



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**UNIVERSITY, ODISHA, GUNUPUR**  
**(GIET UNIVERSITY)**

M. Sc. (Third Semester) Regular Examinations, December- 2024

**22BTPC303 – Bio-Entrepreneurship**

(M.Sc.-Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

**PART – A**

(2 x 10 = 20 Marks)

Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Define bio-entrepreneurship and list the types of bio-industries	CO1	K1
b. Differentiate between Entrepreneurship and Intrapreneurship. Additionally, list the key characteristics of an entrepreneur.	CO1	K2
c. Explain the concept of innovation in the bio-sector.	CO2	K2
d. Define the road from lab to market in biotechnology.	CO2	K1
e. What are the main components of a Cash Flow Statement?	CO3	K1
f. Describe the concept of "Valley of Death" in bio-business development.	CO3	K2
g. What are the critical components of a business plan in bio-entrepreneurship?	CO3	K1
h. What is the role of the Drug Controller General of India (DCGI) in the approval process of pharmaceutical products?	CO4	K2
i. Define Intellectual Property Rights (IPR), and how do tangible assets differ from intangible assets?	CO4	K1
j. Explain the term 'technology transfer' in the context of bio-business.	CO4	K2

**PART – B**

(10 x 5 = 50 Marks)

Answer **ANY FIVE** questions

	Marks	CO #	Blooms Level
2. a. List and briefly describe the key pillars of bio-entrepreneurship that contribute to the development and sustainability of bio-business ventures	5	CO1	K2
b. Discuss the common pitfalls and mistakes start-ups face. Provide examples of how these mistakes can impact the success of a start-up and suggest strategies to overcome them.	5	CO1	K4
3.a. Critically evaluate the impact of government programs such as BIRAC, DBT, DST, and MSME on the bio-entrepreneurship ecosystem in India. In your analysis, discuss how these programs facilitate the commercialization of innovative bio-technologies, support early-stage bio-startups, and enhance the sustainability of bio-businesses.	6	CO1	K4
b. Write <b>ANY TWO</b> short notes :- (a) Corporate Social Responsibility (b) Corporate Structure in India	4	CO1	K2

(c) Atmanirbhar Bharat Abhiyan				
4. a.	Discuss the various marketing philosophies that you are familiar with. Highlight their importance and limitations in their evolution process	4	CO2	K4
b.	Describe the different types of negotiations (competitive, collaborative, accommodative, avoidant, compromise, and revenge) and explain their nature (e.g., distributive, integrative, and mixed-motive). In what situations would each type of negotiation be most appropriate, and why?	6	CO2	K5
5.a.	As a Marketing Manager, when and why you would embark analyzing the marketing environment? Discuss by selecting any product or product category of any FMCG or a consumer durable of your choice.	6	CO2	K3
b.	Explain what combination of micro and macro environmental analysis that you would consider and why?	4	CO2	K3
6. a.	i) Compute the Profit for a Bio-Business Venture:	5	CO3	K3
	<ul style="list-style-type: none"> <li>• Sales: Rs. 4,00,000</li> <li>• Fixed Cost: Rs. 80,000</li> <li>• Break Even Point (BEP): Rs. 3,20,000</li> </ul>			
	ii) Compute the Sales for a Bio-Business Venture:			
	<ul style="list-style-type: none"> <li>• Fixed Cost: Rs. 40,000</li> <li>• Profit: Rs. 20,000</li> </ul>			
	Break Even Point (BEP): Rs. 80,000			
b.	A bioentrepreneur is assessing the consistency of a new batch of biodegradable packaging materials. The quality control team knows from previous experience that the strength of the material typically follows a normal distribution with a mean tensile strength of 15.8 MPa and a standard deviation of 1.2 MPa. The entrepreneur selects 100 samples from a supplier who claims that their materials are stronger than the usual strength, and the sample results show a mean tensile strength of 16.1 MPa. Test whether the supplier's claim of stronger material is statistically valid.	5	CO3	K3
7.a.	Explain Annual Report. Discuss in brief the contents of an annual report.	3	CO3	K2
b.	Describe the audited & non audited information contained in an Annual Report of any company.	7	CO3	K3
8. a.	Describe the regulatory framework governing bioentrepreneurship. How do these regulations ensure product safety and market integrity?	6	CO4	K3
b.	Evaluate the significance of regulatory guidelines in ensuring the safety of genetically modified organisms (GMOs).	4	CO4	K3