C14-EE-404

4464

BOARD DIPLOMA EXAMINATION, (C-14) MARCH / APRIL-2019 DEEE - FOURTH SEMESTER EXAMINATION

ELECTRICAL INSTALLATION & ESTIMATION

Time: 3 Hours]

[Max. Marks: 80

PART-A

10x3=30M

Instructions: 1) Answer all questions. Each question carries three marks.2) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1. State the uses of standard wire guage
- 2. Write the full names of the following

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a) DPDT b) PVC c) TRS

- 3. Write the factors to be considered while selecting the fuse element?
- 4. Find the conductor size for installation of 5HP,415V, 3ϕ , 50Hz, Induction motor whose efficiency is 92%?
- 5. Write any four general Indian electrical rules while preparing internal wiring estimation?
 - 6. What are the steps to estimate internal wiring installation?
 - 7. State the main components of OH distribution line and mention their functions?
 - 8. What is the purpose of earthing?
 - 9. Name the various tests to be conducted before giving supply to a small scale industry?
 - 10. State any three IE rules for industrial safety?

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PART-B

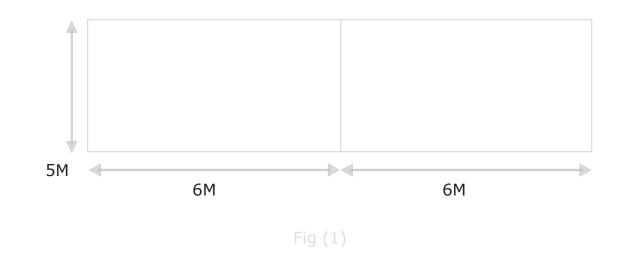
10x5=50M

- *Instructions*: 1) Answer any *five* questions. Each question carries **ten** marks.
 - 2) Answer should be comprehensive and the criteria for valuation is the content but not the lenght of the answer.2) Assume missing data if any
 - 3) Assume missing data if any

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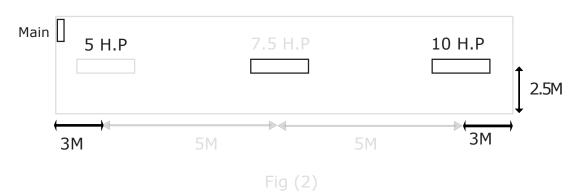
- What are the various types of electrical wiring system? Explain about any one type
 3M+7M
- 12. An irrigation surface type pump set of 7.5 kW is to be installed at a distance of 15 m from a 3-phase, 415 V distribution line.
 - a) List the material required for the service main.
 - b) Design the specification of the service main.
 - c) Draw the wiring diagram from distribution pole to the motor pump set.
 - d) Design the specification of the materials required to make the wiring installation.
 4x2¹/₂M
- 13. Estimate the quantity of material required for two rooms of size 6m x 5m x 3.5m as shown in below fig(a) which are to be wired from 1-phase supply with a provision for 2 lamps (60 W) one fan (80 W) two 5 A sockets (100 W) and 1 power socket 15A (1000W).

Draw the installation plan for CTS system. Assume missing data if any.



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 Draw the wiring layout and prepare the estimate for Metal suface conduit system of wiring for a work shop/electrical laboratory of size 16M x 5M x3.5M as shown in below fig.



- 15. Estimate the material required for a pipe earthling with neat sketch.
- 16. Estimate the material required for a plinth mounted sub station with the help of a neat sketch.
- Calculate the number of various insulators needed for the erection of 1000 m, 3-phase, 11 kV over head line with 2 angle points and two turning points. Assume the span as 70 meters.
- 18. With the help of neat sketch explain about any four tests to be conducted before energizing the new electrical installation.

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