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BEY-006

B.SC. (APPLIED SCIENCE-ENERGY)

(BSCAEY)

Term-End Examination

June, 2026

BEY-006 : BIOENERGY

Time : 3 Hours

Maximum Marks : 70

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

(ii) All questions carry equal marks.

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1. (a) Discuss various physio-chemical properties of biomass. 7+7
 - (b) What is proximate analysis ? Describe the experimental procedure of this analysis.
 2. Discuss the role of regulatory institutions in solid waste management. 14

3. (a) Describe the technical assessment of biomass in detail. 7+7
- (b) What is aerobic composting ? State the ideal conditions for composting.
4. (a) Explain in detail, how GIS and IoT technologies are transforming biomass resource management. 10+4
- (b) Why does biomass resource assessment only consider the quantity of available biomass ?
5. (a) What are biofuels ? Discuss their significance in modern energy landscape. 7+7
- (b) How could integrated biorefineries improve the economic viability of biofuel production ?
6. (a) Describe the liquefaction process and discuss the various benefits and limitations of this process. 7+7
- (b) Discuss the primary challenges associated with gasification process with the help of suitable example.

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7. Write short notes on any *four* of the following : 4×3.5=14

- (a) Biohydrogen
- (b) Sustainable development of bioenergy in Indian Scenerio
- (c) Compositional analysis of biomass
- (d) Algae as third generation biofuel
- (e) Biochemical conversion of biomass
- (f) Organic *vs.* Inorganic wastes

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