

B.N.BANDODKAR COLLEGE OF SCIENCE, THANE
PRELIM EXAMINATION FEBRUARY 2011

DAY: TUESDAY
DATE: 1/2/11

T.Y. B.Sc

MARKS: 100
TIME: 11.00 am –
2.00pm

MICROBIOLOGY Paper -IV

NB:

- 1. Attempt Any Five the questions.**
- 2. Illustrate your answers with suitable examples.**
- 3. All Questions carry equal marks.**

Q.1 Answer the following (any 4) 20M

1. With the help of flow sheet illustrate streptomycin production.
2. Discuss production of commercial products from recombinant microbes.
3. Write a note on applications of Nanomaterials.
4. Write short note on importance of plant tissue culture in agriculture.
5. How would you Isolate mutants that do not recognize the presence of inhibitors and repressors.
6. Discuss the significance of Industrial strain preservation and how is it carried out.
7. Give the principle, working and application of autoradiography.

Q.2 A) Answer the following (any 2) 12M

1. Explain the monitoring and control of Pressure during fermentation.
2. Discuss the construction materials used for fermentation.
3. Compare and contrast batch, fed batch and continuous fermentation.
4. Explain the monitoring and control of foam during fermentation.

B) Explain the following terms (any 4) 8M

1. Containment.
2. Scale-up.
3. Precursor.
4. Inducers
5. Media optimization
6. Auxotrophic mutant.

Q.3 A) Write an essay on principle working and application of UV, visible and IR spectrophotometer. 12M

OR

Q.3 A) 1. Differentiate between solvent extraction and solvent recovery. 6M
2. Describe Rotary vacuum filers. 6M

B) Answer (any 8) 8M

1. Give one example of filter aid.
2. Give one example of chemical agent used to disrupt cell.
3. Give one example of flocculating agents.
4. Give one example of product recovered by solvent extraction
5. Explain two methods for treatment of pharmaceutical effluent.
6. Define GMP.
7. Define Quality control.
8. Mention two methods of sterility testing
9. Give two application of Circular dichroism (CD)
10. Give two application of Mass spectroscopy.

4A) Answer (any 2) 12M

1. Explain brewing process.
2. Write a note on Industrial alcohol production from molasses
3. Answer in brief on different types of probiotic bacteria.
4. Write short note on Nutraceutical compounds.

B) Give examples of (any 8) 8M

1. Antioxidants used in citric acid production.
2. Auxotrophs used in amino acid production.
3. Organism associated with production of fungal amylase
4. Symbiotic compounds.
5. Phenolic Nutraceutical compounds.
6. Table wines.
7. Organism associated with vit b₁₂ production
8. Substance added to increase permeability of glutamic acid production.
9. Ergotamine alkaloids.
10. Hops species.

Q5. A)Answer (any 2) 12M

1. Comment on different methods of enzyme immobilization.
2. Write a note on IPR and its genesis.
3. How would you isolate and establish animal cell line.
4. Applications of nano materials.

. B) Give role /significance of of the following any Four

8M

1. Plant variety protection act
2. Transgenic plants
3. Serum in culture media.
4. Immobilized Enzymes
5. Copyright
6. PEG