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5th Sem / Elect, Elect & Eltx Engg.
Subject:- Electrical Power - I / Power - I
(G.T. & D.E.P.)

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 The volume of copper required for an a.c. transmission line is inversely proportional to
a) current b) voltage
c) Power factor d) Both (b) and (c)
- Q.2 Demand factor is defined as the ratio of
a) average load to max.load
b) max. demand to connected load
c) connected to max.demand
d) max.demand to average load.
- Q.3 A load curve is a plot of
a) load v/s time b) load v/s current
c) load v/s voltage d) load v/s power
- Q.4 The main criterion for selection of the size of a distributor for radial distribution system is
a) Voltage drop b) Corona Loss
c) temperature rise d) Capital Cost
- Q.5 The power factor of an inductive circuit is called as
a) Leading power factor

- b) Lagging Power factor
c) unity Power factor
d) None of these

- Q.6 Primary distribution lines are known as
a) reactors
b) feeders
c) sub-transmission lines
d) None of these
- Q.7 The effect of corona is
a) increased energy loss
b) increases reactance
c) increased inductance
d) All of these
- Q.8 The transmission line which feed different sub-stations represent
a) primary transmission
b) secondary transmission
c) primary distribution
d) secondary distribution
- Q.9 Step-up sub-stations are installed near
a) generating stations
b) distribution sub-stations
c) transmitting stations
d) Consumer's Premises.
- Q.10 Which of the following plants will have the highest capital cost?
a) Nuclear Power plant b) Diesel Power plant
c) Thermal Power plant d) None of these

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SECTION-B

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

- Q.11 Define Secondary Transmission.
- Q.12 Define Load Factor.
- Q.13 The main reason for using high voltage for long distance power transmission is _____
- Q.14 The variable load which occurs over and above the base load is called _____
- Q.15 Diversity factor in a power system is always _____ that unity.
- Q.16 Corona loss is minimized, if the size of the conductor is _____
- Q.17 If the sag in the overhead line increases, tension in the line _____
- Q.18 The service mains connects the feeder and distributor. (T/F)
- Q.19 Blavier's test is used to find ground fault in multi-core cable. (T/F)
- Q.20 Overhead system is more safer than underground system. (T/F)

SECTION-C

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

- Q.21 What is Sub-station? Name the factors which will be kept in mind while designing and erecting a sub-station.
- Q.22 What do you mean by Ferranti effect? How can you reduce it?
- Q.23 How does the proximity effects affects the resistance of the conductor?

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- Q.24 Explain briefly the skin effect in a transmission line. On what factors does it depend?
- Q.25 Discuss briefly the design considerations in distribution system.
- Q.26 What are various components of an overhead 400/230 V distribution line.
- Q.27 What is steam power station? Discuss its advantages and disadvantages.
- Q.28 Describe the various methods for reducing corona effect in an overhead line.
- Q.29 Discuss the various types of Sub-stations.
- Q.30 Explain how the electrical breakdown can occur in an insulator.
- Q.31 What are the desirable characteristics of Tariff.
- Q.32 What are the advantages of improved power factor?
- Q.33 What are the various methods for improving string efficiency? Explain.
- Q.34 What are the cause of low power factor?
- Q.35 What do you understand by power factor? Explain the necessity of improving power factor.

SECTION-D

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

- Q.36 Explain the concept of Bundle Conductors and Transposition of conductors.
- Q.37 Discuss the comparison of the generating stations in detail.
- Q.38 Explain the working of a Nuclear power plant with its schematic diagram.

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