M. Sc. Bioinformatics Sem.-III (2013 Course) (Choice Based Credit Systems) : WINTER - 2018

SUBJECT : BIOLOGICAL DATA MINING

Day : Saturday **W-2018-1261** Time : 02.00 PM TO 05.00 PM

Date : 27/10/2018 Max. Marks : 60

N.B.:

1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each section.
2) Answers to both the sections should be written in **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION – I

Q.1 Enlist Any two errors: **[10]**

a) related with sequence
b) related with structure
c) related with biological databases
d) related with micro array data
e) related with machines

Q.2 Write short notes on: **[10]**

a) Steepest Descent Method
b) Conjugate Gradient Method

Q.3 Answer the following: **[10]**

a) Discuss about supervised and unsupervised genetic algorithms.
b) What are the future prospects of genetic algorithms?

Q.4 Differentiate between: **[10]**

a) K-means clustering and Grid based clustering
b) DNA array and Protein array

SECTION – II

Q.5 Define: **[10]**

a) GEP **b)** K-tup **c)** init 1 **d)** S' **e)** e

Q.6 Write short notes on: **[10]**

a) Sequence alignment methods
b) Structure alignment methods

Q.7 Answer the following: **[10]**

a) What do you mean by machine learning techniques? How they are useful in bioinformatics?
b) Explain the applications of Bayesian modeling.

Q.8 Differentiate between: **[10]**

a) SVM and ACO
b) Chau – Fasman and GOR

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