

Total No. of printed pages = 2

EE 1818 PE 64

Roll No. of candidate

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2023

B.Tech. 8th Semester (Regular) End-Term Examination

INDUSTRIAL ELECTRICAL SYSTEMS

(New Regulation w.e.f. 2017-18 & New Syllabus w.e.f. 2018-19)

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *four* from the rest.

1. (a) Draw SLD symbol of followings : (5)
- (i) Flexible Conductor
 - (ii) Fault
 - (iii) Proposed Cable
 - (iv) Ground
 - (v) Frame Connection
- (b) Define the following (single sentence) (5)
- (i) MCB
 - (ii) PCC
 - (iii) ELCB
 - (iv) ECC
 - (v) PLC
2. (a) Design a UPS system for a college/school with 20 classrooms and Backup of 4 hours. Estimate any missing data. (10)
- (b) Explain in detail the working of Diesel Generator Systems. (5)

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3. (a) Explain the need of Automation. Also explain the benefits of automation. (8)
(b) Draw and explain the PLC Block Diagram along with various components. (7)
4. (a) State the Laws of Illumination and hence explain the principle of good lighting. (10)
(b) Which type of motors are best suited for running Metro's Trains? Give reasons for your answer. (5)
5. (a) Explain the process of making SLD with an appropriate polyphase example. (10)
(b) Explain the various Indian Standard Rules of Earthing. (5)
6. (a) A three phase load of 900 kw at 415 volt, 50 Hz is running at a power factor of 0.4 lagging. Find the capacitance required per phase to improve the power factor to 0.95 lagging. (10)
(b) What are the benefits of a better power factor for an industry and how industry can achieve good power factor? (5)
7. Write short notes on the followings (3 × 5 = 15)
(a) UPS
(b) DoD
(c) Tariff
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