VCD-25/03/15 BIOCHEMISTRY-III S.Y.B.Sc. SEM III EXAM MARKS75 21/2HRS (25)

- All questions are compulsory.
- Figures to Right indicate marks.
- Draw diagram wherever necessary.

QI. A. Explain the following: (any 4) (8M)

1. Chlorination
2. Cold sterilization
3. COD
4. Aseptic
5. Animal tissue culture
6. Callus
7. Contamination
8. Disinfection

QI.B. Answer the following: (any 2) (6M)

1. What do you mean by protoplast fusion?
2. Write down the different advantages of ATC.
3. Is pasteurized milk sterile? Explain.
4. What do you mean by food poisoning? Name the diseases caused by contaminated food.

QI. C. Answer the following: (any 1) (6M)

1. What are the different applications of transformation?
2. Elaborate on the methods employed for the detection of fecal contamination in potable Water.

Q II) A) Answer the following (Any 4) (8M)

1. Give two examples of cell disruption techniques used in downstream processing.
2. Give two examples of buffering agents used in fermentation medium.
3. State the advantages of synthetic medium.
4. State the importance of corn-steep liquor as a component of fermentation medium.
5. What is primary screening?
6. What is the significance of heat shocking in inoculum development?
7. What is enzymatic adaptation of microorganisms?
8. What is continuous fermentation?

QII.B. Answer the following: (any 2) (6M)

1. Describe the giant colony technique
2. Write a note on plate and frame filters
3. Write a note on use of sulfite waste liquor in fermentation medium
4. Write a note on Dialysis

Contd/...2

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QII C. Answer the following: (any 1) (6M)

1. Describe Centrifugation as a process for downstream processing of fermentation products.
2. Write a short note on nitrogen sources and precursors used in preparation of fermentation medium.

QIII. A. Answer the following: (any 4) (8M)

1. Give two examples of yeasts used for SCP production.
2. Name any two semi – synthetic penicillins.
3. Name any two materials used in adsorption as a method of immobilization of enzymes.
4. Define secondary metabolite? Name any one.
5. Give the action of pyruvate decarboxylase.
6. What is a biosensor? Name any one type.
7. Give different types of proteases.
8. Give two examples of organisms used in cheese production.

QIII.B. Answer the following: (any 2) (6M)

1. Give any three methods for stabilization of soluble enzymes.
2. Give uses of ethanol.
3. What is rennet? What is its use in cheese production?
4. Explain cross linking or copolymerization with respect to immobilization of enzymes?

QIII. C. Answer the following: (any 1) (6M)

1. Give an account on substrates used for single cell protein production.
2. Give a brief account on biosensors

QIV. A. Explain the following: (any 1) (2M)

1. Anther culture 2. Bacteriophage

QIV.B Do as directed: (any 3) (3M)

1. Callus is called as an _____ mass of cells (Organized, unorganized, differentiated).
2. Name any two chemical preservatives used in food preservation.
3. Name any two infections transmitted by aerosols.
4. Pollen culture is a part of animal tissue culture. (True / False).
5. Talcum powder is sterilized using _____ (Autoclave, membrane filter. Hot air oven).
6. Bacteria are good for growth of plant cells (state whether true / false)

Contd/...3

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Q IV.C. Explain the following: (any 1) **(2M)**

1. Crude medium
2. Screening

Q IV.D. Match the following (Any 5) **(3M)**

7. Black strap molasses	a. acetone-butanol fermentation
8. Alcohol	b. agitator
9. Ammonium sulphate	c. aeration
10. Impellers	d.sugarcane
11. Sparger	e. precipitation
12. *Clostridium acetobutylicum*	f. antifoam agent

Q IV.E. Explain the following: (any 1) **(2M)**

1. Analyte
2. Enzyme immobilization

Q IV.F. Match the following (Any 3) **(3M)**

1. Adsorption	a. fungal amylase
2. Ripened cheese	b. glucose isomerase
3. Subtilisin Carlsberg	c. cyanocobelamin
4. Immobilized enzyme	d.Roquefort
5. Vitamin B12	e.Detergent protease
6. *Aspergillus niger*	f. aluminium oxide

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