Roll No. | | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 11

M.Sc. (Bio Technology) (Sem. – 1)

APPLIED MICROBIOLOGY

Subject Code: MBT-102

M Code: 75660

Date of Examination : 12-01-2023

Time: 3 Hrs. **Max. Marks: 70**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SEVEN questions carrying FIVE marks each and students have to attempt any SIX questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Explain the following in brief:

a) Properties of Eubacteria.

b) Organization of yeast.

c) Properties of animal viruses.

d) Techniques for screening of new metabolites.

e) Sterilization techniques- physical methods.

f) Industrial relevance of mutant organisms.

g) Microbes causing human diseases.

h) Bacterial virulence factors.

i) Quorum sensing.

j) Diauxic growth curve.

SECTION-B

2. What do bacterial, animal and tumor viruses have in common?

3. Write down an illustrated note on history of microbiology.

4. Give a detailed account of procedures for strain development for industrial applications.

5. Explain composition of typical growth media, what are the nutritional requirements for growing *E*. coli culture?

6. Describe important mechanism of host-pathogen interaction using suitable examples.

7. Write a detailed note on animal and plant diseases caused by microorganisms. What is the role of pathogenicity islands in etiology of the disease?

8. Explain various physico-chemical methods of food preservation.

SECTION-C

9. Give a detailed account of morphological and structural organization of typical yeast. Also draw a well labeled diagram showing sub-cellular organization of budding yeast.

10. How does growth kinetics vary during batch and fed batch fermentation? Explain in detail.

11. Compare primary and secondary metabolites. Explain biochemistry and microbiology of organic acid synthesis for industrial application.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.