

BT242TC

USN

12V22CDOS9

RV COLLEGE OF ENGINEERING®

(An Autonomous Institution Affiliated to VTU)

IV Semester B. E. Examinations Sept./Oct. – 2024

Biotechnology

BIO SAFETY STANDARDS AND ETHICS

Time: 03 Hours

Maximum Marks: 100

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2 is compulsory. Answer any one full question from 3 and 4, 5 and 6, 7 and 8, 9 and 10.

PART-A

M BT CO

1	1.1	Differentiate between Biosafety cabinets and Laminar air flow.	02	3	1
	1.2	What is biohazard? List out any two examples of bio hazards.	02	2	1
	1.3	What are food allergens? Give two examples.	02	1	3
	1.4	What is the maximum concentration of lead permitted in food as per FSSAI?	01	1	3
	1.5	What is level 3 biosafety cabinet?	01	1	1
	1.6	Expand the term "GAP".	01	1	4
	1.7	Explain the "LMO", give example.	01	1	2
	1.8	Discuss the advantages of preservation of food.	01	1	3
	1.9	Cholera is caused by microorganism.	01	1	2
	1.10	What is the most dangerous temperature to preserve food?	01	1	3
	1.11	What are food- borne diseases? Give two examples	01	2	3
	1.12	Give the importance of HEPA filters, why are they used?	01	2	2
	1.13	Mention the role of antibiotics in Poultry	01	2	4
	1.14	What are the factors which contribute for food spoilage?	01	2	3
	1.15	How many types of FSSAI licenses are available? What are they?	01	2	3
	1.16	Which are the unit operations applicable in food processing?	01	2	3
	1.17	What is blanching? Give example.	01	1	3

PART-B

2	a	Illustrate and elucidate various Biosafety levels.	08	3	1
	b	What are the consequences of Biohazards? Explain any four.	08	2	1
3	a	Elaborate on GEAC, its compositions, duties, functions of biosafety.	08	3	2
	b	Classify GMOs and its applications in food, agriculture and pharmaceutical fields.	08	2	2
OR					
		Illustrate and give its functions of following committee			
		(i) RCGM			
		(ii) IBSC	08	4	2
	b	Explain and discuss the features of Cartagena Protocol and its importance of Biosafety	08	3	2
5	a	What is Food Hygiene? What are the possible pathogens that can contaminate food and how do you prevent food contamination?	08	2	3
	b	Explicate the features of FSSAI and its role in FBO	08	3	3

OR					
6	a	Elaborate on the various instruments required for Food Analysis and Testing in laboratories for maintaining the food quality Illustrate the principles of Hazard Analysis Critical Control Point (HACCP), elaborate each principle with an example	08	2	3
	b		08	3	3
OR					
7	a	Mention the needs and importance of food, processing operations. Give advantages of food processing. Classify various food packaging methods, and add an explanatory note on the smart food packaging methods.	08	3	3
	b		08	3	3
OR					
8	a	Discuss on Good Manufacturing Practices applicable to food and advantages of GLP Classify and Illustrate with suitable examples the various methods for food preservations and limits of preservatives with examples	08	3	4
	b		08	3	4
OR					
9	a	"In Human society, Food safety, ethics are most important". Justify the statement Write explanatory notes on Bioethics and Clinical Ethics	08	2	5
	b		08	3	4
OR					
10	a	"The use of antibiotics and hormones in poultry and its impact on Food Safety". Explain the statement Classify and explain about the food additives and mention the limits of food additives as per the food standards	08	4	5
	b		08	4	4