

**DIPLOMA - VIEP - ELECTRICAL
ENGINEERING**

Term-End Examination

June, 2012

**BIEE-036 : ELECTRICAL INSTALLATION
AND SYSTEM**

Time : 2 hours

Maximum Marks : 70

NOTE : *All the questions are to be answered in English language only. Question No 1. is compulsory and 4 questions are to be attempted out of question No. 2 to 8.*

1. Write True - False in Question No. 1 **2x7=14**
- (a) Relay Contact should not be oiled as it will cause overheating.
 - (b) Meggar is used for detection of earth leakage current.
 - (c) With the increase in Voltage of Transmission the height of tower is to be increased.
 - (d) The Minimum clearance between over head line and railway track upto 33 kV is 10 m.
 - (e) Induction test is conducted to find short circuit in underground cable.
 - (f) Electric shocks occur when the neutral wire comes in contact with earth wire.
 - (g) Service main is short length of cable for supplying power from pole to Consumer Terminals.

2. (a) Explain how you will call Quotation for purchase. 7
- (b) Make a specimen tender notice to be published in newspaper. 7
3. (a) Draw a comparison of different wiring system. 7
- (b) Why metal sheathed wiring system is used ? What are its advantages and disadvantages. 7
4. (a) Why it is important to provide earthing ? State the relevant IE rule. 7
- (b) Determine the size of cable required to carry the maximum current of 30 A. It is given that length of cable is 400 mtr and allowable voltage drop is 6% of the declared supply voltage. 7
- (i) 250 V, D.C (ii) 250 V, A.C
5. (a) Prepare a list of material and estimate the cost of giving service connection to a tube well of 10 H.P. capacity on 400 V, 3 phase, 50 Hz from existing LT, distribution pole at a distance of 20 mtr away from premises. The transformer and L.T. line conductors can take the load safely. 9
- (b) Draw the connection diagram to meter distribution board from L.T. pole. 5

6. (a) Draw a layout of an indoor type substations. 7
(b) What are the various method of earthing? 7
7. (a) Draw a single line diagram of a pole mounted substation indicating various protective device installed on HT and LT side. 7
(b) What are causes of Electrical Fire? What are various action taken in case of electrical fire. 7
8. Write short note on *four* of the following : $3\frac{1}{2} \times 4 = 14$
- (a) Elements of Estimating and costing
 - (b) Comparative statement in tender
 - (c) Conduit wiring system
 - (d) Factors influencing earth resistance
 - (e) Method of installation of service connection lines to the buildings.
 - (f) Need and type of substation
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