periods required	Date(s) covered	No. of periods used	Book(s) followed	Topics for Self Study	Teaching Aids (PPT / Video / Role Play etc.,)
Quadrant chopper fed Separately Excited DC motor						
Tutorial-6	1			T1		
Closed loop model of a Separately Excited DC motor and its closed loop speed control scheme.	1			T1		
Formative Test-3						
Total of periods required:	**10**	**Periods used:**		-		
UNIT – IV: *INDUCTION MOTOR DRIVES*						
Introduction to Induction Motor Drives	1			T1	Analysis and performance of Three Phase Induction motors	
Stator voltage control of 3-phase induction motors by AC voltage controllers	1			T1		
Tutorial-7	1			T1		
Stator Frequency control, Slip Speed Control, Torque and Power Limitations	1			T1		
Variable Frequency control of 3-phase induction motors by six step voltage source inverters	1			T1		
Variable Frequency control of 3-phase induction motors by PWM inverters	1			T1		
Variable Frequency Control of 3-phase induction motors by current source inverters	1			T1		
Tutorial-8	1			T1		
Static rotor resistance control, Closed loop operation, numerical problems	1			T1		
Slip power recovery Schemes	1			T1		
Static Scherbius drive operation and speed–torque characteristics	1			T1		
Static Kramer drive-operation	1			T1		
Formative Test-4						
Total of periods required:	**12**	**Periods used:**		-		
UNIT – V: *SYNCHRONOUS AND STEPPER MOTOR DRIVES*						
Modes of variable frequency control of synchronous motor	1			T1	Topology of Solar and Battery powered drives, Traction drives.	
Operation of self-controlled synchronous motors by Voltage Source Inverter1	1			T1		
Operation of self-controlled synchronous motors by Voltage Source Inverter2	1			T1		
Operation of self-controlled synchronous motors by Current Source Inverter1	1			T1		
Operation of self-controlled synchronous motors by Current Source Inverter2	1			T1		
Tutorial-9	1			T1		
Operation of Load commutated CSI fed synchronous motor drive and its waveforms	1			T1		
Stepper motor drives, torque vs stepping rate characteristics	1			T1		
Drive circuits for stepper motor	1			T1		

Topic	No. of Periods required	Date(s) covered	No. of periods used	Book(s) followed	Topics for Self Study	Teaching Aids (PPT / Video / Role Play etc.,)
Tutorial-10	1			T1		
Formative Test-5						
Total of periods required:	**10**	**Periods used:**		-		
Grand total of periods required:	**55**	**Grand total of periods used:**				

TEXT BOOKS:

T1. Gopal K. Dubey, Fundamentals of Electric Drives, Narosa Publications, 2ndedition, 2004.
T2. Vedam Subramaniam "Electric drives (concepts and applications)",Tata McGraw-Hill Education, 2011

REFERENCE BOOKS:

R1. Gopal K. Dubey, Power Semiconductor controlled drives, Prentice-Hall International, 1989.
R2. Paresh C. Sen, Thyristor DC Drives, Wiley-Interscience, 1981.
R3. M.D. Singh, K.B. Khanchandani, Power Electronics, Tata McGraw Hill, 2nd edition, 2013

Faculty Member

Head of the Department

Code No.: 16BT60201 SET - 1

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Anantapur)

III B.Tech. II Semester (SVEC 16) Regular Examinations April, 2019

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max. Marks: 70**

Answer ONE question from each unit
All questions carry equal marks

UNIT – I

1.	a)	Derive the fundamental torque equations governing DC Motor load dynamics.	CO1	10M
	b)	Compare DC and AC Drives.	CO2	4M
		OR		
2.	a)	Derive the mathematical conditions for steady state stability analysis of equilibrium operating point.	CO2	10M
	b)	Mention the necessary condition to obtain the three modes of operation of an electric drive.	CO1	4M

UNIT – II

3.		Analyse the operation of 3φ fully controlled converter fed dc drive with neat waveforms for $\alpha=30^\circ$ and $\alpha=120^\circ$ and give the justification about the waveforms.	CO2, CO4	14M
		OR		
4.	a)	Explain using a power circuit the working of a single phase semi converter fed separately excited motor drive.	CO1	10M
	b)	What are the advantages of three phase drives over the single phase drives?	CO1	4M

UNIT – III

5.	a)	Discuss the four quadrant operation of chopper control in a dc motor drive.	CO2	8M
	b)	With a neat diagram, illustrate the closed loop model of separately excited dc motor drive.	CO1	6M
		OR		
6.	a)	Explain the motoring mode operation of chopper fed dc motor.	CO1	6M
	b)	Compare regenerative braking and dynamic braking of separately excited dc motor by chopper control and identify the suitable braking method for DC motor.	CO5	8M

UNIT – IV

7.	a)	With an aid of a neat diagram, explain the operation of static Scherbius system for slip power recovery scheme	CO1	10M
	b)	Compare Current Source Inverter drive with Voltage Source Inverter drive in steady state conditions.	CO4	4M
		OR		
8.	a)	Discuss the steady state analysis of constant slip-speed controlled induction motor.	CO2	7M
	b)	Explain the speed control scheme employed in industries for induction motor drive with stator voltage control and mention the reason for choosing induction motor drive rather than other motor drives.	CO6	7M

UNIT – V

9.	a)	Analyse the operation of self-controlled synchronous motor with Voltage Source Inverter	CO2	10M

	b)	When can a synchronous motor be load commutated?	CO1	4M
		OR		
10.	a)	Explain self-control of synchronous motor drive operated with constant margin angle control.	CO1	10M
	b)	Mention the different modes employed to achieve variable frequency control in synchronous motors?	CO1	4M

Signature of the Faculty **Signature of BOS Chairman** **Signature of the HOD**

Code No.: 16BT60201 SET - 2

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Anantapur)

III B.Tech. II Semester (SVEC 16) Regular Examinations April, 2019

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max. Marks: 70**

Answer ONE question from each unit
All questions carry equal marks

UNIT – I

1.	a)	Explain in detail with an example, Multi-Quadrant operation of a motor driving a hoist load with speed-torque plane.	CO1	10M
	b)	Explain various types of drive based on classification of duties.	CO1	4M
		OR		
2.	a)	Analyse the different modes of operation of electric drives.	CO2	9M
	b)	Draw and explain the block diagram of an electric drive.	CO1	5M
		UNIT – II		
3.	a)	Explain the discontinuous and continuous modes of operation of three phase fully controlled converter fed DC motor with necessary waveforms.	CO1	10M
	b)	List out the drawbacks of rectifier fed DC drives.	CO1	4M
		OR		
4.	a)	A separately excited DC motor operating from a single phase half controlled bridge at a speed of 1400rpm has an input voltage of 330sin314t and a back EMF of 80V. The SCRs are fixed symmetrically and are fired at $\alpha=30^{\circ}$ in every half cycle. The armature has a resistance of 4Ω. Calculate the average armature current and the motor torque.	CO2	10M
	b)	What are the advantages of closed loop control of DC drives?	CO1	4M
		UNIT – III		
5.	a)	A DC shunt motor can be made to under motoring and braking modes using a chopper. Justify.	CO4	7M
	b)	Discuss how the stability of the system is achieved in industries by employing the closed loop speed controlling schemes for chopper fed DC drives.	CO6	7M
		OR		
6.	a)	Explain the operation of two quadrant type A chopper fed DC drives	CO1	7M
	b)	Draw the circuit diagram and analyse the operation of chopper fed separately excited dc motor and derive the expression for speed.	CO2	7M
		UNIT – IV		
7.	a)	Discuss how the speed of a 3-phase induction motor can be controlled by varying the frequency of the applied voltage.	CO2	7M
	b)	Explain the reason behind operating an induction motor with constant voltage and variable frequency. Draw the appropriate speed-torque characteristics.	CO4	7M
		OR		
8.	a)	Design a power circuit and explain the working of a static Kramer drive system.	CO3	10M
	b)	What is meant by slip power recovery system?	CO1	4M
		UNIT – V		
9.	a)	Design the driver circuit for stepper motor drives.	CO3	7M

	b)	Draw the torque - stepping rate characteristics of a stepper motor. Analyse its performance for different values of stepping rates.	CO4	7M
		OR		
10.	a)	A load commutated current source inverter can be used to drive a synchronous motor. Justify the operation with a neat diagram and wave forms.	CO5	10M
	b)	Explain self-controlled mode of operation of synchronous motor.	CO1	4M

Signature of the Faculty

for **Signature of BOS Chairman**

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Signature of the HOD

Code No.: 16BT60201 SET - 3

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Anantapur)

III B.Tech. II Semester (SVEC 16) Regular Examinations April, 2019

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max. Marks: 70**

Answer ONE question from each unit
All questions carry equal marks

		UNIT – I		
1.	a)	Derive the expressions to find the equivalent load torque and equivalent inertia of loads in translational and rotational motion.	CO1	10M
	b)	Compare group drive with individual drive.	CO2	4M
		OR		
2.	a)	Investigate the principle of regenerative braking used in four quadrant industrial drives	CO4	7M
	b)	Explain how the concept of steady state stability condition is achieved in Industrial drives.	CO6	7M
		UNIT – II		
3.	a)	Explain the discontinuous and continuous modes of operation of single phase fully controlled converter fed DC motor with necessary waveforms.	CO1	10M
	b)	What do you understand by constant torque drive and constant power drive?	CO1	4M
		OR		
4.		Explain the operation of a single phase half-controlled converter fed separately excited motor drive and obtain the expression of speed and torque of the motor for continuous mode of operation.	CO1	14M
		UNIT – III		
5.	a)	Analyse the operation of two quadrant type B chopper fed DC drives.	CO2	10M
	b)	What are the various control strategies used for varying duty cycle of the chopper.	CO1	4M
		OR		
6.		Explain the operation of Type-E chopper fed separately excited DC motor with necessary waveforms.	CO1	14M
		UNIT – IV		
7.	a)	Mention the various speed control techniques of three phase induction motor and explain any two methods of speed control in detail.	CO1	10M
	b)	What do you understand by V/F control?	CO1	4M
		OR		
8.	a)	Examine the adjustable frequency constant air gap flux control method of speed control of induction motor drives.	CO4	10M
	b)	State the advantages of variable frequency control of induction motor.	CO1	4M
		UNIT – V		
9.	a)	Explain the closed loop control of synchronous motor with neat block diagram and relate the performance with open loop control.	CO5	14M
		OR		
10.	a)	Design a load commutated inverter circuit and explain the closed loop operation of synchronous motor.	CO3	10M
	b)	What is meant by margin angle of commutation in the control of synchronous motors?	CO1	4M

Signature of the Faculty **Signature of BOS Chairman** **Signature of the HOD**

Code No.: 16BT60201 SET - 4

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Anantapur)

III B.Tech. II Semester (SVEC 16) Regular Examinations April, 2019

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max. Marks: 70**

Answer ONE question from each unit
All questions carry equal marks

		UNIT – I		
1.	a)	Analyse the quadrantal diagram of speed-torque characteristics for a motor driving hoist load.	CO2	10M
	b)	What is deceleration mode of operation?	CO1	4M
		OR		
2.	a)	Discuss the various methods of electric braking in industrial drives.	CO6	10M
	b)	What is acceleration mode of operation?	CO1	4M
		UNIT – II		
3.	a)	Draw and explain the operation of single phase dual converter fed DC drives.	CO1	10M
	b)	Drive the speed torque equation of DC separately excited motor fed drive.	CO2	4M
		OR		
4.	a)	Analyse the operation of DC motor driven by three phase dual converter.	CO2	10M
	b)	List out the different modes of operation of dual converter fed DC motor drives.	CO1	4M
		UNIT – III		
5.	a)	Analyse the operation of Type-B chopper fed separately excited DC motor with neat voltage and current waveforms and derive the speed-torque equations.	CO2, CO4	10M
		OR		
6.	a)	Suggest a SCR based power circuit fed from a DC supply to control the speed of a separately excited DC motor and explain its working.	CO5	10M
	b)	Why thyristors are not preferred nowadays for chopper fed DC drives?	CO1, CO4,CO5	4M
		UNIT – IV		
7.	a)	Analyse the V/F control of induction motor drives with neat diagrams and waveforms.	CO2	9M
	b)	Write down the consequences faced by electrical industries because of increasing the frequency of induction motor without a change in the terminal voltage.	CO5	5M
		OR		
8.	a)	A 3-phase, 4pole, 50Hz slip ring induction motor when fully loaded, run with a slip of 4%. Find the value of the resistance necessary to be put series per phase of the rotor to reduce the speed by 15%. Assume that the resistance of the rotor per phase is 0.5Ω	CO5	10M
	b)	Draw and explain the speed-torque characteristics of the induction motor.	CO1	4M
		UNIT – V		
9.	a)	Examine the operation of self-controlled synchronous motor with Current Source Inverter.	CO4	10M
	b)	Compare constant margin angle and power factor control of synchronous motor. Justify which is suitable for synchronous motor.	CO5	4M
		OR		

10.	a)	A 500kW, 3-phase, 3.3kV, 0.8(lagging) power factor, 4-pole, star connected synchronous motor has the following parameters. X_s=15Ω, R_s=0. Rated field current is 10A. Calculate armature current and power factor at half the rated torque and field current.	CO4	10M
	b)	Draw and analyse the speed-torque characteristics of synchronous motor with a fixed frequency supply.	CO2	4M

Signature of the Faculty | for **Signature of BOS Chairman** | **Signature of the HOD**

Code No.: 16BT60201

SET - 5

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to JNTUA, Anantapur)

III B.Tech. II Semester (SVEC 16) Regular Examinations April, 2019

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time: 3 Hours

Max. Marks: 70

Answer ONE question from each unit
All questions carry equal marks

		UNIT – I		
1.	a)	Explain the classifications and nature of load torques with speed-torque characteristics.	CO1	10M
	b)	Analyse the steady state operation of electric drives.	CO2	4M
		OR		
2.	a)	Develop criteria for evaluating the steady state stability of an electrical drive.	CO3	10M
	b)	Justify the need of dynamic braking used in industries.	CO6	4M
		UNIT – II		
3.		Explain using a power circuit the working of a three phase semi converter fed separately excited motor drive.	CO1	14M
		OR		
4.	a)	Draw the speed-torque characteristics of three phase semi converter fed separately excited motor drive and relate with the speed-torque equation.	CO4	7M
	b)	A 200V, 875rpm, 150A separately excited dc motor has an armature resistance of 0.06Ω. It is fed from a single phase fully controlled rectifier with an AC source voltage of 220V, 50Hz. Assuming continuous conduction, calculate firing angle for rated motor torque and 750rpm.	CO5	7M
		UNIT – III		
5.		Analyse the operation of chopper for forward motoring and braking control of separately excited dc motor with aid of diagram, waveforms and speed-torque curves.	CO2	14M
		OR		
6.	a)	A chopper used for ON and OFF control of a DC separately excited motor has supply voltage of 230V, T_{ON}=10ms, T_{OFF}=15ms. Neglecting armature inductance and assuming continuous conduction of motor current, calculate the average load current when the motor speed is 1500rpm, has a voltage constant K_v=0.5V/rad/sec. The armature resistance is 2Ω.	CO5	10M
	b)	Design and draw the block diagram of closed loop current limit control of a DC drive.	CO3	4M
		UNIT – IV		
7.	a)	Design a circuit and explain the concept of closed loop control of 3-phase VSI fed induction motor.	CO3	10M
	b)	State the advantages of slip power recovery system.	CO1	4M
		OR		
8.	a)	A 420V, 50Hz, 6-pole star connected slip ring induction motor speed is controlled by a static Kramer drive. The effective phase turns ratio from rotor to stator is 0.7 and the transformer phase turns ratio from low voltage to high voltage is 0.5. Losses in diode rectifier, inductor, inverter and transformer were neglected. The load torque proportional to speed squared is 275Nm at 900rpm. For a motor operating at 750rpm, calculate (i) Rotor rectified voltage, (ii) Inductor current, (iii) delay angle of the inverter, (iv) efficiency if the inductor resistance is 0.02Ω and stator and rotor resistances are 0.01Ω and 0.03Ω respectively.	CO2	10M
	b)	Frequency control is normally used for controlling speed of induction motor drives. Justify.	CO4	4M

UNIT – V

9.		Explain the power factor control of synchronous motor with relevant block diagram and compare the performance with constant margin angle control.	CO4	14M

OR

10.	a)	A 7MW, 3-phase 12kV star connected 6-pole, 50Hz, 0.9 leading power factor synchronous motor has $X_s=10\Omega$, $R_s=0$. The rated field current is 40A. The machine is controlled by variable frequency control at constant V/F ratio upto the base speed and at constant V above base speed. Determine (i) Torque, (ii) the field current for the rated armature current 750rpm and 0.8 leading power factor.	CO2	7M
	b)	Design the driver circuit for stepper motor drives.	CO3	7M

Signature of the Faculty

for **Signature of BOS Chairman**

Signature of the HOD

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(AUTONOMOUS)

SREE SAINATH NAGAR, A. RANGAMPET –517 102.

III B.Tech. II Semester (SVEC-16) Mid-I Examinations February, 2020

POWER SEMICONDUCTOR DRIVES(16BT60201)

(EEE)

Max. Marks: 30 | **Time: 2 Hours** | **Date: 11.02.2020 (AN)**

PART-A

Answer All Questions. All Questions Carry Equal Marks **6 x 1 = 6 Marks**

1. **a)** How does power modulator helps in controlling of motor? CO1

   b) Suggest a suitable motor, with relevant characteristics, to drive a load with load torque proportional to square of speed. CO2

   c) What are the constraints to be considered for differentiating variable and multi-motor speed drives? Justify your answer with an example. CO2

   d) On what factors does the speed of a separately excited DC motor depend? Give the expression for speed (rad/sec). CO1

   e) Comment on the continuous and discontinuous operation of controlled rectifier employing DC motor. CO2

   f) For high rated DC motor, which type of controlled rectifier is preferable for motoring and braking operation? Justify your suggestion with speed-torque characteristics. CO2

PART-B

Answer Any Three Questions. All Questions Carry Equal Marks **3 x 8 = 24 Marks**

2. **a)** An industrial application demands multi-quadrant operation. Suggest a suitable arrangement of hoist load meeting the requirements. Justify your suggestion with relevant proof. 6M CO5

   b) Establish a relation between motor and dynamic torque of motor-load system. 2M CO1

3. With relevant circuit diagram, explain the braking and plugging arrangement for controlling the speed of DC shunt motor. 8M CO1

4. Analyze the motor terminal voltage and current waveforms of three phase full converter fed separately excited DC motor under continuous conduction with speed-torque characteristics. Derive the equation of motor terminal voltage, which is connected to three phase full converter. Also Justify your suggestion for motoring and braking operation with relevant proof. 8M CO2

5. **a)** A 200 V, 875 rpm, 150 A separately excited DC motor has an armature resistance of 0.06 Ω. It is fed from a single phase fully controlled rectifier with an AC source voltage of 220 V, 50 Hz. 6M CO3

   Assuming continuous conduction, Design a single phase full converter for following condition which meets controlling of motor.

   (i) Firing angle for motor rated torque and 750 rpm.

   (ii) Firing angle for motor rated torque and (-500) rpm.

   (iii) Motor speed for $\alpha=160^{\circ}$ and rated torque.

   b) On what factors dual converter does operate in circulating current mode for controlling DC motor? Justify your suggestions with circuit diagram and mathematical expressions. 2M CO1

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SREE VIDYANIKETHAN ENGINEERING COLLEGE

(AUTONOMOUS)

SREE SAINATH NAGAR, A. RANGAMPET –517 102.

III B.Tech II Semester (SVEC-16) Mid-II Examinations, November, 2020

POWER SEMICONDUCTOR DRIVES (16BT60201)

(EEE)

Max. Marks: 30 | **Time: 2 Hours** | **Date: 17.11.2020 (AN)**

PART-A

Answer All Questions. All Questions Carry Equal Marks — **6 x 1 = 06 Marks**

		Question	CO
1.	**a)**	Why transistor is highly preferred in the chopper control circuits?	CO2
	b)	Why open loop control operation is not preferred for synchronous motor application?	CO1
	c)	"Regenerative braking is suitable for above rated speed". Justify the statement.	CO1
	d)	List out any two features of variable frequency control of induction motor.	CO1
	e)	Sketch the speed Vs torque characteristics of stator voltage control of induction motor.	CO1
	f)	Why synchronous motor doesn't have starting torque?	CO1

PART-B

Answer Any Three Questions. All Questions Carry Equal Marks — **3 x 8 = 24 Marks**

		Question	Marks	CO
2.	**a)**	With a neat block diagram, analyze closed loop speed control scheme of separately excited DC motor.	4M	CO2
	b)	A 220 V, 24 A, 1000 rpm, separately excited DC motor having an armature resistance of 2Ω is controlled by a chopper. The chopping frequency is 500 Hz and the input voltage is 230 V. Calculate the duty ratio for motor torque of 1.2 times rated torque at 500 rpm.	4M	CO4
3.		Analyze VSI controlled IM drives with different converter circuits. Also, explain why PWM inverter is preferable for VSI drives application.	8M	CO2
4.		Explain and derive the expression of slip speed and mechanical power of induction motor drives.	8M	CO1
5.		"A reciprocating pump in an industry requires closed-loop control operation". Suggest a suitable control scheme for a synchronous motor fed by a load commutated Inverter. Justify your suggestion with relevant proof.	8M	CO6

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SREE VIDYANIKETHAN Engineering College

Sree Vidyanikethan Engineering College
(AUTONOMOUS)
Sree Sainath Nagar, A. Rangampet –517 102.
III B.Tech. II Semester (SVEC-16) Mid-I Examinations February, 2020
POWER SEMICONDUCTOR DRIVES (16BT60201)
(EEE)

Max. Marks: 30 **Time: 2 Hours** **Date: 11.02.2020 (AN)**

Scheme of Evaluation

PART-A

Answer All Questions. All Questions Carry Equal Marks **6 x 1 = 6 Marks**

1.	a)	Function of power modulator in controlling of motor.	1M
	b)	Identifying a motor based on load torque proportional to square of speed.	1M
	c)	Constraints to be considered for variable and multi-motor speed drives.	1M
	d)	A factor decides the speed of separately DC motor – Two points	1M
	e)	Comparison of continuous and discontinuous operation of controlled rectifier.	1M
	f)	Identifying controlled rectifier for high rated DC motor, speed-torque characteristics.	1M

PART-B

Answer Any Three Questions. All Questions Carry Equal Marks. **3 x 8 = 24 Marks**

2.	a)	Mutli-quadrant operation with hoist load – Circuit diagram	4M
		Explanation of Mutli-quadrant operation with hoist load	2M
	b)	Expression of motor and dynamic torque of motor-load system	2M
3.		DC shunt motor – Braking Circuit diagram	2M
		DC shunt motor – Explanation	2M
		DC shunt motor – Plugging Circuit diagram	2M
		DC shunt motor – Explanation	2M
4.		Three phase full controlled rectifier - Circuit diagram	2M
		Three phase full controlled rectifier - Waveforms	3M
		Continuous conduction with speed-torque characteristics	2M
		Three phase full controlled rectifier - Explanation	1M
5.	a)	Single phase fully controlled rectifier expressions $V_o = \frac{2V_m}{\pi}\cos\alpha$ $V_a = E_b + I_a R_a$ $\frac{E_2}{E_1} = \frac{N_1}{N_2}$	3M

		(i) Firing angle = 29.3°	1M
		(ii) Firing angle = 120°	1M
		(iii)Speed = -893.2 rpm	1M
	b)	Circulating current mode – Dual converter circuit diagram	1M
		Expression	1M

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Course Coordinator

HOD

Sree Vidyanikethan Engineering College
(AUTONOMOUS)
Sree Sainath Nagar, A. Rangampet –517 102.

III B.Tech. II Semester (SVEC-16) Mid-II Examinations November, 2020
POWER SEMICONDUCTOR DRIVES (16BT60201)
(EEE)

Max. Marks: 30 **Time: 2 Hours** **Date: 17.11.2020 (AN)**

Scheme of Evaluation

PART-A

Answer All Questions. All Questions Carry Equal Marks **6 x 1 = 6 Marks**

1.	a)	Statement of transistor is preferred for chopper control.	1M
	b)	Statement of open loop control system is not preferred for synchronous motor.	1M
	c)	Justification for regenerative braking is suitable for above rated speed control.	1M
	d)	Statement of two features of variable frequency control of induction motor.	1M
	e)	Characteristics of speed Vs torque – Stator voltage control of induction motor.	1M
	f)	Justification of synchronous motor doesn't have starting torque.	1M

PART-B

Answer Any Three Questions. All Questions Carry Equal Marks. **3 x 8 = 24 Marks**

2.	a)	Separately excited DC motor – Closed loop control circuit diagram	3M
		Explanation of closed loop control operation	1M
	b)	$\frac{E_{b1}}{E_{b2}} = \frac{N_2}{N_1}$ $T_m = 1.2T$ $I_{am} = 1.2I$ $V_a = E_{b2} + I_{am}R_a$ $V_a = \delta V_s$	2M
		E_{b2} = 86 V I_{am} = 28.8 A V_a = 143.6 V δ = 0.624	2M
3.		VSI controlled IM drive – Circuit diagram	2M
		VSI with PWM controlled IM drive – Circuit diagram	2M
		VSI controlled IM drive – Waveform	2M
		VSI controlled IM drive – Explanation	2M

4.		Expression of slip speed of IM	2M
		Explanation of slip speed of IM	2M
		Expression of mechanical power of IM	2M
		Explanation of mechanical power of IM	2M
5.		Load commutated inverter – Circuit diagram	3M
		Load commutated inverter – Waveforms	2M
		Closed loop operation and explanation	3M

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Course Coordinator

HOD

SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)

Sree Sainath Nagar, Tirupati

MARKS AWARD SHEET

Name of the Faulty Member **E. PARIMALASUNDAR**

III year BTECH II Sem , Mid Examination **2019- 2020**

(Notification Name :III B.Tech II Semester (SVEC-16) Mid- I Examinations, February - 2020)

Branch **BTECH-EEE Section - B** Subject With Code **16BT60201 - Power Semiconductor Drives** Max. Marks **30**

Date of Exam : 11-02-2020

Sl. No	Roll No.	Total Marks in Figures	Total Marks in Words
1	17121A0266	24	TWO FOUR
2	17121A0268	12	ONE TWO
3	17121A0269	A	ABSENT
4	17121A0270	24	TWO FOUR
5	17121A0271	16	ONE SIX
6	17121A0272	18	ONE EIGHT
7	17121A0273	28	TWO EIGHT
8	17121A0274	23	TWO THREE
9	17121A0275	15	ONE FIVE
10	17121A0276	24	TWO FOUR
11	17121A0277	26	TWO SIX
12	17121A0278	23	TWO THREE
13	17121A0279	20	TWO ZERO
14	17121A0280	A	ABSENT
15	17121A0281	28	TWO EIGHT
16	17121A0282	22	TWO TWO
17	17121A0283	22	TWO TWO
18	17121A0284	24	TWO FOUR
19	17121A0285	25	TWO FIVE
20	17121A0286	27	TWO SEVEN
21	17121A0288	16	ONE SIX
22	17121A0289	18	ONE EIGHT
23	17121A0290	13	ONE THREE
24	17121A0291	22	TWO TWO
25	17121A0292	12	ONE TWO
26	17121A0293	17	ONE SEVEN
27	17121A0294	00	ZERO ZERO
28	17121A0295	23	TWO THREE
29	17121A0296	23	TWO THREE
30	17121A0297	27	TWO SEVEN
31	17121A0298	26	TWO SIX
32	17121A0299	18	ONE EIGHT
33	17121A02A0	23	TWO THREE
34	17121A02A1	23	TWO THREE
35	17121A02A2	20	TWO ZERO
36	17121A02A3	15	ONE FIVE
37	17121A02A4	06	ZERO SIX
38	17121A02A5	27	TWO SEVEN
39	17121A02A6	22	TWO TWO
40	17121A02A7	20	TWO ZERO

Sl. No	Roll No.	Total Marks in Figures	Total Marks in Words
41	17121A02A8	29	TWO NINE
42	17121A02A9	29	TWO NINE
43	17121A02B0	23	TWO THREE
44	17121A02B1	23	TWO THREE
45	17121A02B2	26	TWO SIX
46	17121A02B3	27	TWO SEVEN
47	17121A02B4	15	ONE FIVE
48	17121A02B5	21	TWO ONE
49	17121A02B6	21	TWO ONE
50	17121A02B7	26	TWO SIX
51	17121A02B8	28	TWO EIGHT
52	17121A02B9	12	ONE TWO
53	17121A02C0	16	ONE SIX
54	17121A02C1	20	TWO ZERO
55	17121A02C2	22	TWO TWO
56	17121A02C3	12	ONE TWO
57	17121A02C4	04	ZERO FOUR
58	17121A02C5	20	TWO ZERO
59	17121A02C6	19	ONE NINE
60	17121A02C7	15	ONE FIVE
61	17121A02C8	25	TWO FIVE
62	17121A02C9	28	TWO EIGHT
63	17121A02D0	20	TWO ZERO

Date and Time of Entry : **18-02-2020 03:49 PM**

MARKS POSTED BY

Name of the Faculty Dr. E. Parimalasundar Signature

MARKS VERIFIED BY

Name of the Faculty Dr. K. Suresh Signature

SREE VIDYANIKETHAN ENGINEERING COLLEGE (AUTONOMOUS)

Sree Sainath Nagar, Tirupati

MARKS AWARD SHEET

Name of the Faulty Member **E. PARIMALASUNDAR**

III year BTECH II Sem , Mid Examination **2019- 2020**

(Notification Name :III B.Tech II Semester (SVEC-16) Mid-II Examinations, November - 2020)

Branch **BTECH-EEE Section - B** Subject With Code **16BT60201 - Power Semiconductor Drives** Max. Marks **30**

Date of Exam : 17-11-2020

Sl. No	Roll No.	Total Marks in Figures	Total Marks in Words
1	17121A0266	23	TWO THREE
2	17121A0268	20	TWO ZERO
3	17121A0269	A	ABSENT
4	17121A0270	18	ONE EIGHT
5	17121A0271	14	ONE FOUR
6	17121A0272	18	ONE EIGHT
7	17121A0273	22	TWO TWO
8	17121A0274	16	ONE SIX
9	17121A0275	15	ONE FIVE
10	17121A0276	24	TWO FOUR
11	17121A0277	A	ABSENT
12	17121A0278	20	TWO ZERO
13	17121A0279	A	ABSENT
14	17121A0280	20	TWO ZERO
15	17121A0281	24	TWO FOUR
16	17121A0282	23	TWO THREE
17	17121A0283	16	ONE SIX
18	17121A0284	24	TWO FOUR
19	17121A0285	A	ABSENT
20	17121A0286	27	TWO SEVEN
21	17121A0288	18	ONE EIGHT
22	17121A0289	16	ONE SIX
23	17121A0290	14	ONE FOUR
24	17121A0291	24	TWO FOUR
25	17121A0292	19	ONE NINE
26	17121A0293	18	ONE EIGHT
27	17121A0294	A	ABSENT
28	17121A0295	17	ONE SEVEN
29	17121A0296	A	ABSENT
30	17121A0297	24	TWO FOUR
31	17121A0298	23	TWO THREE
32	17121A0299	17	ONE SEVEN
33	17121A02A0	16	ONE SIX
34	17121A02A1	16	ONE SIX
35	17121A02A2	20	TWO ZERO
36	17121A02A3	16	ONE SIX
37	17121A02A4	13	ONE THREE
38	17121A02A5	A	ABSENT
39	17121A02A6	21	TWO ONE
40	17121A02A7	23	TWO THREE

Sl. No	Roll No.	Total Marks in Figures	Total Marks in Words
41	17121A02A8	26	TWO SIX
42	17121A02A9	27	TWO SEVEN
43	17121A02B0	21	TWO ONE
44	17121A02B1	15	ONE FIVE
45	17121A02B2	16	ONE SIX
46	17121A02B3	23	TWO THREE
47	17121A02B4	25	TWO FIVE
48	17121A02B5	18	ONE EIGHT
49	17121A02B6	15	ONE FIVE
50	17121A02B7	04	ZERO FOUR
51	17121A02B8	26	TWO SIX
52	17121A02B9	15	ONE FIVE
53	17121A02C0	16	ONE SIX
54	17121A02C1	12	ONE TWO
55	17121A02C2	A	ABSENT
56	17121A02C3	12	ONE TWO
57	17121A02C4	03	ZERO THREE
58	17121A02C5	24	TWO FOUR
59	17121A02C6	18	ONE EIGHT
60	17121A02C7	A	ABSENT
61	17121A02C8	16	ONE SIX
62	17121A02C9	25	TWO FIVE
63	17121A02D0	14	ONE FOUR

Date and Time of Entry : **24-11-2020 02:52 PM**

MARKS POSTED BY

Name of the Faculty Dr. E. Parimalasundar Signature

MARKS VERIFIED BY

Name of the Faculty Dr. K. Suresh Signature

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Sree Sainath Nagar, Tirupati – 517 102
Department of EEE

SVEC/EEE/2019-20/B13

24th February, 2020

CIRCULAR

Students of III B.Tech EEE whose marks are less than 12 in MID-I examinations are requested to attend Remedial Classes Scheduled from 01.03.2020 to 04.03.2020 for the following courses in Room No. 324.

PSD	:	Power Semiconductor Drives
PSA	:	Power System Analysis

Students are requested to attend the classes regularly failing which disciplinary action will be taken.

Encl.: Remedial Class Time Table.

HOD, EEE

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
Sree Sainath Nagar, Tirupati – 517 102
Department of EEE

SVEC/EEE/2019-20/B13

24th February, 2020

REMEDIAL CLASSES FOR WEAK / SLOW LEARNERS

Year/Semester : III B.Tech. II Semester (SVEC-16)

Academic Year : 2019-2020

Test considered for identifying Weak Learners : Mid -I

Date & Time of Remedial Classes : 01.03.2020 to 04.03.2020; 2.30 PM to 4.30 PM

Unit to be Covered : I,II

Time Table

Room No: 324

Day	Date	02.30 – 03.30 PM	03.30 – 04.30 PM
Monday	01.03.2020	PSD	PSD
Tuesday	02.03.2020	PSA	PSA
Wednesday	03.03.2020	PSA	PSD
Thursday	04.03.2020	PSD	PSA

PSD : Power Semiconductor Drives : Mr. B. Hemanth Kumar Reddy

PSA : Power System Analysis : Dr. G. Srinivasan

HOD, EEE

SREE VIDYANIKETHAN Engineering College (Autonomous)

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Sree Sainath Nagar, Tirupati – 517 102

Department of EEE

SVEC/EEE/2019-20/B13

8th December,2020

REMEDIAL CLASSES IMPACT ANALYSIS

Year/Semester : III B.Tech. II Semester (SVEC-16)

Name of the Course : POWER SEMICONDUCTOR DRIVES (16BT60201)

Academic Year : 2019-2020

S.No.	ROLL No.	NAME OF THESTUDENT	Marks in Mid-1 (Max. Marks: 30)	Marks in Mid-2 (Max. Marks: 30)
1	17121A0235	CHIDIPUDI MANOJ KUMAR REDDY	A	24
2	17121A0269	HARIJANA VINOD KUMAR	A	A
3	17121A0280	KADEMANE BASAVARAJU	A	20
4	17121A0294	KOMARI ASHOK KUMAR	0	A
5	17121A02A4	LIKITH KODEDHALA	6	13
6	17121A02C4	MUDDAPATI CHANDRA KIRAN	4	3
7	18125A0204	ARASURU MADHAVI	A	A
8	18125A0207	BUGIDE SUJATHA	A	A
9	18125A0219	KAMPA PRAVEEN KUMAR	9	12
10	18125A0231	MAMANI SAI GANESH	A	23
11	18125A0241	PARLAPALLI REDDY PRATHAP	9	5
12	18125A0243	PATNAM SAI KIRAN	8	12

Analysis

No. of Slow Learners identified : 12

No. of students attended Remedial Classes (90% Attendance) : 06

No. of students secured Marks < 40% : 06

No. of students secured Marks Between 40% and 60% : 03

No. of students secured Marks ≥ 60% : 03

CO-ORDINATOR
REMEDIAL CLASSES

HOD, EEE

Book-Post

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Sree Sainath Nagar, Tirupati-517 102

Department of Electrical and Electronics Engineering

Attendance and Progress Report

To

Sri/Mrs.	**C NEELAKANTA REDDY**		**Roll No.**	**17121A0233**
P/O	CHAPPIDI VENKATA RAMANA REDDY			
Door No.	#A/12		**Name**	CHAPPIDI VENKATA RAMANA REDDY
Street	SARVARAJU PETA			
Town	YERRAGUNTLA		**Year**	III Year
Mandal	YERRAGUNTLA			
District	Kadapa	516309	**Semester**	II
	Andhra Pradesh			
			Branch	EEE

Dear Parent / Guardian

The details of attendance of your Son / Daughter studying in **III Year** B. Tech - **II** Semester, EEE up to **31/07/2020** is as follows

Attendance

Attendance particulars from	**16/12/2019**	**to**	**31/07/2020**
No. of Classes Conducted	**358**		
No. of Classes attended	**301**		
Percentage of Attendance	**92.70**		

As per the SVEC (Autonomous) regulations, a student has to put in a minimum of 75 % attendance in aggregate. A student securing less than 65 % attendance will be detained and has to repeat the Semester when offered next by paying the tuition fee again. You are requested to counsel your ward accordingly.

Signature of the Counselor

Name Dr. I. Kumara Swamy

Mobile 9985015365

Please update the contact address, Mobile / Telephone numbers etc. with us.

Roll No.: 17121A0233
Name: CHAPPIDI VENKATA RAMANA REDDY

Exam: III Year, II-Sem Mid-II

S. No	Subject	Maximum Marks	Marks Obtained
1	Management Science	30	**15**
2	Power Semiconductor Drives	30	**27**
3	Power System Analysis	30	**20**
4	Programmable Logic Controllers	30	**Not Applicable**
5	Object Oriented Programming	30	**Not Applicable**
6	Computer Networks	30	**26**
7	Design and Estimation of Electrical Systen	30	**18**
8	Digital Signal Processing for Electrical Eng	30	**Not Applicable**
9	Electrical Machine Design	30	**Not Applicable**
10	HVDC Transmission	30	**Not Applicable**
11	Advanced Control Systems	30	**Not Applicable**
12	High Voltage Engineering	30	**23**
13	Special Electrical Machines	30	**Not Applicable**
14	Power Electronics and Drives Lab	50	**45**
15	Power System – I Lab	50	**40**

Academic performance till date

Year	Semester	Maximum Semester marks	Maximum marks for Passed subjects	Marks obtained in passed subjects	Percentage*	No. of subjects failed	Percentage Attendance
I Year	**I Sem**	**900**	**900**	**806**	**89.56**	**0**	**99.81**
I Year	**II Sem**	**900**	**900**	**775**	**86.11**	**0**	**93.97**
II Year	**I Sem**	**900**	**900**	**730**	**81.11**	**0**	**93.44**
II Year	**II Sem**	**900**	**900**	**687**	**76.33**	**0**	**91.56**
III Year	**I Sem**	**900**	**900**	**691**	**76.78**	**0**	**84.79**

* *Percentage of marks doesn't include failed subjects.*

Signature of Counselor

HOD, EEE

Name: Dr. I. Kumara Swamy
Mobile: 9985015365

Note:
There may be some discrepancies in the marks shown above due to manual entry. Please contact HOD, EEE / Counselor in the case of any discrepancies

Registered Post

SREE VIDYANIKETHAN ENGINEERING COLLEGE

(Autonomous)

Sree Sainath Nagar, Tirupati-517 102

Department of Electrical and Electronics Engineering

Attendance and Progress Report

To

Sri/Mrs. **PEMIREDDY TIRUMALA REDDY**
P/O PEMIREDDY PAVAN
Door No. #.
Street POONDLACHENNUPALLI
Town BADVELU
Mandal B.MATAM
District Kadapa 516228
Andhra Pradesh

Roll No. **17121A02D8**

Name PEMIREDDY PAVAN

Year III Year

Semester II

Branch EEE

Dear Parent / Guardian

The details of attendance of your Son / Daughter studying in **III Year** B. Tech - **II** Semester, EEE up to **29/02/2020** is as follows

Attendance

Attendance particulars from	16/12/2019 to 29/02/2020
No. of Classes Conducted	237
No. of Classes attended	154
Percentage of Attendance	64.98

As per the SVEC (Autonomous) regulations, a student has to put in a minimum of 75 % attendance in aggregate. A student securing less than 65 % attendance will be detained and has to repeat the Semester when offered next by paying the tuition fee again. You are requested to counsel your ward accordingly.

Since your son/ daughter has not put in a minimum of 75 % attendance, you are requested to meet the HOD, EEE on or before **11/3/2020**

K.S.R

Signature of the Counselor

Name Mr. K. Jyotheeswara Reddy

Mobile 9441097835

Please update the contact address, Mobile / Telephone numbers etc. with us.

Roll No.: 17121A02D8
Name: PEMIREDDY PAVAN

Exam: III Year, II-Sem Mid-I

S. No	Subject	Maximum Marks	Marks Obtained
1	Management Science	30	26
2	Power Semiconductor Drives	30	23
3	Power System Analysis	30	18
4	Programmable Logic Controllers	30	Not Applicable
5	Object Oriented Programming	30	Not Applicable
6	Computer Networks	30	12
7	Design and Estimation of Electrical Systen	30	Not Applicable
8	Digital Signal Processing for Electrical Eng	30	Not Applicable
9	Electrical Machine Design	30	23
10	HVDC Transmission	30	Not Applicable
11	Advanced Control Systems	30	Not Applicable
12	High Voltage Engineering	30	18
13	Special Electrical Machines	30	Not Applicable
14	Power Electronics and Drives Lab	50	45
15	Power System – I Lab	50	42

Academic performance till date

Year	Semester	Maximum Semester marks	Maximum marks for Passed subjects	Marks obtained in passed subjects	Percentage*	No. of subjects failed	Percentage Attendance
I Year	I Sem	900	900	718	79.78	0	94.66
I Year	II Sem	900	900	627	69.67	0	87.92
II Year	I Sem	900	900	666	74.00	0	82.69
II Year	II Sem	900	900	632	70.22	0	79.24
III Year	I Sem	900	900	670	74.44	0	78.70

* *Percentage of marks doesn't include failed subjects.*

Signature of Counselor

HOD, EEE

Name: Mr. K. Jyotheeswara Reddy
Mobile: 9441097835

Note:
There may be some discrepancies in the marks shown above due to manual entry. Please contact HOD, EEE / Counselor in the case of any discrepancies