

(6 pages)

Reg. No.:

Code No. : 7889

Sub. Code : PBOM 13

M.Sc.(CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

First Semester

Botany — Core

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 protein from which hook and filaments of flagella are composed of
 - (a) Keratin
 - (b) Flagellin
 - (c) Gelatin
 - (d) Casein
2. The cocci which mostly occur in single or pairs are
 - (a) Streptococci
 - (b) Diplococci
 - (c) Tetrads
 - (d) Monococci

3. The viral nucleocapsid is made-up of

- (a) Genome and capsid
- (b) Capsid and spikes
- (c) Envelope and capsid
- (d) Capsomere and genome

4. Enveloped viruses have a

- (a) Icosahedral shape
- (b) Helical shape
- (c) Roughly spherical shape
- (d) Complex shape

5. The 95% ethanol is equivalent to

- (a) 190 proof
- (b) 110 proof
- (c) 170 proof
- (d) 120 proof

6. Alcohol production from starch and raw sugar utilizes selected strains of

- (a) *Saccharomyces cerevisiae*
- (b) *Candida pseudotropicalis*
- (c) *Candida utilis*
- (d) *Saccharomyces utilis*

Page 2

Code No. : 7889



7. The Redfield ratio is an index of concentration of
- (a) Carbon, hydrogen and oxygen
 - (b) Nitrogen, potassium and iron
 - (c) Carbon, nitrogen and phosphorous
 - (d) Carbon, phosphorous and sulfur
8. Removal of solids in water is generally considered as a
- (a) Primary treatment (b) Secondary treatment
 - (c) Tertiary treatment (d) None of these
9. Which of the following expresses CD3 surface antigen?
- (a) Grunulocytes (b) T cells
 - (c) Monocytes (d) B cells
10. Treatment with bacterial endotoxins results blast formation in
- (a) B cells (b) T cells
 - (c) Monocytes (d) None 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) Describe the gram negative bacteria.
- Or
- (b) Explain the ultrastructure of bacterial cell wall with diagram.
12. (a) Briefly explain the general characters of virus.
- Or
- (b) Describe the structure of mycoplasma with diagram.
13. (a) Write short notes on role of microorganisms in fruits spoilage.
- Or
- (b) Give a concise account on role of microorganisms in meats spoilage.
14. (a) Explain the subsurface soil microorganisms.
- Or
- (b) Briefly explain the Bt toxins.



15. (a) Describe the B cell epitopes.

Or

- (b) What is antibody? Explain it.

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 method of isolation and culturing of bacteria.

Or

- (b) Give a detailed account on continuous and synchronous culture of bacterial growth:

17. (a) Explain the classification of bacteriophage.

Or

- (b) Describe the structure and multiplication of virus.

18. (a) Enumerate the production method of organic acids.

Or

- (b) Give an account on production method of acetic acids.

19. (a) Write an essay on Blue Green Algae.

Or

- (b) Describe the microbial herbicides.

20. (a) Explain the immune system.

Or

- (b) Narrate the innate and adaptive immunity system.
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