

(6 pages)

Reg. No. :

Code No. : 6434

Sub. Code : ZZOM 34

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Zoology — Core

MICROBIOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Who is known as the father of microbiology?

- (a) Edwin John Butler
- (b) Antoni van Leeuwenhoek
- (c) Robert Koch
- (d) Ferdinand Cohn

2. Which of the following is an essential preliminary to the tree reconstruction?

- (a) Sequence alignment
- (b) Sequence validation
- (c) Model selection
- (d) Model build

3. Which of the following bacteria requires nicotinic acid as a growth factor in their media?

- (a) *Nitrosomonas* sp.
- (b) *Proteus vulgaris*
- (c) *Leuconostoc mesenteroides*
- (d) *E.coli*

4. The bacterium that infects other gram-negative bacteria is

- (a) *Proteus mirabilis*
- (b) *Haemophilus influenza*
- (c) *Bdellovibrio*
- (d) *Pseudomonas putida*

5. Which major organ can be affected by untreated syphilis?

- (a) Eye
- (b) Brain
- (c) Liver
- (d) Kidney

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6. Which is the infective form of the malaria parasite?
 (a) Bradyzoite (b) Tachyzoite
 (c) Oocyst (d) Sporozoite
7. Which of the following is used as a biofertilizer for soybean crop?
 (a) *Nostoc* (b) *Azospirillum*
 (c) *Rhizobium* (d) *Azotobacter*
8. State that the salmonellosis involves
 (a) An enterotoxin and exotoxin
 (b) An enterotoxin and cytotoxin
 (c) A cytotoxin only
 (d) An exotoxin and cytotoxin
9. Which one of the following is not included in the mechanism of bioleaching?
 (a) Acidolysis (b) Complexolysis
 (c) redoxolysis (d) Hydrolysis
10. Which of the following species has a shorter body size?
 (a) *Epifilis* (b) *Endogens*
 (c) *Aneciques* (d) *Eudrilus*

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
 Each answer should not exceed 250 words.

11. (a) Summarise the history of microbiology.
 Or
 (b) Give an outline for the phylogenetic tree construction.
12. (a) Explain about the differential medium of microbial culture.
 Or
 (b) Describe about the continuous culture method for microorganisms.
13. (a) *Treponema pallidum* is a sexually transmitted disease - Explain.
 Or
 (b) Describe about the biology and pathology of candidiasis.
14. (a) Analyze the biochemical changes of food spoilage by microorganism.
 Or
 (b) Summarise the role microbes in vaccine production.

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15. (a) State that the history of bioremediation.

Or

- (b) Explain about the importance of vermicomposting for agriculture.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Summarise the classification of microorganism.

Or

- (b) Bergeys manual systematic bacteriology - Justify.

17. (a) Examine the isolation and purification techniques in bacteria.

Or

- (b) Enumerate the gram positive and gram negative bacteria.

18. (a) Summarise the biology and pathology of salmonella sp.

Or

- (b) Highlight the mode of transmission, symptoms and control measures of poliomyelitis.

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19. (a) Classify the genera of VAM fungi.

Or

- (b) Discuss about the classification of microorganism of milk.

20. (a) Enumerate the bioreactors for bioremediation process.

Or

- (b) Highlight the principle, types and significance of immobilization.

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