



**P-003-1016011**      Seat No. \_\_\_\_\_

**B. Sc. (Sem. VI) (CBCS) Examination**

**March / April - 2020**

**MB - 601 : Bioprocess Technology**

**Faculty Code : 003**

**Subject Code : 1016011**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : **70**

**1** (A) Answer specifically : **4**

- (1) Define Secondary screening.
- (2) What is Recombinant DNA technology?
- (3) What is Protoplast Fusion?
- (4) Define: Beat Molasses

(B) Answer in brief : (Any **One**) **2**

- (1) Drawbacks of fermentation industries.
- (2) What are Primary Screening Media?

(C) Answer in detail : (Any **One**) **3**

- (1) Give few examples of Primary Screening media used for isolation of Antibiotic Producers.
- (2) Mutation as a tool in improvement of industrial microbes.

(D) Write a note : (Any **One**) **5**

- (1) Range of Fermentation processes.
- (2) Economic aspects of Fermentation industry.

2 (A) Answer specifically : 4

- (1) What is production media?
- (2) What is Biovessel?
- (3) Define: Precursors
- (4) What are Antifoam agents?

(B) Answer in brief : (Any One) 2

- (1) What are synthetic media?
- (2) List the types of Molasses.

(C) Answer in detail : (Any One) 3

- (1) Write the difference between Synthetic and Crude media?
- (2) Give the examples of Crude carbon sources as Raw material.

(D) Write a note : (Any One) 5

- (1) Write on media optimization.
- (2) Write on Fermentation media and its types.

3 (A) Answer specifically : 4

- (1) Define: Agitation process
- (2) What is medium sterilization?
- (3) What do you mean by Aseptic Operation?
- (4) Why aeration is important?

(B) Answer in brief : (Any One) 2

- (1) What is the importance of Baffles in Bioreactor?
- (2) Give function of Impeller?

(C) Answer in detail : (Any **One**) 3

- (1) What is Tower Fermentor?
- (2) What is Airlift Fermentor?

(D) Write a note : (Any **One**) 5

- (1) Write criteria for design of a Fermentor.
- (2) What is importance of media sterilization process in Fermentation industries?

4 (A) Answer specifically : 4

- (1) What is Sedimentation process?
- (2) What are diffusion Assay?
- (3) Define: Two phase Aqueous Extraction system
- (4) What is Supercritical Fluid Extraction?

(B) Answer in brief : (Any **One**) 2

- (1) What is importance of Centrifugation techniques in fermentation industries?
- (2) Give few examples of known non-mechanical methods of Cell lysis.

(C) Answer in detail : (Any **One**) 3

- (1) Which are the chemical methods of assay of Fermentation products?
- (2) What do you mean by Solvent recovery method?

(D) Write a note : (Any **One**) 5

- (1) List out Cell Disruption techniques and explain any one in detail.
- (2) Write on Biological assay of Fermentation product.

5 (A) Answer specifically : 4

- (1) Name the organism producing Citric acid.
- (2) Name the organism producing Ethyl Alcohol.
- (3) Which organism produces Amylase?
- (4) Define: Immobilization of cells .

(B) Answer in brief : (Any One) 2

- (1) Name two techniques of immobilization of Cell/ Enzyme.
- (2) Name the different antibiotic producing microbes.

(C) Answer in detail : (Any One) 3

- (1) What are the uses of Ethyl alcohol?
- (2) Write the basic difference between Enzyme producer and Antibiotic producer.

(D) Write a note : (Any One) 5

- (1) Give overview of Immobilization techniques in Fermentation techniques.
- (2) Production of Penicillin.

---