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Code No. 8344/CORE

FACULTY OF SCIENCE
M.Sc. IV-Semester Examination, May/June 2019

Subject : Biochemistry
Paper – I : Bio Statistics and Bio Informatics

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. Population 1
2. Regression 1
3. Quality Control in biochemistry 2
4. Sign test 2
5. FASTA 3
6. HGP 3
7. Protein motifs 4
8. Kenome 4

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

9. (a) Explain in detail about different types of probability methods.
OR
(b) Discuss the following methods Range, Variance, Standard deviation.
10. (a) What is ANOVA, discuss in detail 1-way ANOVA.
OR
(b) How do you calculate F-Test and T-test?
11. (a) Write an essay on NGS and note down applications.
OR
(b) Discuss in detail about scoring matrices.
12. (a) Discuss in detail about MS-MALDI and LCMS.
OR
(b) What is HUPO, explain its goals and accomplishments.

FACULTY OF SCIENCE
M.Sc. IV-Semester Examination, May/June 2019

Subject : Biochemistry
Paper – II : Cell-Cell Junctions and Signal Transduction

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. Glucose Transporters
2. Fick's Law
3. cMyc
4. Epidermal Growth Factor
5. cM1/c
6. Tumor Suppressors
7. Chemotaxis
8. Stress Signaling in Plants

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

9. (a) Compare and contrast the structural organization and functions of actin and myosin.
 OR
 (b) Explain the mechanism of action of Active transport and their types.
10. (a) Schematically describe the Insulin receptor signaling pathway.
 OR
 (b) Explain the mechanism of stimulatory and inhibitory GPCR signaling pathways.
11. (a) Describe Ras pathway and its implications in development of cancer.
 OR
 (b) What are PKC's? Describe their functions and classification based on their requirement for secondary messengers.
12. (a) Describe the MAP Kinases majorly involved in yeast signaling pathways.
 OR
 (b) Briefly describe protein – protein interactions in signaling pathways and two experimental techniques to study protein – protein interactions.

