

| | | | | | | | | | | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Roll No | | | | | | | | | | | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|



**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
MID TERM EXAMINATION - OCT 2023**

Semester : Semester VII - 2020

Course Code : EEE3010

Course Name : Sem VII - EEE3010 - Electrical Estimation and Costing

Program : B. TECH

Date : 31-OCT-2023

Time : 9:30AM - 11:00AM

Max Marks : 60

Weightage : 30%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. The drawing is the language of engineers, for proper Communication: People must use the same language, so that a particular word means the same thing to everyone. In engineering drawing, it is common practice to employ graphical symbols to denote the various accessories used. Draw the symbols of the below mentioned as per the Bureau of Indian Standards (BIS)..
 - a. D.C circuit, 110 V, two conductors of 125 mm² of aluminium.
 - b. A. C., three phase with neutral 50 Hz, 415 V.

(CO1) [Knowledge]
2. List out the various points that should be considered during execution of internal wiring work.

(CO1) [Knowledge]
3. Define the term distribution board as per the BIS and list out the types of DB's.

(CO1) [Knowledge]
4. A commercial building consists of following loads. Assume suitable power rating of each equipment as per the standards and Identify the number of sub circuits,
 - a. No. of Incandescent Lamp = 10
 - b. No. of ceiling fan = 10
 - c. No. of Three pin (5 amp) socket = 15
 - d. No. of Three pin (15 amp) socket = 5

(CO2) [Knowledge]
5. List out the various points to be considered in selecting the type of wiring.

(CO2) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(2 X 15 = 30M)

6. The Copper & Aluminum-Cables are two types of Cables that have wide applications in an industrial installation. The current carrying rating is determined by the conductor size and the thermal heating of the cable. The cable spacing, application and insulation materials are relevant to the dissipation of this heat. Summarize the difference between Copper Cables and Aluminum Cables with various Parameters, as per the BIS Standards.
7. Electrical power is transferred from generating stations to consumers at different voltage levels. Electrical power can be considered just like gas or water and same rule applies to its distribution i.e. proper pipeline and associated valves/switches. Electrical wiring is a proper calculation oriented process and wiring of every installation/facility varies according to its requirements and expectations. Discuss the various protection schemes that should be installed within a good electrical wiring system of a home.

(CO1) [Comprehension]

(CO2) [Comprehension]

PART C

ANSWER THE FOLLOWING QUESTION

(1 X 20 = 20M)

8. The Figure 2 shows the plan of small flat. The flat is to be provided with electrical connections. The positions of light and fan points and switch boards have been shown in the figure 2.
- Decide the number of sub-circuit and show these in the installation plan.
 - Calculate the size and length of wire required for the wiring installation.
 - Estimate the quantity of material, its cost and labour cost for teak wood batten wiring system. In figure 2 D1, D2, D3 represents doors.

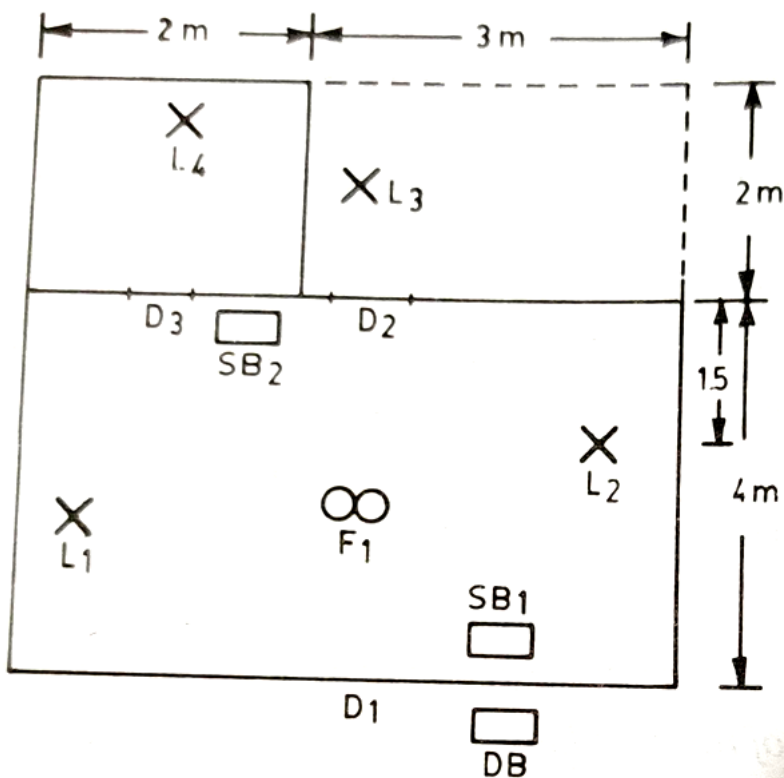


Fig. 2

(CO2) [Application]