

FACULTY OF SCIENCE

M.Sc. III-Semester Examination, December 2018/January 2019

Subject: Biochemistry

Paper – I : Gene Regulations and Genetic Engineering

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.

PART – A (8X4=32 Marks)
(Short Answer Type)

1. Lytic cycle in lambda phage
2. Dual promoters
3. Si RNA
4. DNA methylation
5. cDNA Libraries
6. Targeting Vectors
7. Luciferase
8. RFLP

PART – B (4x12=48 Marks)
(Essay Answer Type)

9. (a) Explain in detail about phase variation in salmonella flagellar protein synthesis.
OR
(b) Write about Attenuation of Trp operon.
- 10.(a) Explain in detail how transcriptional factors regulate the transcriptional process.
OR
(b) Give the complete explanation about translational feedback.
- 11.(a) Write about in details about Restriction Endonucleases and their role in rDNA technology.
OR
(b) Explain about expression vectors and shuttle rector.
- 12.(a) Explain about gene expression in Heterologous Systems bacteria.
OR
(b) Write about reporter genes GFP, b-gal and luciferase.

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FACULTY OF SCIENCE**M.Sc. III-Semester Examination, December 2018/January 2019****Subject: Biochemistry
Paper – II : Immunology and Immuno Technology****Time : 3 Hours****Max. Marks: 80****Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.****PART – A (8X4=32 Marks)
(Short Answer Type)**

1. Applications of adjuvants
2. Classification of Immunoglobulins
3. Complement fixation test
4. Types of graft rejection
5. AIDS
6. ADA deficiency
7. RIA ~
8. Peptide vaccines

**PART – B (4x12=48 Marks)
(Essay Answer Type)**

9. (a) What is immunity? Explain the role of cells and organs involved in immune response.

OR

(b) Write briefly about: (a) antigenic determinants (b) antibody diversity

10.(a) Discuss in detail the structure and function of MHC proteins.

OR

(b) Write briefly about:

- (a) regulation of class switching in immune response
- (b) immune response to tumors

11.(a) What are autoimmune diseases? Give an account of their classification.

OR

(b) Write an account of how immune response is evaded by microbes.

12.(a) Give an account of the various ways of visualization of antigen-antibody interaction.

OR

(b) Write briefly about: (a) Recombinant DNA vaccines (b) Western blotting

FACULTY OF SCIENCE

M.Sc. III-Semester Examination, December 2018/January 2019

Subject: Biochemistry

Paper – III : Nutrition and Clinical Biochemistry

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.

**PART – A (8X4=32 Marks)
(Short Answer Type)**

1. Write a note on Hormones in digestion.
2. Write a note on Malnutrition
3. Write about probiotics
4. National Nutritional Policies
5. Write an note on Complete Blood Picture
6. Write a note on Water and Electrolyte Balance
7. Chronic kidney failure
8. Pregnancy test

**PART – B (4x12=48 Marks)
(Essay Answer Type)**

9. (a) Explain in detail about BMR, Measurement of BMR, factor affecting BMR.
OR
(b) Explain in detail about types of Diabetes and Insulin Regulation.
- 10.(a) Explain in detail about Food Spoilage and Preservation.
OR
(b) Explain in detail about Nutraceuticals.
- 11.(a) Give a complete picture of acid and Bases in the Human body.
OR
(b) Explain about Oral rehydration therapy.
- 12.(a) Explain in detail about tests for diagnosis of Gastrointestinal disorders.
OR
(b) Explain in detail about Thyroid function tests and their significance.

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M.Sc. III-Semester Examination, December 2018/January 2019

Subject: Biochemistry

Paper – IV : Physiology and Xenobiotics

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.

PART – A (8X4=32 Marks)
(Short Answer Type)

1. Write a note on types of neuronal cells.
2. Give an account on physiology of color blindness.
3. Give an account on structure of various types of muscle.
4. Discuss about various disorders of muscle.
5. What are the causes for female infertility?
6. Give an account of methods of birth control.
7. What is pharmacodynamics?
8. How environmental factors influence drug metabolism?

PART – B (4x12=48 Marks)
(Essay Answer Type)

9. (a) Explain the physiology of olfaction and gestation.
OR
(b) Explain the signaling events involved in neurotransmission and write a note on types neurotransmitters.
- 10.(a) Elucidate the mechanism of muscle contraction and its regulation.
OR
(b) Give an account of: (i) role of action and myosin in non-muscle cells.
(ii) regulation of muscle gene expression.
- 11.(a) What is gametogenesis and how male and female gametogenesis differ?
Explain.
OR
(b) Write a note on: (i) endocrinology of parturition. (ii) mechanism of implantation.
- 12.(a) What is the role of cytochrome P450 enzymes in drug metabolism?
OR
(b) Give an account of effects and metabolism of bacterial exotoxins.

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