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**5th Sem / Branch : Elect, Elect & Eltx Engg.**  
**Sub. : 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 What is a conventional source of energy? (CO-1)  
a) Solar  
b) Radio active substances  
c) Heat  
d) Wind
- Q.2 Which of the following material used as a moderator (CO-1)  
a) Graphite  
b) Boron  
c) Sodium potassium liquid  
d) Plutonium
- Q.3 Geothermal energy is obtained from (CO-1)  
a) Sun                      b) Oceans  
c) Earth                    d) Tides
- Q.4 Static capacitors are rated in terms of (CO-6)  
a) Kw                      b) Kwh  
c) kVAR                    d) None of the above

- Q.5 Distribution transformers are usually connected in (CO-3)  
a) Delta/Star              b) Star/delta  
c) Delta/Star              d) Star/Star
- Q.6 Earth wire are usually made of (CO-4)  
a) Aluminium              b) Brass  
c) GL                        d) ACSR
- Q.7 In 11 KV overhead line the insulator provided at the dead end is (CO-5)  
a) Pin type                  b) Shackle type  
c) Disc type                d) Egg type
- Q.8 An under excited synchronous motor operates at (CO-6)  
a) Leading power factor  
b) Unity power factor  
c) Lagging power factor  
d) 0.5 pflading
- Q.9 Method used for laying of underground cable(CO-4)  
a) Direct laying            b) Solid system  
c) Draw in system        d) All of these
- Q.10 The underground system cannot be operated above (CO-4)  
a) 220 KV                  b) 66 KV  
c) 33 KV                    d) 11 KV

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### SECTION-B

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

- Q.11 Define Load curve. (CO-3)  
Q.12 What is primary transmission? (CO-5)  
Q.13 Define power factor. (CO-6)  
Q.14 HVDC stands for \_\_\_\_\_. (CO-3)  
Q.15 Define real power. (CO-2)  
Q.16 Synchronous condensers are used to improve the power factor. (T/F) (CO-6)  
Q.17 What is an economiser? (CO-1)  
Q.18 Name different types of cables. (CO-4)  
Q.19 Francis turbines are used for \_\_\_\_\_. (CO-1)  
Q.20 Define diversity factor. (CO-2)

### SECTION-C

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

- Q.21 What is difference between conventional and non-conventional energy source. (CO-1)  
Q.22 Draw the schematic diagram of a nuclear power station and discuss its operation. (CO-1)  
Q.23 Four consumers having their maximum demands of 15000Kw, 12000 kw, 10000Kw, and 8000 Kw resp. are supplied by a power station (CO-2)  
a) Calculate max power and Max. Demand for power station if the diversity factor is 1.2.  
Q.24 Difference between feeders, distribution & service mains. (CO-4)

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- Q.25 Explain the different types of faults in overhead & underground cables. (CO-4)  
Q.26 What are ACSR conductors? State its advantage. (CO-3)  
Q.27 Define corona. What are the factors which effect corona? (CO-3)  
Q.28 Give the layout of a 33/11 Kv substation. (CO-4)  
Q.29 What are the causes of low power factor? (CO-6)  
Q.30 Explain voltage regulation. (CO-3)  
Q.31 Write a short note on the ring distributor. (CO-4)  
Q.32 What is sag? Explain the expression for it. (CO-3)  
Q.33 What do you mean by the economics of generation? (CO-2)  
Q.34 Discuss the major equipment installed in a grid substations. (CO-5)  
Q.35 Give classification of underground cables.

### 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. (CO-1)  
Q.37 Explain the construction and working of a hydro power plant with a diagram. (CO-3)  
Q.38 Describe Murray loop test for location of earth fault and short circuit fault in underground cables. (CO-4)

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