Total No. of Questions : 8] *[Total No. of Printed Pages : 1*

Roll No .....

EE-403 (GS)

B.E. IV Semester Examination, June 2020

Grading System (GS)

Power System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions
ii) All questions carry equal marks.

1. A three phase 4 wire system is used for lightning (i.e. cos φ = 1). Compare the amount of conductor material required with that needed for a 2 wire d.c. system with same lamp voltage. Assume the same losses and balanced load. The neutral wire has half the cross section of the outers.

2. Explain.
   i) Radial system
   ii) Ring main system
   iii) Inter connected system

3. Discuss the technology of transmitting large amount of power over long distances by means of HVDC. What are the advantages and difficulties of HVDC transmission as compared to the usual 3-phase A.C. transmission.

4. a) Draw a sectional view of 11 kV H.T cable.
   b) Describe different parts of cable.

5. What is a substation? How are sub-stations classified? Draw layout of a sub-station.

6. A 400V, 3-phase 4-wire system has the loads 6–j8, 6+j0 and 4+j3 Ω connected in star. Find the line currents and total power of the system.

   OR

   a) Explain ACSR conductor.
   b) Drive the A, B, C, D constant in a medium line using pie model.

7. What is the necessity of grading of cables? Explain capacitance and inter sheath grading.

   OR

   Explain how voltage is kept constant at load side by controlling the Reactive Power?

8. Write short notes (any two)
   a) Corona
   b) Series and shunt compensation
   c) String charts
   d) Ferranti effect

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