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BTECH
(SEM VIII) THEORY EXAMINATION 2021-22
RENEWABLE ENERGY RESOURCES

Time: 3 Hours**Total Marks: 70****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief.****2*7 = 14**

Q.no	Questions	Marks	CO
(a)	What do you mean by the Solar radiation?	2	2
(b)	What are the needs of Energy Resources?	2	1
(c)	What do you mean by Aerobic digestion?	2	2
(d)	What do you mean by the Non-Conventional Energy Resources?	2	1
(e)	What do you mean by the Geothermal Energy?	2	3
(f)	Define the term Fuel Cells?	2	3
(g)	What do you mean by Wind Energy?	2	4

SECTION B**2. Attempt any three of the following:****7*3 = 21**

Q.no	Questions	Marks	CO
(a)	Discuss about the Waste Recycling Plants in Non-Conventional Energy Resources.	7	5
(b)	Discuss about the concept of focusing of collectors and their materials in the process of creation of Solar Thermal Energy.	7	2
(c)	What do you understand by the nature of wind? Describe with the help of a neat sketch the construction and working of a Wind Energy Conversion System (WECS)	7	3
(d)	Explain Sensible heat storage, Latent heat storage and Thermochemical storage of Solar energy.	7	4
(e)	Discuss the classification of Non-Conventional Energy Resources.	7	1

SECTION C**3. Attempt any one part of the following:****7*1 = 7**

Q.no	Questions	Marks	CO
(a)	Discuss about the methods which are used to overcome the fluctuating power generation of a windmill? Discuss their merits and demerits.	7	5
(b)	What is Demand side management? How it is useful in Energy conversion?	7	2

4. Attempt any one part of the following:**7*1 = 7**

Q.no	Questions	Marks	CO
(a)	Discuss the role of Solar cell materials under the Non-Conventional Energy Resources.	7	1



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(b)	Define Geothermal Electrical conversion and Geothermal Electrical conversion.	Non-	3
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5. Attempt any *one* part of the following:

7*1 = 7

Q.no	Questions	Marks	CO
(a)	What is a Fuel cell? Describe the principle of working of a H ₂ O ₂ cell. Give also limitations	7	4
(b)	How can Solar Energy are converted into Electrical Energy. Give a diagram showing the elements of such a plant.	7	5

6. Attempt any *one* part of the following:

7*1 = 7

Q.no	Questions	Marks	CO
(a)	Discuss about the need of solar pond? Describe the working of solar power plant.	7	2
(b)	Discuss the need and application of solar cell power plant under the Non-Conventional Energy Resources.	7	1

7. Attempt any *one* part of the following:

7*1 = 7

Q.no	Questions	Marks	CO
(a)	Discuss about the Principle of working of Magneto-hydrodynamics (MHD) Power plant	7	3
(b)	Define concentrations and augments in Thermo-Electrical and Thermionic Conversions.	7	4