

**PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004**

DIPLOMA ODD SEMESTER EXAMINATIONS – NOV 2014

**E12E09 ESTIMATING COSTING AND ENERGY AUDITING****MODEL QUESTION PAPER****Time : 3 Hours****Max.Marks: 100****Instructions:**

1. **Group A** and **Group B** questions should be answered in the Main Answer book.
2. Answer any **TEN** questions in **Group A**. Each question carries three marks.
3. Answer **ALL** questions either **(a)** subdivision or **(b)** subdivision in **Group B**. Each question carries 14 marks.

**Group – A****Marks: 10 x 3 = 30**

1. Draw a conventional symbol for :  
(i) Exhaust fan      (ii) Main-switch for lighting      (iii) Main-switch for power
2. State the need of Distribution board.
3. Compare MCB-ELCB.
4. State the need of Ear thing.
5. What is meant by: i) Cut-out fuse      ii) Aerial fuse
6. State the Wiring Rules confirming to an Industry
7. Compare plan and wiring Layout
8. Define Service connection
9. What is meant by clearance and state its need?
10. List-out some specification of a Transformer
11. State the guidelines and sequence to be followed for conducting Estimate.
12. What are the factors to be considered for designing Street Lighting scheme?
13. What is meant by Guarding?
14. What is meant by Tender?
15. Define Energy Auditing.

**Group– B****Marks: 5 x 14 = 70**

16. a) i] A 15HP Induction motor needs 50meters of wire length calculate the size of conductor for an industry having 3Φ, 400volts supply. (5)  
ii] Discuss comparative statement with an example. (9)
- (OR)**
- b) i] A hall having size 12m x 6m x 4m high is required to be electrified with 8-tube lights, 6-fan points and 6-plug points. Draw a plan and layout for the above, starting from the Main board. (7)
  - ii] List-out the materials required for an Over Head Service Connection. (7)

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17.a) List-out the materials required for an underground service connection.

**(OR)**

b) Illustrate with a neat sketch any one type of Earthing.

18.a) Select a suitable transformer for the load condition Available voltage = 11KV  
Required voltage = 440/250V, Lighting load = 10KW Industrial load = 48KW at  
0.8PF. Demand factor = 0.6 Diversity factor = 1.5. Assume any other data suitably.

**(OR)**

b) Discuss the IS specification for Earthing.

19.a) Estimate the quantity of materials required and their approximate cost for installing an Outdoor distribution transformer 11KV/440V for supplying power to an industry having a Connected load of 80KVA.

**(OR)**

b) A straight road of 350 meters is to be illuminated by an underground street lighting scheme. The width of the road is 10 meters. Estimate the total cost for executing the above work including the labor charges.

20.a) Illustrate the different types of Energy Auditing.

**(OR)**

b) Discuss the following an applicable to energy efficient 1) Day lighting 2) Green Building