SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. I Year I Semester Regular & Supplementary Examinations December/January-2024/2025
BASIC CIVIL & MECHANICAL ENGINEERING
(Common to CE, MECH, CSM, CIC, CAD, CCC, CAI & CIA)

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

*Note: Answer **PART-A** from pages **2 to 20** and **PART-B** from **21 to 39.**

PART-A (CIVIL)
(Answer all the Questions 5 x 1 = 5 Marks)

1	a	What are the interdisciplinary concepts in civil engineering?	CO1	L1	1M
	b	What are different forms of steel?	CO1	L1	1M
	c	Mention the types of levelling staff.	CO2	L1	1M
	d	Differentiate between true meridian and magnetic meridian.	CO2	L2	1M
	e	What are the reasons to build a tunnel?	CO3	L1	1M

(Answer all Three Units 3 x 10 = 30 Marks) (CIVIL)

UNIT-I

2	a	Write a detailed report on Building Construction.	CO1	L1	5M
	b	Describe about Transportation Engineering.	CO1	L2	5M

OR

3	a	Write about good qualities of cement.	CO1	L3	5M
	b	Explain the classification, qualities and constituents of a brick.	CO1	L5	5M

UNIT-II

4	a	Mention the various accessories in chain surveying and explain any two in detail?	CO2	L1	5M
	b	Convert Reduced Bearing (RB) into Whole Circle Bearing (WCB) i) N75°35'E ii) S39°20'W iii) S42°40'E iv) N59°55'W	CO2	L4	5M

OR

5	a	Define surveying. Mention the objectives of surveying.	CO2	L1	5M
	b	Calculate the back bearing from observed fore bearing for the following lines i) AB=55°34' ii) CD=159°53' iii) PQ=210°12' iv) RS=295°36'	CO2	L6	5M

UNIT-III

6	a	What are the purposes for constructing a dam?	CO3	L1	5M
	b	Write a short note on Hydrology.	CO3	L3	5M

OR

7	a	What are the various sources of water used in water supply schemes?	CO3	L1	6M
	b	What are the functions of Water Transport.	CO3	L1	4M

PART-B(MECHANICAL)

(Answer all the Questions 5 x 1 = 5 Marks)

1	f	Define Strength & Brittleness of a material.	CO1	L2	1M
	g	List out the factors affect the conductivity of the metals.	CO1	L1	1M
	h	Name the steps involved in making a casting process.	CO2	L1	1M
	i	What are the factors on which machining depends?	CO2	L1	1M
	j	List out the basic components of Robot.	CO3	L1	1M

(Answer all Three Units 3 x 10 = 30 Marks) ((MECHANICAL))

UNIT-IV

8	a	Draw the flow chart classifying engineering materials.	CO1	L1	5M
	b	Differentiate between metals and Nonmetals.	CO1	L2	5M

OR

9	a	The most preferable material for the Automotive Industry is Composites. Justify.	CO1	L2	5M
	b	Identify numerous applications of Composites.	CO1	L1	5M

UNIT-V

10	a	How do you classify the forming process and explain them.	CO2	L2	5M
	b	Mention the merits and demerits of forming process.	CO2	L2	5M

OR

11	a	Distinguish between fire tube boiler and water tube boiler.	CO2	L2	5M
	b	How do you classify the IC Engines?	CO2	L2	5M

UNIT-VI

12		Draw the layout of Diesel power plant and explain.	CO3	L2	10M

OR

13	a	Robots are superior to human. Justify.	CO3	L2	6M
	b	List out various applications of robots in detail.	CO3	L2	4M

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