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BIEE-029

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DIPLOMA ELECTRICAL ENGINEERING (DELVI)/ADVANCED LEVEL CERTIFICATE COURSE IN ELECTRICAL ENGINEERING (ACELVI)

Term-End Examination

June, 2013

BIEE-029 : POWER GENERATION SYSTEM

Time : 2 hours *Maximum Marks : 70*

Note : *(i) Question no. **1** is **compulsory.***
*(ii) Attempt **any four** questions out of question no.2 to question no.8.*
*(iii) All questions carry **equal** marks.*

1. Choose the correct alternatives out of the given alternatives. **2x7=14**

(a) Which of the following plants has the maximum capital cost ?

(i) Steam plants
(ii) Hydro-plants
(iii) Diesel plants
(iv) Nuclear plants.

(b) The pumped storage scheme is employed to supply :

(i) during peak hours
(ii) during off-peak hours
(iii) the system base load
(iv) none of these

(c) One kilogram of natural Uranium gives energy equivalent to about :

(i) 100 kg of coal

(ii) 1000 kg of coal

(iii) 5000 kg of coal

(iv) 10000 kg of coal

(d) In a steam power plant water is used for cooling purposes in :

(i) boiler (ii) economiser

(iii) condenser (iv) super-heaters

(e) A load curve is a plot of :

(i) load versus generation capacity

(ii) load versus current

(iii) load versus time

(iv) load versus cost of power

(f) A 120 MW generator is usually :

(i) air cooled

(ii) hydrogen cooled

(iii) oxygen cooled

(iv) nitrogen cooled

(g) Mini hydroelectric power plant generally use :

(i) Pelton turbine

(ii) Francis turbine

(iii) Kaplan turbine

(iv) Bulb turbine

2. What factors should be considered while selecting a site for thermal power station ? 14

3. (a) Give the advantages and limitations of micro hydroelectric power generation. 7

(b) How are hydroelectric power plants classified ? 7

4. Explain with a neat diagram the working of a 'Thermoelectric generator'. 14

5. (a) Write a short note on 'Wind electricity Economics'. 7

(b) Explain the advantages and limitations of electricity generation from wind energy. 7

6. Explain with the help of a neat diagram the working of solar water heaters. 14

7. (a) Discuss important aspects of maintenance of batteries. 7

(b) Discuss the future aspects of non-conventional sources of energy. 7

8. Write short notes on ***any four*** of the following : **3.5x4=14**

(a) Geothermal sources of energy

(b) Storage batteries

(c) gasifiers

(d) Solar pumping

(e) Thermoelectric materials

(f) MHD power generation