

**Code No: 157CB****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, February/March - 2022****INDUSTRIAL ELECTRICAL SYSTEMS****(Electrical and Electronics Engineering)****Time: 3 Hours****Max. Marks: 75**

**Answer any five questions**  
**All questions carry equal marks**

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- 1.a) What is an electric shock? What should you do if someone has had an electric shock? Explain.
- b) Explain in detail the location of switches and outlets used in the LT system. [7+8]
- 2.a) Is it necessary to use a fuse along with an MCB? How MCBs are different from circuit breakers used in power systems?
- b) Write a short note on the Tariff structure. [8+7]
- 3.a) What is the difference between residential and commercial electrical systems? Explain.
- b) How do you decide the rating of the main switch? Explain it with an example. [7+8]
- 4.a) Discuss about the various factors to be considered while deciding lighting scheme in a commercial building.
- b) What is the function of a distribution board? And what are the protection devices installed in the distribution board? [8+7]
5. Explain the design of a lighting scheme for a residential and commercial premise with a suitable example. [15]
- 6.a) What are the various types of light sources available? Explain about the operation of any two lighting sources.
- b) Explain the functional differences between LED and CFL. [9+6]
- 7.a) What is the difference between MCC and PCC panels?
- b) Write the significance of power factor correction Industrial Electrical Systems. How can it be improved? Explain about any one method. [7+8]
- 8.a) List out the advantages and disadvantages of DG systems with respect to other types of backup scheme
- b) Explain the working of offline, online, and line interactive UPS with block diagrams. [7+8]

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