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[4757]-1032

S.E. (Electrical) (I Sem.) EXAMINATION, 2015

POWER GENERATION TECHNOLOGIES

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) *All* questions are compulsory.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

1. (a) What is the function of draught system in thermal power plant ? With a neat diagram explain its working. [6]
- (b) Compare nuclear, diesel and gas turbine power plants. [6]

Or

2. (a) With the help of diagram explain the main parts and working of thermal power plant. [6]
- (b) Explain the nuclear reactor in nuclear power plant. [6]
3. (a) Differentiate between the working of Francis turbine and Kaplan turbine used in hydropower plants. [6]
- (b) Describe the types of wind turbine electrical generators. [7]

P.T.O.

Or

4. (a) In hydro-power plants, write short notes on : [6]
(i) Dams
(ii) Penstocks.
(b) Explain how the wind pattern affects power generation in wind energy systems. [7]
5. (a) What are solar energy collectors ? Write their types and compare them. [7]
(b) Explain stand-alone, hybrid stand-alone and grid connected renewable energy systems. [6]

Or

6. (a) Explain the impacts of temperature and insolation on I-V curves of PV cells. [6]
(b) Describe the fuel cells. How are they used for energy storage requirements ? [7]
7. (a) Explain a generic photo-voltaic cell. [3]
(b) Define the terms in solar energy system : [3]
(i) Solar constant
(ii) Cloudy index
(iii) Concentration ratio.
(c) Explain the process of municipal solid waste to energy conversion. [6]

Or

8. (a) Explain the methods of measurement of solar radiation. [6]
(b) Write a short note on 'Small-mini-micro hydro-plant'. [6]