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PGIIS-048-A-22

M.Sc. III Semester Degree Examination

MICROBIOLOGY

Immunology and Immotechnology

Paper : HC-3.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer all Parts.

PART-A

Write brief notes on any TEN of the following

(10×2=20)

1. a) Tumor Antigen
- b) Phagosome
- c) MHC
- d) Immunoblotting.
- e) Immune response
- f) T cell receptors
- g) Hypersensitivity
- h) Polyclonal antibodies
- i) RIA
- j) HLA typing
- k) ADCC
- l) Immunomodulators.

PART - B

Write short notes on any SIX of the following:

(6×5=30)

2. Innate and adaptive immunity.
3. Antigenicity and immunogenicity.
4. Principles of antigen and antibody reaction
5. Hematopoiesis
6. Cell mediated cytotoxicity.
7. Cytokines
8. Complement fixation test.
9. Autoimmunity.

PART - C

Answer any THREE of the following.

(3×10=30)

10. Give a detail account on an acquired immunity with suitable examples.
 11. Discuss type I hypersensitivity with mechanism.
 12. Explain in detail the protocol for the production of monoclonal antibody with applications.
 13. Discuss in detail autoimmunity and immune deficiency syndromes.
 14. Write in detail B cell development and maturation.
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PGIIS-049-A-22

M.Sc. III Semester Degree Examination

MICROBIOLOGY

Food and Dairy Microbiology

Paper : SC-3.3

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) Shelf life period
- b) Relationship between substrate and moisture.
- c) Contamination of food
- d) Purification
- e) Food Preservatives
- f) Food Intoxication
- g) Probiotics
- h) Rancidity
- i) Composition of milk
- j) Pasteurization
- k) GMP
- l) HACCP

SECTION - B

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

2. Spoilage of Egg and egg products
3. Evidences of spoilage of fish
4. O/R potential of food

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5. Importance of nutraceuticals.
6. MBRT (Methylene blue reductase test)
7. Production of cheese
8. Composition of milk.
9. Chemical changes of food during spoilage

SECTION - C

Answer any Three of the following.

(3×10=30)

10. Discuss the food as the substrate for microorganisms.
11. Discuss the contamination, preservation, and spoilage of meat and meat products.
12. Explain the detection of food born bacteria and their toxins.
13. Discuss the contamination, preservation and spoilage of milk and milk products.
14. Explain the steps involved in the production of Cheese.

PGIIS-050-A-22
M.Sc. III Semester Degree Examination
MICROBIOLOGY
Microbes and Environment
Paper : OE-3.4

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All Sections.

SECTION - A

Write brief notes on any Ten of the following.

(10×2=20)

1. a) Ecological niche
- b) Non culturable bacteria
- c) Microbial population
- d) Activated Sludge
- e) Ozonization
- f) Hydrocarbon
- g) Acid rain
- h) Microbiological indicators
- i) Biomethanogenesis
- j) Soil fertility
- k) Exobiology
- l) Global warming

SECTION - B

Write Short notes on any Six of the following.

(6×5=30)

2. Mechanism of Microbes in recovery of gold.
3. Microbe-Plant interaction.
4. Renewable and non renewable resources.
5. Methane production using microbial culture.
6. Municipal solid waste.
7. Origin and evolution of microorganisms.
8. Green house effect and its control measures.
9. Synergism and commensalism.

SECTION - C

Answer any Three of the following.

(3×10=30)

10. What is Biofilm? Describe the type of fixed biofilm sewage treatment system.
 11. Explain the sources, characteristics and health hazards due to water pollution.
 12. Describe the methods used in treatment methods of solid waste.
 13. What is biodegradation? Write in detail the microbial degradation of pesticides.
 14. Write a detail account on ethanol production by microorganisms.
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