

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
