

BIO542: Machine Learning for Biomedical Applications (MLBA)
(25th September 2024, Quiz 2)

Maximum Marks: 20

Duration: 20 Minutes

Name: _____

Admission No: _____

Instructions: Attempt all questions; each question carries one mark.

1. Proteins are made of ____ natural amino acids ?
A) 10
B) 15
C) **20**
D) 22
2. Which of the following is not a macromolecule?
A) Protein
B) **Amino acid**
C) Lipid
D) Carbohydrates
3. Which of the following database contain structure of proteins ?
A) PIR
B) STRING
C) GenBank
D) **RCSB-PDB**
4. Which of the following is an example of residue level annotation?
A) Prediction of DNA binding proteins
B) Prediction of protein subcellular location
C) Prediction of RNA binding protein
D) **Prediction of ATP interacting residues**
5. Which software used to predict interacting protein pairs?
A) **ProPrint**
B) ATPint
C) DNAbinder
D) Pprint
6. Main dataset of DNAbinder contain ____ DNA binding proteins.
A) 200
B) 14021
C) 5051
D) **146**
7. What is percent composition amino acid "A" in following sequence "PAQAVAGLAR" ?
A) 61
B) 60
C) **40**
D) 20
8. What is percent dipeptide composition of "AC" in following sequence "RACGHMSKLAC"
A) 10
B) **20**
C) 30
D) 40
9. In Pfeature, which atom is not used for atom composition (ATC)?
A) Hydrogen
B) Sulphur
C) **Sodium**
D) Nitrogen
10. Tripeptide composition of a protein contain ____ features.
A) 20
B) **8000**
C) 200
D) 400
11. What is the success rate of biologics moving from Phase I to Phase II clinical trials?
A) ~63%
B) ~74%
C) **~84%**
D) ~53%

12. THPdb2 contain total entries around?
A) 500
B) 1500
C) **5000**
D) 15000
13. Insulin is used for the treatment of diabetes patients, Insulin comes under ____.
A) **Group 1**
B) Group 3
C) Group 2
D) Group 4
14. Which of the following is not a epitope?
A) Linear B-cell epitope
B) T-cell epitope
C) Conformational B-cell epitope
D) **R-epitope**
15. Which of the following COVID-19 vaccine is based on traditional approach (Whole Organism)
A) **COVAXIN**
B) Moderna COVID-19 Vaccine
C) Covishield
D) Pfizer-BioNTech COVID-19 Vaccine
16. Which of the following is a B-cell epitope prediction method?
A) **ABCpred**
B) Propred
C) CTLpred
D) BCIpep
17. Which database contain peptides that can be used to deliver drugs
A) DrugPep
B) PDB
C) **CPPsite**
D) ViralVacDB
18. Which software can be used to design peptides that specifically bind to tumor
A) TumorHope
B) TumorPEP
C) CellPPD
D) **TumorHPD**
19. Which server is used for predicting peptides that can lyse red blood cells
A) **HemoPI**
B) HemolytiK
C) PepLife
D) BloodPred
20. Which of the following webserver/database is not related to vaccine adjuvants
A) PRRDB
B) **CTLpred**
C) VaxinPAD
D) VaccineDA