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Question Paper Code: 37034

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Seventh Semester

Electrical and Electronics Engineering

01UEE704 - ELECTRIC POWER UTILIZATION AND ENERGY CONSERVATION

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the disadvantages of electric traction?
2. Define the term braking.
3. State Lambert's cosine law.
4. What is meant by luminance?
5. What are the essential properties of resistance heating element?
6. Compare DC welding and AC welding.
7. What is meant by solar collector? Mention its types?
8. What is meant by solar energy?
9. Define power coefficient in wind energy conversions.
10. What are the features of VAWT?

PART - B (5 x 16 = 80 Marks)

11. (a) Illustrate the four quadrant operation of an electric drive. (16)

Or

- (b) What are the various types of electric braking used in traction? Discuss in detail. (16)

12. (a) (i) Discuss the various methods of lighting calculations. (8)
- (ii) Explain the principle of operation of fluorescent tube. (8)
- Or
- (b) Explain the principle of operation and working of a mercury vapour lamp. (16)
13. (a) Discuss in details about any two types of resistance welding. (16)
- Or
- (b) With neat sketch, explain the process of resistance heating. (16)
14. (a) Write short notes on different types of solar energy collectors with neat diagrams. (16)
- Or
- (b) Explain with neat sketch, solar radiation geometry. (16)
15. (a) With a neat diagram, explain how wind energy can be converted into electrical energy. (16)
- Or
- (b) Explain in detail about wind energy conversion system. (16)
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