

Microbiology III Semester

MODEL PAPER-I

SECTION-A

Answer any 5 questions:

5×4 = 20 M.

1. Macroelements of microbial nutrition.
2. Methylobiophis.
3. Photosynthesis
4. Selective media.
5. Viable count.
6. Glyoxalate cycle.
7. Lactic acid fermentation.
8. Co-enzyme.

SECTION-B

Answer all the questions:-

15×4 = 60 M

9. a) Outline the oxygenic and anoxygenic photosynthesis in bacteria
(or)
b) Write a short note on photosynthetic apparatus in prokaryotes.
10. a) Write in detail the different phases of bacterial growth in Batch culture.
(or)
b) Mention the indirect methods of microbial measurement.
11. a) Write a notes on aerobic respiration - Glycolysis and its energetics.
(or)
b) Write a essay on microbial fermentation with special reference to alcohol and lactic acid.
12. a) Write an essay on classification of enzymes with examples.
(or)
b) Write a notes on enzyme inhibition.
 - i) Competitive
 - ii) Non-competitive.
 - iii) Uncompetitive.

MODEL PAPER-II

SECTION-A

Answer any 5 questions:-

5 × 4 = 20 M

1. Active transport.
2. Autotrophs.
3. Enriched media.
4. Biphasic growth.
5. ED pathway.
6. Anapleotic reaction
7. Nitrate respiration
8. Substrate level phosphorylation.

SECTION-B

15 × 4 = 60 M

Answer all the questions:-

9. a) Write an essay on electron transport chain complexes and oxidative phosphorylation.
(or)
b) Classify the micro nutrients, their role in nutrition of micro-organisms.
10. a) Write the various models of nutrient uptake by microorganisms.
(or)
b) Write essay on TMP shunt.
11. a) Write a short note on β -oxidation of fatty acids.
(or)
b) Write a short note on
 - i) sulphate respiration.
 - ii) Nutritional groups of microorganisms.
12. a) Write an essay on enzyme-substrate interaction.
 - i) Lock & key model.
 - ii) Induced fit model.
b) Write short notes on
 - i) Allosteric inhibition.
 - ii) factors effecting enzyme catalysis.

MODEL PAPER-III

SECTION-A

Answer any five questions:-

5x4 = 20 M.

1. Growth factors.
2. Mixotrophs.
3. Differential media.
4. Non synthetic media.
5. Fermentation.
6. Enzyme units.
7. Active site.
8. Properties of enzymes.

SECTION-B:

Answer all the questions:-

15x4 = 60 M.

9. a) Write an essay on microbial nutrition.

(or)

- b) Write short notes on
- i) chloroplast structure
 - ii) Ultrastructure of mitochondria.
 - iii) chlorosomes.

10. a) Write short notes on microbial measurement.

- i) Microscopic
- ii) Turbidometry.
- iii) Biomass.

b) Write notes on

- i) Continuous culture
- ii) factors influencing microbial growth.

11. a) Explain in detail TCA cycle and its energetics.

(or)

b) Write notes on Anaerobic respiration.

12. a) Write short notes on

- i) conjugated enzymes
- ii) Prosthetic group.
- iii) Michaelis-Menten equation.

(or)

b) Write essay on Microbial metabolism.