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BBT501

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Bioeconomy and Entrepreneurship

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

			M	L	C
		Module – 1			
Q.1	a.	Describe the relationship between resource economics and the scarcity of biological resources and bio-resource elasticity play a role in the challenges.	10	L2	CO1
	b.	Explain the SWOT analysis on bio-business in India, discussing how this analysis could influence strategic decisions within the industry.	10	L2	CO1
		OR			
Q.2	a.	Explain the role of Entrepreneurs in economic development, Include barriers faced in Entrepreneurs and possible solutions.	10	L2	CO2
	b.	Rephrase the studies with the market, technical and financial feasibility for bio-business which are need in success of bio-business ventures?	10	L3	CO2
		Module – 2			
Q.3	a.	Explain the benefits and challenges of transitioning to a knowledge-based bio-economy. How do these impact sustainable development goals?	10	L3	CO2
	b.	Describe the differences in sustainable food security approaches between Europe and Africa within a bio economy framework.	10	L3	CO2
		OR			
Q.4	a.	Describe, discuss the role of environmental economics in supporting a bio-based economy. Why is government regulation important in this context?	10	L2	CO2
	b.	Explain the role of modeling and tools in supporting the transition to a sustainable bio-economy. How do these tools help in decision-making?	10	L2	CO2
		Module – 3			
Q.5	a.	Explain how interdisciplinary approaches in bioeconomy can enhance sustainability management in the production of biobased products.	10	L2	CO2
	b.	Analyze on the entrepreneurial opportunities in biobased resource value chains, with a focus on sustainability management and market development.	10	L3	CO2
		OR			
Q.6	a.	Discuss the potential of biotechnology in transforming primary production systems to meet the demands of bioeconomy markets. Provide relevant case studies or examples.	10	L2	CO2
	b.	Examine the implications of bioeconomy strategies on food security and healthy nutrition. Include discussion on the use of biomass for fuel chemicals.	10	L2	CO2

		Module – 4			
Q.7	a.	Describe the essential requirements and challenges involved in setting up a business for herbal bulk drug production and value-added herbal products.	10	L3	CO3
	b.	Explain the marketing strategies and potential business scope for bioethanol production from agricultural waste and algal sources.	10	L2	CO3
		OR			
Q.8	a.	Discuss the integration of systems biology in agricultural applications and analyze its Potential impact on agribusiness opportunities, specifically in nutraceutical production.	10	L2	CO3
	b.	Highlight the role and scope of biosensor development in agricultural management, focusing on the business potential and strategic challenges.	10	L2	CO3
		Module – 5			
Q.9	a.	Illustrate on the business opportunities, essential requirements, and challenges involved in establishing a pollution monitoring and bioremediation.	10	L3	CO4
	b.	Describe the essential requirements and strategies for setting up a production unit for Bio-pesticides and insecticides along with potential challenges and future scope.	10	L2	CO4
		OR			
Q.10	a.	Compare on the marketing strategies and scope of microbe-enriched compost production. How can integrated compost production serve as a sustainable business?	10	L3	CO4
	b.	Describe on the scope and challenges associated with contract research in microbial genomics, along with the essential requirements for microbial genomics.	10	L2	CO4

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