1312

Code : 15EE52T

Register Number | | | | | | | | | | |

V Semester Diploma Examination, Nov./Dec. 2018

TRANSMISSION DISTRIBUTION & UTILIZATION

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part – **A**, each question carries **5** marks.
(ii) Answer any **seven** full questions from Part – **B**, each question carries **10** marks.

PART – A

1. List any 5 main components of overhead lines. **5**
2. Draw a neat schematic diagram of typical AC power supply and label. **5**
3. List the main components of HVDC transmission. **5**
4. Explain in brief AC primary distribution system. **5**
5. Compare Outdoor and Indoor substations. **5**
6. List the essential material requirements for making heating elements. **5**
7. Explain the principle of Arc welding. **5**
8. Define Electroplating. List the applications of Electroplating. **5**
9. Explain in brief the Indirect lighting scheme. **5**

PART – B

10. (a) State the advantages and disadvantages of corona. **5**
    (b) Explain transportation of conductors in transmission lines with a neat diagram. **5**

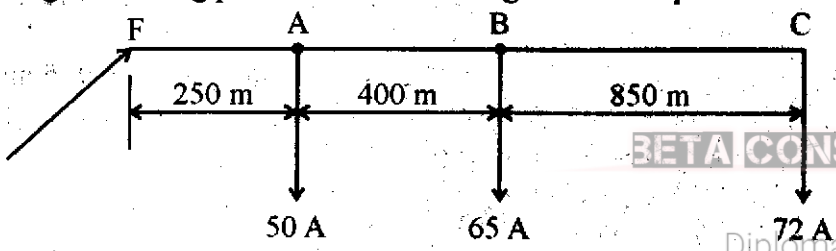
11. (a) Explain various parts of underground cable. **5**
    (b) A load of 4 MW at 11 kV is being received from a single phase transmission line at load PF of 0.9 lagging. If the resistance and reactance of each line is 0.018 Ω and 0.02 Ω respectively, calculate :
    (i) Sending end voltage Vs
    (ii) % Regulation **5**

12. (a) State the advantages of Inter connected system in large power stations. 5

(b) Write a neat sketch of duplicate bus bar system used in substations and label the parts. 5

13. (a) Distinguish between Feeder, Distributor and Service main. 4

(b) A two wire DC distributor 1500 m long and fed at one end is loaded as shown in the following fig. The total resistance of the distributor is 0.025 Ω. Calculate voltage at feeding point F when the voltage at the end point C is to be 220 V. 6



14. (a) What is distribution automation ? State the objectives of distribution automation. 5

(b) State the limitations of core type induction furnace. 5

15. (a) With a neat sketch explain the construction and working of high frequency core less induction furnace. 7

(b) State the advantages of core less induction furnace. 3

16. (a) With a neat sketch explain seam welding. 6

(b) Explain the principle of operation of microwave heating. 4

17. With a neat sketch explain vapour compression process in refrigerators. 10

18. (a) State the laws of illumination. Write the equation for illumination at a point. 5

(b) List any 5 desirable properties of refrigerants. 5

19. (a) Explain construction and working of sodium vapour lamp. 6

(b) It is required to provide illumination of 100 lux for a workshop measuring 30 m × 15 m. Calculate the total wattage of power required, assuming

depreciation factor = 0.8

coefficient of utilization = 0.4

efficiency of lamp = 14 lumens/watt 4