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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR
(AUTONOMOUS)

B. TECH II Year I Semester (R16) Regular & Supplementary Examinations November 2018
ELECTRICAL AND MECHANICAL TECHNOLOGY
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Six Units 6 X 10 = 60 Marks)

PART-A
(ELECTRICAL TECHNOLOGY)

UNIT-I

- 1 Explain the construction and working principle of PMMC type instruments 10M

OR

- 2 Calculate the monthly electricity bill of a consumer who is having the following loads and its operating times are given in the table. Assume the cost of electricity is Rs.3.00/unit.

Sl.No	Name of the equipment	No. of loads	Power rating(W)	Operating time/day, Hours
1	Ceiling fan	5	80	6 hours each
2	Florescent lamp	3	40	5 hours each
3	Incandescent lamp	2	60	2 hours each
4	Jet pump	1	1.0 HP	1 hour
5	TV	1	100	10 hours
6	Washing machine	1	500	2Hours
7	Iron box	1	1000	30 minutes
8	Mixie	1	750	10 minutes
9	Air conditioner	1	1 HP	5 hours

10M

UNIT-II

- 3 With relevant diagrams, explain in detail about various types of fuses used in electrical wiring system. 10M

OR

- 4 What do you mean by MCB? List out the different types of MCBs used in electrical wiring system. How is it used for protection against over load and short circuit faults? 10M

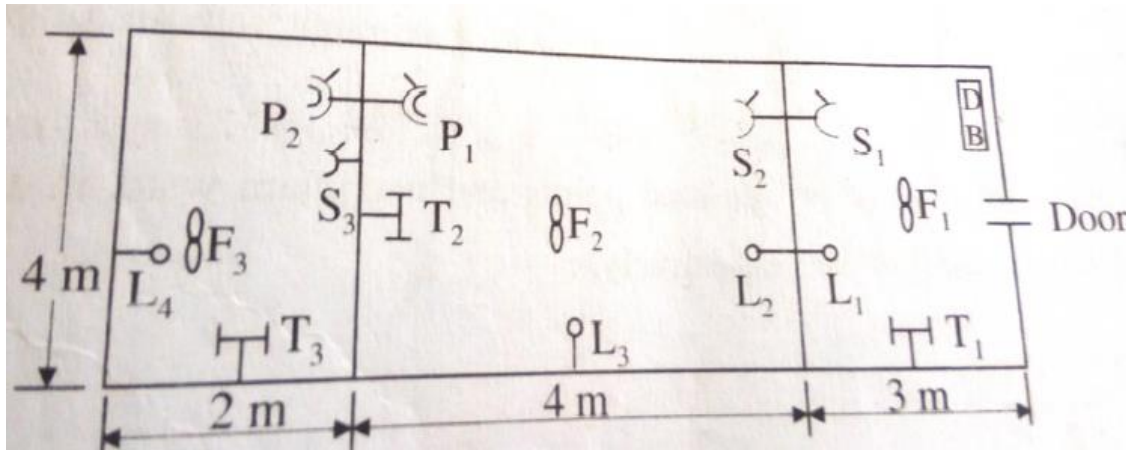
UNIT-III

- 5 What are the various points to be considered for testing and inspection of electrical domestic wiring system? Explain 10M

OR

- 6 The plan of a residential building is shown in figure. It is to be provided with PVC system of wiring. Estimate the no. of sub circuits required. Also estimate the size of the cables, main 10M

switch and distribution box. Assume any missing data.



PART-B
(MECHANICAL TECHNOLOGY)

UNIT-IV

- 7 Explain working of summer air conditioning system with neat sketch. 10M

OR

- 8 Explain Window AC and Split AC with neat sketch. 10M

UNIT-V

- 9 What are the various methods of transmitting mechanical power? And explain briefly. 10M

OR

- 10 Explain Quarter turn belt drive and belt drive with idler pulley with neat sketch. 10M

UNIT-VI

- 11 Explain working of Submerged arc Welding process with neat sketch. 10M

OR

- 12 Explain the following:
- What is Soldering? 2M
 - What is Brazing? 2M
 - What are the Equipment's used in Oxy- Acetylene welding 2M
 - What is welding? 2M
 - What are the main applications of welding process? 2M

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