Total No. of Printed Pages:2

SUBJECT CODE NO:- H-187
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (EEP/EE/EEE)
Renewable Energy
(REVISED)

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
ii) Attempt any two questions from the remaining questions in each section
iii) Assume suitable data, if necessary.

Section A

Q.1 Solve any five. 10

a) List any two conventional sources of energy.
b) Define tilt angle.
c) What is solar constant ? state it.
d) How solar cells are connected in solar panels. Why?
e) What are the limitations of solar energy?
f) Explain construction of solar cell
g) Give the classification of energy resources.

Q.2 a) Distinguish between renewable and non-renewable sources of energy 07
b) Define solar radiation and explain in details measurement of solar radiation. 08

Q.3 a) Write a short note on historical development of wind power. 08
b) Describe vertical axis wind turbine machine. 07

Q.4 a) What are fuel cells? Describe electrical characteristics of fuel cells 08
b) What is thermionic converter? Explain in detail. 07

Q.5 a) Explain the principle of photovoltaic cell. Draw v1 characteristics of solar cell. 08
b) Explain the concept of active &passive heating of buildings. 07

Section B

Q.6 Solve any five. 10

a) What is geothermal resource?
b) Differentiate between biomass biogas.
c) What are the advantages &disadvantages of geothermal energy?
d) What is fuel cells?
e) What is wave energy and tidal energy?
f) Write any four applications of biomass energy.
g) What is see back thermoelectric effect

Q.7 a) What is geothermal energy? How can geothermal energy is utilized for electric power generation. 07
b) What is the main applications of gasifier? 08

Q.8 a) Explain biomass conversion process with various methods. 08
b) Explain classification of biogas plant. 07

Q.9 a) Explain the OTEC open cycle. 08
b) Explain in brief about tidal energy generation. 07

Q.10 a) What is MHD generator? Explain its working principle. 08
b) Explain the working of a thermo electric generator. 07