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### 3rd Sem / Electrical Engg.

#### Subject:- Estimating and costing in Electrical Engineering

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory  $(10 \times 1 = 10)$

- Q.1 At least \_\_\_\_\_ Quotation are called for the purchased of a material.  
a) Four                          b) Three  
c) Two                            d) One
- Q.2 tender is an .  
a) Quotation  
b) Purchase order  
c) Agreement between two parties  
d) Comparative statement
- Q.3 The Overhead charge has includes.  
a) Taxes  
b) Rent of offices and insurances  
c) Advertising  
d) All of the above
- Q.4 TPIC means.  
a) Triple pole iron clad  
b) Triple pole iron core  
c) Transmission pole iron clad  
d) Transmission pole iron core

Q.5 For marriages and other function \_\_\_\_\_ Wiring is preferred.

- a) Casing capping wiring
- b) Conduit wiring
- c) Cleat wiring
- d) Batten wiring

Q.6 The switch board should be installed at the height of \_\_\_\_\_ meter from the floor.

- a) 1.5
- b) 2
- c) 3
- d) 4

Q.7 The wire which connect energy meter of consumer with the nearest poll is called.

- a) Distribution line
- b) Transmission line
- c) Service line
- d) Bus bar

Q.8 Earth wire is located at \_\_\_\_\_ of tower.

- a) Bottom
- b) Middle
- c) Top
- d) Any of the above

Q.9 In overhead lines usually \_\_\_\_\_ conductors are used.

- a) Copper
- b) Aluminum
- c) Sliver
- d) ACSR

Q.10 Isolator always operated at \_\_\_\_\_ load.

- a) On
- b) Off
- c) Either on or off
- d) Variable

#### SECTION-B

**Note:** Objective type questions. All questions are compulsory  $(10 \times 1 = 10)$

- Q.11 A personal who prepare estimate is called \_\_\_\_\_.  
Q.12 Full form of ACSR.

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- Q.13 Define line support.  
 Q.14 Define net price.  
 Q.15 Expand MCB.  
 Q.16 In industries required \_\_\_\_\_ phase service line.  
 Q.17 Earth wire is usually made of \_\_\_\_\_.  
 Q.18 Define substation.  
 Q.19 maximum number of points in power sub circuit are \_\_\_\_\_.  
 Q.20 Write the difference between wire and cable.

### **SECTION-C**

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

- Q.21 Give the purpose of estimating and costing.  
 Q.22 Draw the specimen of comparative statement.  
 Q.23 Explain the casing and capping wiring system.  
 Q.24 Explain the working principle of ELCB.  
 Q.25 Write the general IE rules for residential wiring.  
 Q.26 A 50BHP motor is to be installed in an industry. Draw its layout of wiring marking main switch and Starter of motor and estimate quantity of material required.  
 Q.27 Give the steps for estimating and costing of industrial wiring  
 Q.28 Enlist the equipment used in a substation.  
 Q.29 A pole for an overhead 11 kv, 3 phase 50 Hz line is to be installed. Prepare a list of material required and estimate the cost of that installation

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- Q.30 List wiring accessories used for domestic installation  
 Q.31 Compare outdoor and indoor substation.  
 Q.32 Differentiate the term earnest money and security deposit.  
 Q.33 Draw and explain the location of main board and Distribution board.  
 Q.34 Differentiate between overhead service connection and underground service connection.  
 Q.35 State the function of main components of overhead line.

### **SECTION-D**

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

- Q.36 Define Labour charge. Explain the different methods of calculating of Labour charges.  
 Q.37 A single room of size 5mtx4 mt with one lamp, one fan, one Tube and 5 Amp. socket outlet. Estimate and costing of room as under-
  - i) Draw the installation plan and wiring diagram.
  - ii) Calculate length of conduit and wire.
  - iii) Prepare the list of material required for wiring.
 Q.38 Draw key diagram of 66kV/11 kV substation.

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