

B.Tech IV Year II Semester (R13) Advanced Supplementary Examinations July 2017

DESIGN OF ELECTRICAL SYSTEMS

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What are design aspects of lighting design?
 - (b) What is meant by coefficient of utilization?
 - (c) Mention the criteria for selection of electrical drives.
 - (d) List out the switchgear elements.
 - (e) Mention the types of system earthing.
 - (f) What are the protective measures in TT systems?
 - (g) State air terminations.
 - (h) Explain the theory of lightning flash.
 - (i) What is meant by depreciation?
 - (j) State time value of money.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Explain the importance of building services in the electrical systems design. How are building services classified, explain briefly?

OR

- 3 Explain in detail short hand method for lightning design.

UNIT – II

- 4 Explain the selection of transformer substation.

OR

- 5 Write a short note on the selection of circuit breakers in power system fault calculations.

UNIT – III

- 6 What is earth leakage protection? Explain.

OR

- 7 What are the selection criteria for system earthing? What are the methods of reducing earth resistance?

UNIT – IV

- 8 Explain the protection methods and risk in lightning protection.

OR

- 9 With neat sketch, explain the rolling sphere method.

UNIT – V

- 10 Write short notes on single payment compound amount (SPCA).

OR

- 11 Explain after tax analysis and tax considerations.
