Sample Question Paper

Scheme – I

22661

Programme Name : Mechanical Engineering
Programme code : ME
Semester : VI
Course Title : Renewable Energy Technologies
Marks : 70 **Time : 3 Hrs.**

Instructions:

(1)All questions are compulsory.
(2)Illustrate your answers with neat sketches wherever necessary.
(3)Figures to the right indicate full marks.
(4)Assume suitable data if necessary.
(5)Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following. **(10 Marks)**

a) Classify Solar Thermal System
b) List applications of Bio Fuel
c) State the function of PV Cell
d) Write specification of HAWT
e) Name any four components of Micro Hydro Power System
f) Define term ‘ Battery rating’
g) Name any four Hybrid systems

Q.2) Attempt any THREE of the following. **(12 Marks)**

a) Differentiate between flat plate collectors and Parabolic Collectors
b) Write different methods of Battery selection
c) Explain the importance of Small Vertical Axis wind Turbines
d) Write maintenance procedure of Micro hydro Power system

Q.3) Attempt any THREE of the following. **(12 Marks)**

a) Explain working of Solar dryer with neat sketch
b) Explain the term ‘ Net Metering’
c) Write maintenance procedure of ‘ Bio gas plant’
d) Draw layout of ‘Bio mass power plant.

Q.4) Attempt any Three of the following. **(12 Marks)**

a) Write installation procedure for Micro hydro power systems in brief
b) Explain the working of wind- solar Hybrid system
c) List different performance parameters for testing performance of Wind solar PV Hybrid system
d) Explain with neat sketch working of VAWT
e) List the applications of Micro Hydro power systems

Q.5) Attempt any TWO of the following. **(12 Marks)**

a) Explain with neat sketch the construction of 'Solar Tower'

b) Write in detail the maintenance procedure of large Horizontal axis wind turbine

c) Explain the installation procedure for solar roof Top system

Q.6) Attempt any TWO of the following. **(12 Marks)**

a) Write the standard installation procedure for 'Industrial Process heating Application,

b) Prepare project feasibility report for Wind –Biogas plant

c) Explain with neat sketch the construction of ' smokeless Chulhas.

Sample Test Paper I

Scheme – I

Programme Name : Mechanical Engineering

22661

Programme Code : ME

Semester : Sixth

Course : Renewable Energy Technologies

Marks : 20 **Time:1 hour**

Instructions :

a) All questions are compulsory
b) Illustrate your answers with neat sketches wherever necessary
c) Figures to the right indicate full marks
d) Assume suitable data if necessary
e) Preferably, write the answers in sequential order

Q.1 Attempt any FOUR. **(8 Marks)**

a. Classify Alternative energy sources
b. List applications of solar dryer
c. Name different types of batteries used for solar photovoltaic system
d. Classify PV cells
e. write specifications of any one HAWT
f. State the merits of VAWT

Q.2 Attempt any TWO **(12 Marks)**

a) Draw labeled diagram of constructional feature of dish collector
b) write maintenance procedure for solar Stand alone street light
c) Explain the working of Large Horizontal axis wind turbine

Sample Test Paper II

Scheme – I

Programme Name : Mechanical Engineering

Programme Code : ME

22661

Semester : Sixth

Course : Renewable Energy Technologies

Marks : 20 **Time:1 hour**

Instructions: All questions are compulsory

1. Illustrate your answers with neat sketches wherever necessary
2. Figures to the right indicate full marks
3. Assume suitable data if necessary
4. Preferably, write the answers in sequential order

Q.1 Attempt any FOUR. **(8 Marks)**

a. State the necessity of Micro Hydro Power system
b. Classify Bio-fuels
c. Name any three applications of Bio Fuel system
d. State the significance of Hybrid systems in Renewable sources.
e. List performance parameters for solar PV hybrid system
f. Compare wind-solar hybrid and wind –biogas hybrid system

Q.2 Attempt any TWO. **(12Marks)**

a. Explain working with neat sketch of ‘Smokeless Chulhas
b. Explain the process of Commercial Feasibility assessment.
c. Draw a layout of Micro-Hydro power system