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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH /APRIL-2019

DEEE - FIFTH SEMESTER EXAMINATION

POWER SYSTEMS-II (T&D)

Time: 3Hours]

[Max.Marks:80

PART-A

10x3=30M

Instructions: 1) Answer **all** questions and each question carries **three** marks.
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) State any two merits and two demerits of D.C Transmission.
- 2) Compare solid and stranded conductors in three aspects.
- 3) State and briefly explain skin effect.
- 4) List the major components of H.V.D.C system.
- 5) State the advantages and disadvantages of R.C.C poles.
- 6) Compare pin and suspension type insulators in any three aspects.
- 7) Compare over head lines and under ground cables in any six aspects.
- 8) State the functions of substation.
- 9) Classify the distribution systems on the basis of number of wires.
- 10) Compare radial and ring main system.

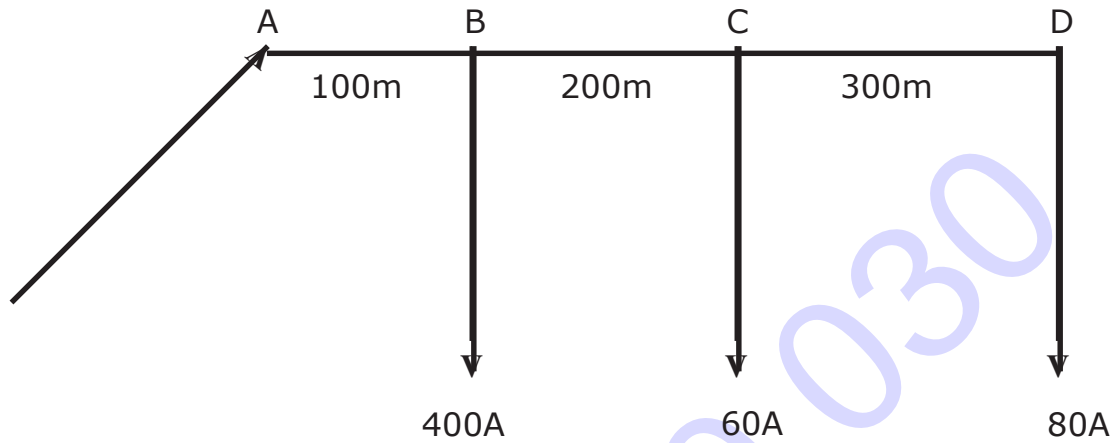
PART-B

5x10=50M

Instructions: 1) Answer any **five** questions. Each question carries **ten** marks.
2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

- 11) What are the effects of corona in transmission lines and explain the methods of reducing corona?
- 12) A single phase line is transmitting 1.15MW power to a load at 11KV at 0.8 p.f lagging. It has a total resistance of 2Ω and a loop reactance of 3Ω . Determine
 - (i) The voltage at the sending end
 - (ii) Percentage Regulation
 - (iii) Transmission efficiency
- 13) a) Explain Ferranti Effect with help of vector diagram
b) Explain about feeders, distributors and service mains
- 14) Derive an expression for sag of an overhead transmission line, when the supports are at equal heights?
- 15) An insulator string consists of 3- units, each having a safe working voltage of 16 kV. The ratio of self capacitance to shunt capacitance of each unit is 8:1.
 - i) Find the maximum safe working voltage of string.
 - ii) Find the string efficiency
- 16) a) Classify the cables on the basis of
 - i) Voltage
 - ii) No.of conductors.
b) Obtain expression for insulation resistance of a under ground cable.
- 17) Draw the layout of 33/11 KV substation and identify the components with specifications?

- 18) A D.C 2- wire distributor, 600 meter long, fed at one end is loaded as shown in the figure. The total resistance of the distributor is 0.025Ω . Calculate the voltage at the end A when the voltage at the end D is 220V.



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