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202433

**3rd Sem / Branch : Mechtronics**
**Subject:- Electric Power & Transmission & Distribution**

Time : 3Hrs. M.M. : 100

## SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 For transmission of power over a distance of 200 km, the transmission voltage should be (CO3)
a) 132 kV b) 66 kV
c) 33 kV d) 11 kV

Q.2 The presence of ozone due to corona is harmful because it (CO3)
a) Corrodes the material
b) Transfer energy to the ground
c) Gives odour
d) Any of the above

Q.3 The voltage of the single phase supply to residential consumers is (CO1)
a) 110 V b) 230 V
c) 440 V d) Any of the above

Q.4 Static capacitors are rated in terms of (CO6)
a) Kw b) Kwh
c) kVAR d) None of the above

Q.5 Distribution transformers are usually connected in (CO3)



Q.29 Explain different types of underground cables. (CO5)

Q.30 Discuss method of reducing corona. (CO2)

Q.31 Write a short note on the ring distributor. (CO4)

Q.32 What is sag? Explain the expression for it. (CO3)

Q.33 Write the limitations of EHV AC with respect to the distribution system. (CO3)

Q.34 Discuss the major equipment installed in a grid substations. (CO5)

Q.35 Give classification of underground cables. (CO4)

## SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What is string efficiency ? Derive an expression for string efficiency. (CO1)

Q.37 Explain the distribution system and its types in details? (CO4)

Q.38 What is corona ? Discuss the various factors affecting corona. (CO3)

(**Note:** Course outcome/CO is for office use only)

a) delta/star b) star/delta
c) star / star d) None

Q.6 The phenomenon of rising in voltage in the receiving end of the open circuited or lightly loaded line is called as (CO3)

a) Roman Effect b) Skin Effect
c) Corona Effect d) Ferranti Effect

Q.7 In 11 kV overhead line the insulator provided at the dead end is (CO5)

a) Pin type b) Shackle type
c) Disc type d) Egg type

Q.8 An under excited synchronous motor operates at (CO6)

a) Leading power factor
b) Unity power factor
c) Lagging power factor
d) 0.5 pf leading

Q.9 Method used for laying of underground cable (CO4)

a) Direct laying b) Solid System
c) Draw in system d) All of these

Q.10 The underground system cannot be operated above (CO4)

a) 220 KV b) 66 KV
c) 33 KV d) 11 KV

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Draw nominal equivalent T circuit. (CO2)



Q.12 What is primary transmission? (CO5)

Q.13 Define power factor. (CO6)

Q.14 HVDC stands for_____ (CO3)

Q.15 Define real power (CO2)

Q.16 Synchronous condensers are used to improve the power factor (T/F) (CO6)

Q.17 Define ACSR conductor. (CO2)

Q.18 Name different types of cables. (CO4)

Q.19 If the supply frequency is increased, the skin effect will_____ (CO2)

Q.20 In short transmission lines, the effect of _____is negligible. (CO2)

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Write a short note on proximity effect. (CO2)

Q.22 Explain end condenser method of transmission line. (CO2)

Q.23 Write a note on EHVAC. (CO3)

Q.24 Difference between feeders, distribution & service mains. (CO4)

Q.25 Explain the different types of faults in overhead & underground cables. (CO4)

Q.26 What are ACSR conductors? State its advantage. (CO3)

Q.27 Define corona. What are the factors which affect corona? (CO3)

Q.28 Give the layout of a 33/11 Kv substation. (CO4)