

**BACHELOR OF TECHNOLOGY (C.B.C.S.) (2020 COURSE)**  
**B.Tech.Sem - V CHEMICAL : WINTER- 2022**  
**SUBJECT : ITC-III: RENEWABLE ENERGY**

Day : Friday

Time : 02:30 PM-05:30 PM

Date : 16-12-2022

W-24451-2022

Max. Marks : 60

**N. B. :**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagrams **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.

Q. 1 Elaborate the categorization of fuels with appropriate examples. (10)

**OR**

Q. 1 Illustrate the significance of energy sector in National economy. (10)

Q. 2 Illustrate the construction and working of solar heating system with a neat schematic. (10)

**OR**

Q. 2 Describe the characteristics of photovoltaic cell and also state elements of PV system for electric generation. (10)

Q. 3 Illustrate the significance of Biomass energy and elaborate its applications. (10)

**OR**

Q. 3 Describe the types of reactors used for Biomass conversion. (10)

Q. 4 Describe the construction and working of wind mill. (10)

**OR**

Q. 4 Illustrate the design principles of wind turbine and also mention various factors affecting its performance. (10)

Q. 5 Illustrate the safety aspects in handling and storage of Hydrogen. (10)

**OR**

Q. 5 Describe the commercial production of Hydrogen. (10)

Q. 6 Illustrate the significance of sustainable renewable energy. (10)

**OR**

Q. 6 Write short notes on : (10)

- a) Economic aspect of R. E.
- b) Renewable energy technologies – Trends and applications

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