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Paper Id: | 231165 | Roll No. | | | | | | | | | |

B.TECH
(SEM VII) THEORY EXAMINATION 2022-23
BIOECONOMICS

Time: 3 Hours   *Total Marks: 100*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt** *all* **questions in brief.**   **2 x 10 = 20**

(a) What are filters?

(b) What do you mean by bioeconomics?

(c) Define entrepreneurship.

(d) What is fossil fuel?

(e) Explain the term biofuel.

(f) What is biotechnology?

(g) Explain sustainable development.

(h) What do you mean by innovation?

(i) What do you mean by primary production?

(j) What is transdisciplinarity?

SECTION B

2.   **Attempt any** *three* **of the following:**   **10 x 3 = 30**

(a) Explain descriptive terminology of filter. Why we use analog filters, circuit element & scaling.

(b) Explain Inter- and transdisciplinarity in Bioeconomy &research approaches.

(c) Explain food security and healthy nutrition in the context of the bioeconomy.

(d) What is the advantage of biobased products compared to fossil-based products? Is the production process of biobased products more sustainable? Explain.

(e) What do you mean by economic growth? Explain development, and innovation in terms of bioeconomy.

SECTION C

3.   **Attempt any** *one* **part of the following:**   **10 x 1 = 10**

(a) Explain Operational amplifiers with resistive feedback: Noninverting and Inverting.

(b) Explain circuit simulation & modeling. Write application of Op-amp resistor circuits.

4. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Explain role of bio based Economy in sustainable development.
(b) Explain primary production, processing of biobased resources& entrepreneurship in biobased products.

5. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Explain inter and trans-disciplinarity in Bioeconomy &research approaches.
(b) Explain environmental economics and the Role of Government in it.

6. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Explain markets, sustainability management and entrepreneurship opportunity in biobased product.
(b) What are the sustainable and innovative use of biomass and biological knowledge to provide food, feed & industrial products? Explain.

7. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Explain importance of biotechnology for the bioeconomy.
(b) Explain biobased resources and value chains. Also write use of biomass for the production of fuel and chemicals.