Roll No. _____ [Total No. of Pages : 2

PGIS-N 1059 B-18
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Fundamentals of Microbiology)
Paper - HCT 1.1
(NEW)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Attempt All Questions.

SECTION-A

1. Write brief notes on any **TEN** of the following: **(10×2=20)**

   a. Spontaneous generation

   b. Joseph Lister

   c. Capsid

   d. Basidiospores

   e. Disinfectant

   f. Pasteurisation

   g. Stab culture

   h. Synthetic media.

   i. Inclusion bodies

   j. Phylogentic classification

   k. pH meter

   l. GMP

SECTION-B

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

2. Contributions of Louis Pasteur
3. Prokaryotes and Eukaryotes
4. Enriched medium
5. Phase contrast microscope
6. Type culture centres
7. Hot air oven
8. Schemes of identification of microorganisms

SECTION-C

Answer any **THREE** of the following: **(3×10=30)**

9. Discuss the Physical method of sterilization.
10. Write detailed account on Fungi.
11. Explain the working principles, construction and operation of SEM.
12. Discuss the different staining method used in the microbiology laboratory.

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PGIS-N-1060 B-18

M.Sc. I Semester Degree Examination

MICROBIOLOGY

(Biochemistry and Microbial Metabolism)

Paper -HC 1.2

(New)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Attempt all questions.

SECTION-A

Write brief notes on any **Ten** of the following. **(10×2=20)**

1. a) Buffers
b) Rutherford model of atom
c) pKa value
d) Zwitter ions
e) Potential energy
f) Ion-channels
g) Nucleosides
h) NADP
i) Hyperchromic shift
j) Vitamins
k) Hemoglobin
l) Ketone bodies

SECTION-B

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

2. Laws of thermodynamics.
3. Phenyl keto urea.
4. β - Oxidation.
5. Salvage pathway.
6. Classification of acids & bases.
7. ED pathway.
8. Structure and classification of carbohydrates.

SECTION -C

Answer any **Three** of the following. **(3×10=30)**

9. Explain physical and chemical properties of water.

10. Describe the structure, properties and classification of lipids.

11. Write an essay on electron transport chain, comment regulatory steps in electron transport chain.

12. Explain classification, structure, properties and functions of amino acids.

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PGIS-N 1061 B-18
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Bacteriology)
Paper - HC 1.3
(New)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Attempt All Questions.

SECTION-A

1. Write brief notes on any **TEN** of the following: **(10×2=20)**

a) Phycobilisomes

b) Dendrogram

c) Binary cell division

d) Endospore germination

e) Nucleoid

f) Septum formation

g) Halophiles

h) Mycolic acids

i) Numerical Taxonomy

j) Chlamydia

k) Genus

l) Heterocyst

SECTION-B

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

2. Growth and Multiplication of Mycoplasma.

3. Conservation of Bacterial biodiversity
4. Planes of cell division
5. Origin and evolution of bacteriology
6. General characters factinobacteria.
7. Reproduction in cyanobacteria
8. Fine structure of flagellum and its functions.

SECTION-C

Answer any **THREE** of the following: **(3×10=30)**

9. Write the general characteristics of Archaebacteria and their role in the evolution of microbial world.
10. Give an account of bioluminescence and bioluminescent bacteria and its importance.
11. Describe the structure and functions of organelles of bacterial cytoplasm.
12. Write the general characteristics of Richettsiae and their life cycle.

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PGIS-N 1062 B-18
M.Sc. I Semester Degree Examination
MICROBIOLOGY
(Virology & Mycology)
Paper - SC 1.4
(New)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. *Attempt All Questions.*

SECTION-A

1. Write a brief note on any **TEN** of the following: **(10×2=20)**
   a) Capsid
   b) ICTV classification of viruses
   c) Ascospores
   d) Satellite virus
   e) Yeast
   f) Mycophages
   g) Hypha
   h) Apical growth
   i) Fission
   j) Oidia
   k) Copulation
   l) Molds

SECTION-B

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

2. Evolution of viruses.
3. Multiplication of viral genomes.
4. Identification and cultivation of phages.
5. Translocation and distribution of viruses in plants.

6. Propagation of animal viruses.
7. Distribution of fungi.
8. Fungal adaptations for nutrient capture.

SECTION-C

Answer any **THREE** of the following: **(3×10=30)**

9. Write a note on reproduction in fungi.
10. Explain salient features of Baltimore classification of viruses.
11. Give an account of Oneogenic viruses and their significance.
12. Write a note on economic Importance of fungi.