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Register Number :

7786

Name of the Candidate :

DIPLOMA IN ENERGY ENGINEERING EXAMINATION DECEMBER 2013.

110 — NEW ENERGY SOURCES

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. (a) What is meant by renewable energy sources? Explain in brief these energy sources available in India. (12)
- (b) What are the advantages and limitations of renewable energy sources. (8)
2. (a) Describe the principle of pyrheliometer. (10)
- (b) Write short note on Bean radiation, diffused radiation and sunshine recorder. (10)
3. (a) What are the main components of a flat– plate solar collector? Explain their working principle. (12)
- (b) Why orientation is needed in concentrating type collectors? (8)
4. (a) What are the recent trends in solar energy applications? (10)
- (b) Describe in details about solar space heating and cooling systems. (10)
5. (a) Describe the rock bed solar energy storage method. (10)
- (b) Explain the principle of wind energy conversion systems. (10)
6. (a) Explain with neat sketch of double basin tidal power plant. (10)
- (b) Explain the concept of wet steam geothermal system. (10)
7. (a) What are the factors to be considered in the design of digesters? (10)
- (b) Explain the principle of Dolphin wave machine. (10)
8. (a) Describe the various types of bioman gasifier. (10)
- (b) Explain any one type of biogas plant. (10)