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PGIS-214 A-21

M.Sc. I Semester (CBCS) Degree Examination

BIOTECHNOLOGY

General Biochemistry

Paper : HCT 1.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Section 'A' has all **compulsory** questions.
- 2) Answer 'B' and 'C' as Per Instructions.

SECTION - A

Answer the following in brief:

(10×2=20)

1. Ionization.
2. pH.
3. Entropy.
4. Energy rich bond.
5. Chymotrypsin.
6. Peptides.
7. Enzyme specificity.
8. Active site.
9. Z-DNA.
10. Photorespiration.

SECTION - B

Answer any Four of the following:

(4×6=24)

11. Properties of water.
12. Gibb's free energy.
13. Forces stabilizing the protein structure.
14. Classification and nomenclature of enzymes.
15. Structure of fluid mosaic model.
16. Physical properties of DNA.

SECTION - C

Answer any Three of the following:

(3×12=36)

17. Describe in detail non covalent interaction of biomolecules.
 18. Describe Michaelis-Menten equation and add a note on enzyme inhibitors.
 19. Explain structure and function of different types of polysaccharides.
 20. Discuss in detail Krebs's cycle and add a note on its regulation.
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PGIS-217 A-21
M.Sc. I Semester Degree Examination
BIOTECHNOLOGY
Bioseparation and Bioanalytical Techniques
Paper : SCT 1.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Section 'A' has All compulsory questions.
- 2) Answer 'B' and 'C' sections as Per Instructions.

SECTION - A

Answer the following in brief:

(10×2=20)

1. Diffusion.
2. Sedimentation coefficient.
3. Centripetal force.
4. Stationary phase.
5. TLC
6. PAGE
7. Transilluminator.
8. Ultra centrifugation.
9. 2D electrophoresis.
10. FPLC

SECTION - B

Answer any Four of the following:

(4×6=24)

11. Types of rotors.
12. Enzyme digestion.
13. API electro spray.
14. Liquid scintillation counter.
15. Radio immuno assay.
16. Ion exchange chromatography.

SECTION - C

Answer any Three of the following:

(3×12=36)

17. Write a detailed account on the importance and significance of Rocket electrophoretic immuno assay method.
 18. Give an detailed account on the types of centrifugation and differentiate between differential and density gradient centrifugation.
 19. Describe the importance and applications of Agarose gel electrophoresis.
 20. Explain the various methods used in the measurement of radio activity.
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PGIS-215 A-21
M.Sc. I Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Cell And Developmental Biology
Paper : HCT - 1.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Section 'A' has all **compulsory** questions
- 2) Answer B and C as Per Instructions

SECTION - A

Answer the following in brief:

(10×2=20)

1. Unified cell.
2. Plasmodesmata
3. Nuclear sap
4. Cell adhesion
5. Pollen tube
6. Manchatte
7. Monospermy
8. Carcinogenesis
9. Heterosis
10. Cellular Vacuoles.

SECTION - B

Answer any Four of the following:

(4×6=24)

11. Microsomes
12. Cellular Junctions
13. Kinetochore
14. Endoblasts
15. Lysosomes
16. Morpho genetic movements.

SECTION - C

Answer any Three of the following:

(3×12=36)

17. Discuss in detail about structure and functions of Mitochondria.
 18. Describe Anatomy and function of microtubules.
 19. Give a Detailed account on molecular events and regulation of cell cycle.
 20. Explain the self incompatibility and its genetic control.
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PGIS-216 A-21
M.Sc. I Semester (CBCS) Degree Examination
BIOTECHNOLOGY
General Microbiology
Paper : HCT 1.3

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Section 'A' has all **compulsory** questions.
- 2) Answer 'B' and 'C' as Per Instructions.

SECTION - A

Answer the following in brief:

(10×2=20)

1. Numerical taxonomy.
2. Peritrichous flagella.
3. Periplasmic membrane.
4. Differential media.
5. Freeze drying.
6. Gram's Iodine.
7. 16 S rDNA.
8. Log phase.
9. Synchronus growth.
10. Mutualism.

SECTION - B

Answer any Four of the following:

(4×6=24)

11. Contributions of Robert Koch
12. External structures of bacteria.
13. Ingredients of culture media.
14. Structural stains.
15. Methods to access microbial diversity.
16. Factors affecting growth curve.

SECTION - C

Answer any Three of the following:

(3×12=36)

17. Write a note on microbial interactions.
 18. Describe in detail moist heat sterilization.
 19. Give an account of preservation and maintenance of culture media.
 20. Discuss in detail structural organization of bacterial viruses.
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