Q. P. Code: 23088

2 ½ Hours

Total Marks: 75

1. Attempt **all** questions.
2. **All questions** carry **equal** marks.
3. Draw **neat labeled diagrams** wherever necessary.
4. Use of **log tables** and **non-programmable calculator** is **allowed**.
5. For **Q 2, Q 3 and Q 4** attempt A and B **OR** C and D.

Q 1 Do as directed (Any fifteen) 15

1. _____ is the simplest primary screening technique for isolation of antibiotic producers.
2. State True or False: .Racemase is the microbial enzyme will change the configuration of amino acids in fermentation product.
3. _____ is the microorganism helps in leavening of the dough.
4. Name any one enzyme produced by molds.
5. State the role of mineral oil in microbial preservation.
6. Define Lyophilisation.
7. Name any one microbial culture collection centre.
8. Define: Inducer.
9. Give an example of inhibitor used in glycerol production.
10. State the importance of impeller.
11. Name the device used to measure temperature in small laboratory scale fermenter.
12. Give one advantage of plate and frame type heat exchanger.
13. The most common cause of foaming is due to _____ in the medium such as corn steep liquor, soybean meal, peanut meal etc.
14. Multi stage fermentation is a type of _____ fermentation.
15. State application of packed cell volume determination.
16. Protozoan _____finds use in assay of vitamin B_{12}.
17. State True or False: TLC is a form of partition chromatography.
18. Define metabolic response assays.
19. Enlist any one factor which influence bioavailability

Q. P. Code: 23088

20. Nuclear Magnetic Resonance technique provides valuable information on _____of fermentation product.

Q 2 A	Describe the primary screening methods used to screen microorganisms capable of synthesizing any four valuable industrial products.	**08**
Q 2 B	Elaborate on industrial uses of microorganisms.	**07**
	OR	
Q 2 C	Discuss the salient features of secondary screening method.	**08**
Q 2 D	Give an account of the steps involved in cryogenic storage technique and state its advantages.	**07**
Q 3 A	Discuss the different components of an industrial fermentation media.	**08**
Q 3 B	Describe surface fermentation with a suitable example and state its advantages and disadvantages.	**07**
	OR	
Q 3 C	Give an account on continuous method of media sterilization and state its advantages over batch sterilization.	**08**
Q 3 D	Describe stepwise outline production and recovery of industrial alcohol.	**07**
Q 4 A	Elaborate on Diffusion assays.	**08**
Q 4 B	Describe principle and application of paper chromatography in fermentation product analysis.	**07**
	OR	
Q 4 C	Give an account on Titrations & Gravimetric method of product analysis present in crude fermentation broth.	**08**
Q 4 D	Discuss Bioequivalence & its assessment.	**07**
Q 5	Write Short notes on **any three** of the following	**15**
a	Serial subculture method.	
b	Principle and application of Paper disk diffusion method.	
c	Sparger types and its significance.	
d	Applications & advantages of biological assays.	
e	Blood concentration –time profile for a theoretical drug given intravenously.	

_____