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MRW-006

**MASTER OF SCIENCE (RENEWABLE
ENERGY AND ENVIRONMENT)
(MSCRWEE)**

Term-End Examination

December, 2023

**MRW-006 : BIOENERGY CONVERSION AND ITS
UTILIZATION**

Time : 3 Hours

Maximum Marks : 70

Note : (i) *Attempt any five questions.*

(ii) *All questions carry equal marks.*

1. (a) Enlist the various techniques of biomass assessment. Explain any *one* of them. 7
- (b) Classify the biomass based on composition. Explain with suitable example. 7
2. (a) How is the site for the Landfill selected ? Explain in detail. 7
- (b) Distinguish between Fibrous proteins and Globular proteins. 7
3. (a) Describe the process of bioethanol production with the help of a schematic diagram. 7

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- (b) Explain the ultrasound-assisted solvent extraction process. 7
4. (a) Discuss the mathematical model of bacterial growth in detail. 7
- (b) Explain the application of smart sensors and actuators in Novel bioreactor control system. 7
5. (a) What is Dimethylether (DME) ? How is it produced ? 7
- (b) What are the various issues that restrict the utilization of liquid biofuels ? 7
6. (a) Describe the construction and working of fluidized bed gasifier with a neat sketch. 7
- (b) Why butanol is used as fuel in SI engine ? 7
7. Write short notes on any *two* of the following : 7 each
- (a) Biogas purification technology
- (b) Chemical composition of Nucleic acid
- (c) High pressure liquification
- (d) Solid waste management

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