

[16]

SEAT No. _____

No. of Printed Pages : 02

**SARDAR PATEL UNIVERSITY
EXTERNAL EXAMINATION**

DATE -22/11/19

DAY- FRIDAY

TIME 10:00 TO 1:00 pm

Course- US05CBNF06

SUBJECT: BIOINFORMATICS

CLASS- T.Y.B.Sc VSem TITLE--STRUCTURAL BIOINFORMATICS & RDBMS-I

TOTAL MARKS: 70

Q1- Select the correct from the following Multiple Choice: [1 X 10]

[10]

- i) **In an α helix**
a) side chain residues point up and down the axis of the helix.
b) the helix is right-handed
c) there are five residues per helical turn
d) there are usually many proline residues present
- ii) **The proteins which are involved in the proper folding of polypeptide chains are**
a) Proteases b) Chaperons c) Oxidases d) All of these
- iii) **Which of the following of amino acids known as Imino acid?**
a) proline b) cysteine c) methionine d) serine
- iv) **Hydrophobic amino acids will always move to the _____ of a protein**
a) Inside b) Outside c) Top d) Bottom
- v) **Protein folding leads to in entropy**
a) Increase b) decrease c) no change d) small change
- vi) **Column of the relation are referred as.**
a) Relationship b) Tuples c) Attributes d) Record
- vii) **Which integrity constraints states that no primary key value can be null.**
a) Entity b) Referential c) Domain d) Primary
- viii) **_____ query is of type DDL.**
a) Insert b) Update c) Delete d) Create
- ix) **_____ query is not an auto committed query.**
a) Insert b) Create c) Alter d) Drop
- x) **For character data type the _____ sign matches any string.**
a) _ b) & c) % d) \$

Q2—Answer the Short Questions: (attempt any TEN)

[20]

- i) Diagrammatically elucidate how chaperones help in protein folding.
- ii) Explain Levinthal's Paradox.
- iii) Discuss the forces involve in the stabilization of protein structure.
- iv) Explain about Cystic fibrosis disease.

(P.T.O)

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- v) What are prions? Explain.
- vi) Give the properties and structure of glycine and proline.
- vii) What is tuple, attributes and Domain?
- viii) What is relationship?
- ix) List type of Relationship.
- x) Explain concept of DUAL table.
- xi) How to remove table along with its structure and data? Explain in brief.
- xii) Explain any two datatypes available in Oracle.
- Q3 What is protein –protein interaction? Explain yeast 2 hybrid method. [10]
- OR
- Q3 a) Explain the tertiary structure in detail and bonds involve in its stabilization. [05]
- Q3b) What are supersecondary structure? Explain its types with example. [05]
- Q4 a) What is protein misfolding? Discuss the factors responsible for it. [04]
- Q4 b) Discuss the thermodynamics of protein folding. [06]
- OR
- Q4 a) Explain any two disease caused by misfolding of protein. [04]
- Q4b) How chaperones helps in protein folding. [06]
- Q5 Write Codd Rules which defines the RDBMS [10]
- OR
- Q5 What is DML? List and explain different types of commands under this category with appropriate syntax and example [10]
- Q6a) Explain Primary key in detail [06]
- Q6 b) Explain how to filtering the data in oracle. Explain with proper syntax and examples. [04]
- OR
- Q6 a) Explain Foreign key in detail. [06]
- Q6 b) Explain various ways to insert records in a table. [04]

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 (2)