[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

15633

M. Tech 1st Semester Examination

EHVAC Transmission

EE1-515(b)

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

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all, select one question from each sections A, B, C and D. Section E is compulsory.

SECTION - A

1. (a) Discuss mechanical consideration in design of EHV-AC line. (10)

   (b) Discuss tower configurations for an EHV-AC-transmission. (10)

2. (a) What are circuit breakers? List type of circuit breakers used for EHVAC. (10)

   (b) What is need for transmitting electric energy by EHVAC. (10)

SECTION - B

3. (a) What is Audible Noise? How is the noise generated and what are its characteristics. (10)

   (b) Explain corona loss formulae and explain each one. (10)

4. (a) Discuss in detail about the modes of propagation of radio interference waves in 3-phase transmission line? (10)

   (b) What are the limits of audible noise. (10)

[P.T.O.]

SECTION - C

5. (a) Explain the procedure to calculate the electrostatic field of a double circuit 3-phase AC line is computed. (10)

   (b) What are the biological effects of electrostatic field. (10)

6, (a) What do you mean by capacitance of long object under transmission line. (10)

   (b) How electrostatic fields field can be measured. (10)

SECTION - D

7. (a) List the dangers resulting from over voltage. (10)

   (b) Define different type of surge arresters. (10)

8. (a) What is the difference between series and shunt compensation? (10)

   (b) Explain various static VAR compensators for reactive power control in EHV systems. (10)

SECTION - E

9. (a) What are different cable insulating materials?

   (b) What is bundle conductor?

   (c) Define the term EHVAC?

   (d) How the steady state limit can affect design of EHV line?

   (e) What are temperature effects on conductor?

   (f) Define corona current?

   (g) Define the term voltage stability?

   (h) Define different line parameters?

   (i) Define the term TCSC?

   (j) Define what do you mean by surface voltage gradient? (2×10=20)