

DIPLOMA IN ELECTRICAL ENGINEERING

Term-End Examination

June, 2012

01675

**BIEE-037 : POWER PLANT ECONOMICS
AND CENTERING**

Time : 2 hours

Maximum Marks : 70

NOTE : *Attempt any 5 questions in all. Each question carry equal marks. Question - 1 is compulsory.*

1. Choose the correct alternative out of the given : **7x2=14**
- (a) Which of the following plants have the minimum running cost ?
- (i) Nuclear power plant
 - (ii) Diesel power plant
 - (iii) Thermal power plant
 - (iv) Hydro power plant
- (b) Which of the following materials is used as moderator ?
- (i) Graphite
 - (ii) Boron
 - (iii) Sodium Potassium liquid
 - (iv) None of the above

- (c) The tariff generally used for tubewell loads is :
- (i) flat demand rate
 - (ii) straight meter rate
 - (iii) block meter rate
 - (iv) none of these
- (d) The tariff generally used for residential consumers is :
- (i) flat demand rate
 - (ii) straight meter rate
 - (iii) block meter rate
 - (iv) none of these
- (e) More efficient plants are used as :
- (i) base load stations
 - (ii) peak load stations
 - (iii) both (i) and (ii)
 - (iv) none of these
- (f) In an interconnect grid system, the diversity factor of the whole system :
- (i) decreases
 - (ii) increases
 - (iii) remains same
 - (iv) none of these
- (g) Depreciation cost of a plant is calculated by :
- (i) Straight line method
 - (ii) Diminishing value method
 - (iii) Sinking fund method
 - (iv) Any one of these

2. What do you understand by power factor ? 14
Explain the necessity of improving power factor.
3. (a) What is energy load curve ? 7
(b) How a good load factor and a good diversity factor help to keep overall cost of generation low ? 7
4. Discuss the cost elements of a thermal power plant. 14
5. What is meant by tariff ? Explain some commonly used tariffs. 14
6. What do you understand by the term incremental fuel cost ? How is it used for economic load dispatch in an integrated power system ? 14
7. Discuss the advantages and limitations of interconnected power system. 14
8. Write notes on *any two* of the following : 7x2=14
(a) Coal analysis
(b) Steam pressure control
(c) Supervisory control and monitoring system
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