

PGIS-N-1062 B-17
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Virology & Mycology)
Paper : 1.4 SC
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates :

Attempt all questions.

SECTION - A

1. Write a brief note on any **Ten** of the following. (10×2=20)
- a) sclerotium
 - b) Capsid proteins
 - c) Nucleoproteins
 - d) Baltimore classification
 - e) Mycophages
 - f) Translocation of viruses
 - g) Vectors
 - h) Sub viral particles
 - i) Prions
 - j) Mycelium
 - k) rhizomorph
 - l) Lichens

SECTION - B

- Write short notes on any **Six** of the following. (6×5=30)
- 2. Viral symmetry.
 - 3. Biological methods of viral detection.
 - 4. Replication in phages.

5. Transmission modes of plant viruses.
6. Dissemination of animal viruses.
7. Economic importance of fungi.
8. Planogametic copulation.

SECTION - C

Answer any **Three** of the following.

(3×10=30)

9. Write an account of structure and life cycle of Tobacco mosaic virus.
10. Give an account of General characteristics Isolation and life cycle of FMD virus.
11. Describe the reproduction in fungi.
12. Write a note on Oncogenic viruses their propagation and mechanism of cell transmission.



PGIS-N-1061 B-17
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Bacteriology)
Paper : 1.3 HC
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates :

Attempt all questions.

SECTION - A

1. Write a brief note on any **Ten** of the following. **(10×2=20)**
- a) Capsule
 - b) Dendograms
 - c) Acid fast bacteria
 - d) International codes & rules
 - e) Endospore
 - f) Extremophiles
 - g) Magnetosomes
 - h) Rickettsia
 - i) Non culturable bacteria
 - j) Mycoplasma
 - k) Binary fission
 - l) Actino bacteria

SECTION - B

Write short notes on any **Six** of the following.

(6×5=30)

2. Chemical composition of cell wall of Archaeobacteria.
3. Diagnostic Procedures of bacteria.
4. Bacterial Nucleic acids.
5. Septum formation
6. Numerical taxonomy.
7. Mechanism of bioluminescence.
8. General characteristics of cyanobacteria.

SECTION - C

Answer any **Three** of the following.

(3×10=30)

9. Discuss the reproduction in bacteria in detail.
10. Write on the significance and conservation of biodiversity.
11. Write the general characteristics of archea bacteria and its role in microbial evolution.
12. Discuss on the ultra structure and morphology of bacteria.



PGIS-N-1060 B-17
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Biochemistry and Microbial Metabolism)
Paper : 1.2 HC
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates :

Attempt all questions.

SECTION - A

1. Write brief notes on any **Ten** of the following. **(10×2=20)**
- a) Vander wall forces.
 - b) Electrolytes
 - c) Gibbs Free energy
 - d) High energy compounds
 - e) Cytochromes
 - f) Degradation of Glycine
 - g) Glycolipids
 - h) Acidic amino acids
 - i) Coenzyme
 - j) Ketogenesis
 - k) Sulfur containing amino acids
 - l) HMP shunt

SECTION - B

Write short notes on any **Six** of the following. **(6×5=30)**

- 2. Physiological buffer systems and electrolytes.
- 3. Electron transport chain.
- 4. Classification and functions of lipids.

5. Degradation of pyrimidine nucleotides.
6. Urea cycle.
7. Glyoxylate cycle.
8. Oxidation of palmitic acid and its energetics.

SECTION - C

Answer any **Three** of the following.

(3×10=30)

9. Describe the structural organization of protein.
10. Explain biosynthesis of Purines. Add a note on salvage pathway.
11. Distinguish glycolysis and gluconeogenesis Comment regulatory steps.
12. Explain classification structure properties and functions of carbohydrates.



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PGIS-N-1059-B-17
M.Sc. Ist Semester Degree Examination
MICROBIOLOGY
Fundamentals of microbiology
Paper : HC 1.1
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates :

Attempt all Questions

Section-A

1. Write brief notes on any TEN of the following: **(10x2=20)**
- a) Edward Jenner
 - b) Nucleic acids
 - c) Microscopy
 - d) Radiation
 - e) Spread plate technique
 - f) Endospores
 - g) ATCC
 - h) Immersion oil
 - i) Biogenesis
 - j) Chromatography
 - k) Formaldehyde
 - l) Phylogenetic relationship

Section-B

Write Short notes on any SIX of the following:

(6×5=30)

2. Distribution of Microorganism in Air
3. Photomicrography
4. Acid - Fast staining
5. Laminar air flow
6. Transport Media
7. Autoclave
8. Robert Koch postulates

Section-C

Answer any Three of the following:

(3×10=30)

9. Explain the working principles, construction and operation of electron microscope
10. Describe the different schemes of identification of microorganism
11. Write a detailed account on microbial preservation techniques.
12. Write a comparative account of Prokaryotes and Eukaryotes.

