

PGIIS 1085 A-16
M.Sc. IInd Semester Degree Examination
Microbiology
(Microbial Safety and Quality Control)
Paper : OE - 2.4

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All sections

SECTION - A

1. Write brief notes on any **ten** of the following : **(10×2=20)**
- a) Softning of water
 - b) Prophylaxis
 - c) Food preservation
 - d) Amoebiasis
 - e) Soil fertility
 - f) Pure culture
 - g) Xenobiotics
 - h) Biofertilizers
 - i) Lyophilization
 - j) Good Manufacturing Practice
 - k) Filter sterilization
 - l) Biopesticides

SECTION - B

Write short notes on any **six** of the following :

(6×5=30)

2. Food intoxication
3. Indian and global standards (WHO) for drinking water
4. Nitrogen cycle
5. Water borne diseases
6. Indian standards of food safety
7. Air quality measurements
8. Food safety laws

SECTION - C

Answer any **three** of the following :

(3×10=30)

9. Describe the MPN technique and its significance.
 10. Explain the symptoms, laboratory diagnosis and treatment for typhoid.
 11. Discuss “microbial safety and quality control” in agricultural industries.
 12. Describe different methods for preservation of microorganisms.
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PGIIS 1084 A-16
M.Sc. IInd Semester Degree Examination
Microbiology
(Microbial Ecology and Environmental Microbiology)
Paper : SC - 2.3

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:*Answer all sections***Section - A**

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

- a) Composting
- b) Sewage fungus
- c) Bioventing
- d) Smog
- e) Lithosphere
- f) Biosparging
- g) Point sources
- h) Syntrophism
- i) Green house gases
- j) Reverse osmosis
- k) 2,4 - D
- l) Biomagnification.

Section - B

Write short notes on any **six** of the following :

(6×5=30)

2. Bioleaching of copper
3. Microbial diversity in ocean
4. Shelford's law of tolerance
5. Microbial indicators of water quality
6. Ecological succession
7. Trickling filter
8. Radiation Hazards

Section - C

Answer any **three** of the following :

(3×10=30)

9. Discuss the methods used for bioremediation of contaminated soil.
 10. Discuss in detail the microbial degradation of Cellulose.
 11. Explain the sources, consequences and control measures of Eutrophication.
 12. Give an account of solid waste management.
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PGIIS -1083 A-16
M.Sc. IInd Semester Degree Examination
Microbiology
(Microbial Genetics)
Paper : HC - 2.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:*Answer all sections***Section - A**

1. Write brief notes on any **ten** of the following : **(10×2=20)**
- a) Law of dominance
 - b) Feedback inhibition
 - c) Nucleosome
 - d) Concatener
 - e) Central dogma
 - f) Poly A tail
 - g) Triplet codon
 - h) House keeping genes
 - i) F-pirtus
 - j) Transposon
 - k) Frameshift mutation
 - l) Reverse transcription

Section - B

Write short notes on **any six** of the following :

(6×5=30)

2. Initiation of replication in prokaryotes
3. Plasmids
4. Ribosome assembly
5. Post translational modification of proteins in eukaryotes
6. Types of introns
7. Site directed mutagenesis.
8. Eukaryotic m RNA structure.

Section - C

Answer **any three** of the following :

(3×10=30)

9. Illustrate bacterial configuration and its applications.
 10. Discuss the transcription process in prokaryotes
 11. Explain with evidence the semi - conservative mode of replication.
 12. Give an account of operon concept.
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PGIIS 1082 A-16
M.Sc. IInd Semester Degree Examination
Microbiology
(Microbial Physiology and Metabolism)
Paper : HC - 2.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer all sections

Section - A

1. Write brief notes on **any ten** of the following : **(10×2=20)**
- a) Dianxic growth
 - b) Photolysis
 - c) PS2
 - d) HMP Shunt
 - e) Fermentation
 - f) IMP
 - g) Glycogenolysis
 - h) Fatty acid
 - i) Transamination
 - j) Couplerrs
 - k) Ketosis
 - l) Non cyclic flow

Section - B

Write short notes on any **six** of the following :

(6×5=30)

2. Classification of microorganisms based on carbon source.
3. Glyoxylate cycle
4. Alcohol and Lactic acid fermentation.
5. Factors influencing microbial growth.
6. Amino acid metabolism
7. Bioenergetics
8. Synthesis and degradation of glycine.

Section - C

Answer any **three** of the following :

(3×10=30)

9. Give an account of CO₂ reduction in Calvin cycle.
 10. Discuss biosynthesis and degradation of cholesterol.
 11. Write a detailed note on degradation of pyrimidine nucleotides.
 12. Give an account of oxidative phosphorylation and its regulation.
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