Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No

ME-702(A) (GS)

B.E. VII Semester

Examination, November 2018

Grading System (GS)

Renewable Energy System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions out of eight questions.
ii) All questions carry equal marks.
iii) Draw neat diagrams in support of your answer.

1. a) Define the following terms:
   i) Solar Constant
   ii) Types of Radiations
   iii) Solar Concentrators
   b) Describe with neat diagram, the principle of solar air heater.
2. a) Explain the technology for fabrication of photovoltaic devices. State types of solar cells.
   b) Discuss Weibull, Rayleigh and normal distribution related to wind data.
3. a) Discuss important elements of WEC systems with neat layout.
   b) What is capacity factor of wind turbine? How it is helpful in prediction matching the turbine with wind site?

4. a) Discuss physicochemical characteristics of biomass as a fuel.
   b) Compare types of biogas digesters. Draw sketch of any one type.
5. a) Explain the constructional details and working of any one type of Biogas gasifier.
   b) Discuss cost benefit analysis of power generation by biomass gasifier.
6. a) Compare micro, mini and small hydro power plants.
   b) Discuss parameters affecting site selection for a hydro power plant.
7. a) Discuss any two commercial methods for hydrogen storage.
   b) State working principle of fuel cell. Draw PEM fuel cell.
8. Write short notes on the following: (any two)
   a) Solar stills
   b) Ocean energy conversion
   c) Selection of hydro turbines
   d) Origin of Geothermal resources

******