

Code No: 157CB

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, July/August - 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. Explain the following types of switches in detail:  
a) Surface switch                      b) Flush switch                      c) Ceiling switch  
d) Pull switch                              e) Push button switch.                      [15]
- 2.a) Explain the working of Miniature Circuit breaker along with its uses.  
b) List the various Electrical safety measures that need to be taken at work place hazardous systems.                      [8+7]
- 3.a) How do you fix size of various wires usage in residential buildings?  
b) Explain various types of earthing systems.                      [8+7]
4. Explain the following types of internal wiring:  
a) Cleat wiring                      b) Wooden casing and capping wiring                      c) PVC sheath wiring  
d) Metal sheathed wiring                      e) Conduit wiring.                      [15]
5. Explain the following terms with respect to illumination:  
a) Luminous flux                      b) Radiant Efficiency                      c) Plane and Solid angle  
d) Luminous intensity                      e) Candle Power.                      [15]
- 6.a) Explain the various types of Lighting schemes.  
b) The illumination at a point on a working plane directly below the lamp is to be 50 lumens/m<sup>2</sup>. The lamp gives 150 CP uniformly below the horizontal plane. Determine:  
i) The height at which lamp is suspended. ii) The illumination at a point on the working plane 3 m away from the vertical axis of the lamp.                      [8+7]
- 7.a) Explain how static capacitor and synchronous condenser and phase advancers are helpful in improving Power factor.  
b) List the counter measures taken from lighting protection.                      [8+7]
8. Write short notes on the following:  
a) D.G systems  
b) Selection of UPS and battery banks.                      [7+8]

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