

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
End Semester Examinations December 2018
B. Tech (Marine Engineering)
Semester: VII
Renewable Energy Sources & Applications (UG11E2704)

Date: 08.01.2019
Time: 3 Hrs

Maximum Marks: 100
Pass Marks: 50

PART-A

(All questions are compulsory) (10x3 =30 Marks)

1. a). What do you mean by green energy?
- b). Define packing factor of a PV module.
- c). What is biodiesel?
- d). What is the basic difference between Dam & Barrage?
- e). What is semiconductor?
- f). Write three major disadvantages of renewable energy?
- g). What are the attributes of a wave?
- h). What is solar photovoltaic (PV) cell?
- i). What are the adverse effects of hydroelectricity project?
- j). Define Tide.

PART-B

(Answer any 5 of the following 7 questions)

(5x14 =70 Marks)

2. (a) Describe the difference between green (renewable) energy and brown (Conventional) energy? (7 Marks)
- (b) What are the sources of renewable energy and how all sources are linked with solar energy. (7 Marks)
3. (a) Describe the energy generation process from barrages. (7 Marks)
- (b) What are the environmental considerations for tidal barrages?(7 Marks)
4. (a) Explain in detail bio fuel classification. (7 Marks)
- (b) Write a short note on geothermal energy. (7 Marks)
5. (a) Explain the wind energy harnessing technology with diagram?(10 Marks)
- (b) Enumerate advantages and disadvantages of wind energy. (4 Marks)

6. (a) Make comparison of Mono-Si, Poly-Si and Thin film Panels. (7 Marks)
(b) Explain single crystal Czochralski silicon technology process. (7 Marks)
7. (a) Explain wave energy conservation system. (7 Marks)
(b) Explain the working of a biogas plant with diagram. (7 Marks)
8. (a) Explain the various forms of biomass conversion technologies. (7 Marks)
(b) Explain the pyrolysis process with schematic diagram. (7 Marks)
