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C09-EE-404

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BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2018

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. List the important accessories used in wiring. Service mains.
2. Draw the wiring diagram for godown wiring system.
3. Calculate the size of the cable for the given 3-phase, 3.5 HP, 440-V induction.
4. Write the main components of overhead line of transmission and mention their functions.
5. List the materials required for creeting the 66 k V A.
11kV/400 volts distribution transformer.
6. What is the purpose of earthing.
7. State the IE rules for the safety of industry.

8. Specify the value of earth resistance to be maintained for a given electrical installation.
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- (a) Large power station
 - (b) Major substation
 - (c) Small substation
9. Write the effect of electric current in the Human Body.
10. Write a short note on breakdown maintenance.

PART-B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each questions carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.
11. Prepare the quantity of materials for an agricultural pump set of 5.5kW, 3ph and 400V squirrel-cage induction motor. The distance between the LT pole and the pump set shed (room dimentions: 5m x 4m x 3m) is 15 metres. Assume any missed data.
12. Explain the construction and working of sodium-vapour lamp with a neat sketch.
13. (a) Write the merits and demerits of CTS and conduit wiring system.
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- (b) Draw the electrical wiring diagram of series-parallel wiring.
14. Draw a neat sketch plinth mounted substation and name the parts.
15. Draw a neat sketch of suitable earthing with necessary dimensions for a 10HP motor and prepare the quantity of materials.

- 16.** Describe the following tests, to test the electrical installation.
- (a) Continuity of wiring in an electrical installation.
 - (b) Insulation resistance between conductors.
- 17.** (a) Describe the procedure for polarity test with relevant sketches.
- (b) State the standards and code of practice followed by NEC in respect of electrical installations.
 - (c) Explain the necessity of testing of newly electrified installation.
- 18.** (a) Write the major hazards that frequently occur in any industry.
- (b) What are the precautions to be taken while, using a power transformer?

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