Reg. No: ☐☐☐☐☐☐☐☐☐☐

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year II Semester Supplementary Examinations February-2022
BASIC ELECTRICAL ENGINEERING
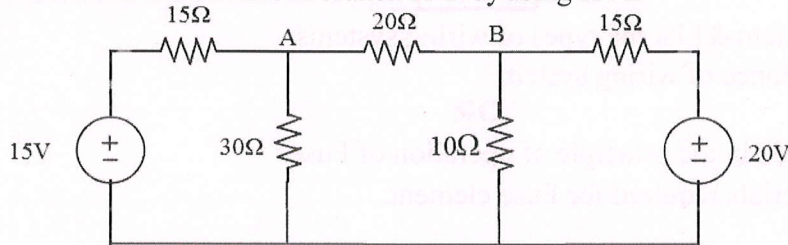(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

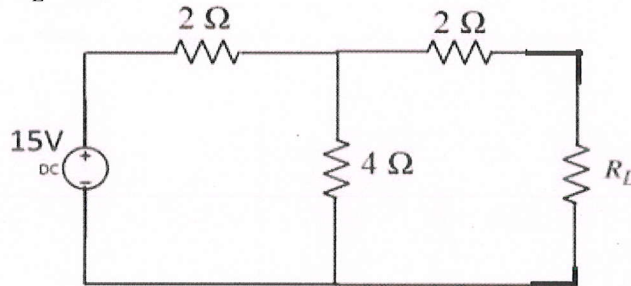1 a State and explain Kirchhoff's laws?   6M
   b Determine the current in branch A-B by using KVL   6M


OR

2 a State and Prove Maximum Power Transfer Theorem.   6M
   b Find load current by using Thevenin's theorem for the following circuit when   6M
      $R_L = 3\Omega$.

UNIT-II

3 a Derive an expression for the current and impedance for a series RL and RC circuit   8M
      excited by a Sinusoidally alternating voltage. Draw the phasor diagrams.
   b Define Admittance and impedance.   4M

OR

4 a Derive the voltage and current relations in three phase balanced circuits for star   7M
      connection.
   b Find the rms value for the following waveform.   5M
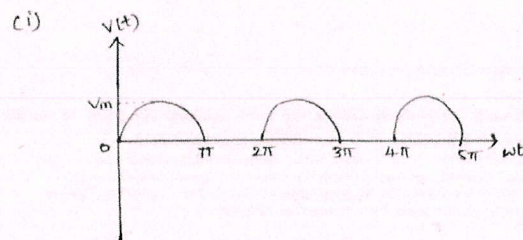
UNIT-III

5		List the various types of D.C. Generators and Explain in detail with neat sketch.	12M

OR

6	a	Derive the EMF equation of a D.C generator.	5M
	b	Explain Open Circuit Characteristics of D.C. generator with neat sketch.	7M

UNIT-IV

7	a	Explain the Working principle of single phase transformer.	6M
	b	Compare Core type &Shell type transformer.	6M

OR

8	a	Explain the Principle and Working of 3-Ø Alternator.	8M
	b	Distinguish between Salient and Non-Salient Pole rotors used in Alternator.	4M

UNIT-V

9	a	Define Wiring system &List the types of wiring systems.	8M
	b	What is the importance of wiring system?	4M

OR

10	a	What is Fuse &explain the principle of operation of Fuse.	6M
	b	What are the Materials required for Fuse element.	6M

*** END ***