

SEAT No. _____

SC

No. of Printed Pages: 03

[25]

SARDAR PATEL UNIVERSITY

External Examination

M.Sc. (Biochemistry) Semester -IV

Subject: PS04EBIC09 - Bioinformatics

Tuesday, 17th April, 2018

Time: 10:00 a.m. to 01:00 p.m.

Total marks: 70

Note: Figures to right side indicate marks.

Q.1 Choose the most appropriate alternative for the following questions:

[8]

- Sequence submission tool of EMBL-EBI database is _____.
A) EBLin
B) BankIt and Sequin
C) EMBLin
D) Webin
E) None of Above
- In FASTA format of nucleotide sequence, nucleotide sequence starts with _____.
A) Start
B) SEQ
C) Origin
D) SQ
E) None of Above
- According to IUPAC Nucleotide base code for c or t or a; i.e. not g is represented by _____ letter.
A) b
B) h
C) v
D) e
E) None of Above
- In the standard genetic code, _____ is not a stop codon in RNA sequence.
A) UAC
B) CAA
C) UCA
D) All of Above
E) None of Above
- _____ is induced electrical interactions which contribute significantly to conformational stability in the interior of the protein.
A) Hydrophilic interactions
B) Covalent interactions
C) Van der Waals interactions
D) Hydrophobic interactions
E) None of above.
- _____ may not be an indicator of an evolutionary relationship.
A) Sequence similarity
B) Genome similarity
C) Structural similarity
D) All of Above
E) None of Above

C.P.T.O.)

Q.5 A. Define scoring matrices of sequence alignment. Explain how the values in scoring matrix are derived by discussing value derivation steps for PAM1 scoring matrix. [6]

B. Describe acquisition process of protein structure information from protein database by explaining UniProt database. [6]

OR

B. Define phylogenetics analysis? Construct the phylogenetic tree by using UPGMA algorithm with given distance matrix. [6]

	A	B	C	D	E
A	0	22	39	39	41
B		0	41	41	43
C			0	18	20
D				0	10
E					0

Q.6 A. Give flow chart of drug discovery pipeline and discuss major areas of interest in process of drug discovery. [6]

B. Explain chemical deprotection technology for construction of oligonucleotide microarray synthesis. [6]

OR

B. Explain primary protein structure analysis parameters of Protparam tool. [6]



