



C09-EE-404

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BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2016

DEEE—FOURTH SEMESTER EXAMINATION

ELECTRICAL INSTALLATION AND ESTIMATION

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Draw a net sketch of incandescent lamp and name the parts. $1\frac{1}{2}\times 2$

2. Write the major steps involved for power load installation. $\frac{1}{2}\times 6$

3. List the important accessories used in installation of agricultural load. $\frac{1}{2}\times 6$

4. Write the major materials required for erecting the 150 kVA and 11 kV/400 volts distribution transformer. $\frac{1}{2}\times 6$

5. State the factors on which earth resistance depends. 1×3

6. Write the factors those decide the size of the conductor in transmission and distribution system. $1\frac{1}{2}+1\frac{1}{2}$

7. Explain load survey and state its uses in REC scheme. $1\frac{1}{2}+1\frac{1}{2}$

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- * 8. Specify the value of earth resistance to be maintained for the following electrical installations : 1×3
- (a) Large power station
- (b) Major substation
- (c) Small substation
9. State the role of a maintenance engineer. 3
10. Write the important steps in maintenance of power transformer. 3

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.
 (2) Each question carries **ten** marks.
 (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Write the merits and demerits of any four types of wiring system.
12. Draw wiring layout for big office building with necessary latest facilities like air conditioner, LCD projector, meeting hall with PA system, etc. 10
13. Draw the circuit incorporating main switch, energy meter, fuse cut-out, and distribution board, and write their specifications. 5+5
14. Explain plate earthing with a neat sketch and label the parts.
- * 15. Estimate the quantity of material required for laying LT distribution line for 1 km. The line feeds both 3-phase and single-phase including street lighting. Assume span of 60 m and one cut point with $6/1 \times 2.59$ sq. mm ACSR conductor on 8 m PSCC poles.

- * **16.** State the electrical act 2003 and rules regarding procedure to be adopted during execution of domestic electrical installation. 10
- 17.** (a) Write the main components in plinth mounted substation. 5
(b) Write the departmental procedure for obtaining a domestic service connection. 5
- 18.** (a) Write the major hazards that frequently occur in an industry. 5
(b) Explain the causes of industrial electrical accidents and write their remedies. 5
