(6 pages) **Reg. No. :** .....

Code No. : 9083 **Sub. Code : PBOM 13**

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2017.

First Semester

Botany

MICROBIOLOGY AND IMMUNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. The iodine used in gram staining serves as
   (a) Chelator
   (b) Catalyst
   (c) Mordant
   (d) Cofactor

2. A cluster of polar flagella is called
   (a) Lophotrichous
   (b) Amphitrichous
   (c) Monotrichous
   (d) Petritrichous

3. The envelope of one of the following viruses is derived from the host cell nucleus
   (a) *Paramyxoviruses*
   (b) *Retroviruses*
   (c) *Orthomyxoviruses*
   (d) *Herpesviruses*

4. Plant viruses may be cultivated in
   (a) Tissue culture
   (b) Cultures of separated cells
   (c) Whole plants
   (d) All of these

5. Which of the following was the first amino acid to be produced commercially?
   (a) L-glutamic acid (b) L-lysine
   (c) L-cystine (d) L-methionine

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6. Pectinase, an enzyme used for increasing yield and for clarifying juice is obtained from

(a) *Aspergillus oryzae*

(b) *Aspergillus niger*

(c) *Aspergillus flavus*

(d) All of these

7. All bacteria which can fix nitrogen except

(a) *Rhizobium* (b) *Escherichia coil*

(c) Azotobacter (d) Cyanobacteria

8. The Spinae is rigid tubular appendages in

(a) Gram positive bacteria

(b) Gram negative bacteria

(c) Both (a) and (b)

(d) Actinimycetes

9. Large parasites such as helminthes may be killed extracellularly by the action of

(a) Basophils (b) Monocytes

(c) Eosinophils (d) Neutrophils

10. The passive immunization is done for

(a) Tuberculosis (b) Diphtheria

(c) Enteric fever (d) All of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the general characters of bacteria.

Or

(b) Describe the gram positive bacteria.

12. (a) Write short notes on mycoplasma.

Or

(b) Briefly explain the structure of virus with diagram.

13. (a) Give a concise account on role of microorganisms in spoilage of poultry.

Or

(b) Write short notes on role of microorganisms in spoilage of eggs.

14. (a) Explain the soil surface microorganisms.

Or

(b) Describe the deep soil microorganisms.

15. (a) Briefly explain the antigens.

Or

(b) Enumerate the innate immunity.

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PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write an essay on Bergey's classification of bacteria.

Or

(b) Give a detailed account on bacterial reproduction.

17. (a) Explain the classification of virus.

Or

(b) Describe the plant virus.

18. (a) Enumerate the production method of wine.

Or

(b) Narrate the production method of vinegar.

19. (a) Write an essay on the role of microorganisms in freshwater.

Or

(b) Give a detailed account on role of microorganisms in brackish-water.

20. (a) Enumerate the structure and function of immunoglobulin.

Or

(b) Describe the immune response during bacterial congenital infection.

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