

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

**Term-End Examination**

**December, 2013**

**BIEE-029 : POWER GENERATION SYSTEM**

*Time : 2 hours*

*Maximum Marks : 70*

*Note : Q.No. 1 is compulsory. Attempt any four questions out of Q.No.2 to Q.No. 8. All questions carry equal marks.*

1. Choose the correct alternative out of the given alternatives : **2x7=14**
- (a) Large size steam power plants and nuclear plants are suitable for :
- (i) base loads
  - (ii) intermediate loads
  - (iii) peak loads
  - (iv) both (i) and (iii)
- (b) The advantage of hydro plants is :
- (i) low operating cost.
  - (ii) can be started and loaded very quickly.
  - (iii) can be used as base load and peak load plants as well.
  - (iv) All the above.

- (c) The mass curve can be plotted from :
  - (i) load duration curve
  - (ii) chronological load curve
  - (iii) energy load curve
  - (iv) both (i) and (ii)
- (d) The capital cost of a power plant depends on :
  - (i) total installed capacity only
  - (ii) total number of units only
  - (iii) total installed capacity and number of units as well
  - (iv) none of these
- (e) As the load factor of a power plant increases, the cost per kwh of energy generated :
  - (i) increases
  - (ii) decreases
  - (iii) may increase or decrease
  - (iv) remains same.
- (f) The power which must be available even under emergency conditions is known as :
  - (i) spinning reserve
  - (ii) cold reserve
  - (iii) firm reserve
  - (iv) hot reserve
- (g) A moderator material should have :
  - (i) small atomic mass
  - (ii) large atomic mass
  - (iii) doesn't matter
  - (iv) none of these

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

3. (a) What is a spillway ? Explain any two types 14  
of spillways.  
(b) What is the difference between canal, flume  
and tunnel ?
4. Explain with a neat diagram the operation of a ' 14  
thermo electric generator ' ?
5. (a) List various non - conventional energy 7  
sources.  
(b) Explain with a neat diagram a wind electric 7  
generating power plant.
6. (a) Explain with the help of a neat diagram the 7  
working of solar furnaces.  
(b) Give the advantages and limitations of 7  
electricity generation from wind energy.
7. (a) Discuss briefly various methods of obtaining 7  
energy from Bio mass.  
(b) Name the various components of tidal 7  
power plant and explain briefly the function  
of each component.
8. Write short notes on **any four** of the following :  
(a) Maintenance of batteries 3.5x4=14  
(b) Fuel cells  
(c) Bio - mass conversion  
(d) Solar cookers  
(e) Comparison of various types of generating  
stations  
(f) MHD power generation.
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