



HG-228

Seat No. _____

B.Sc. (Sem. - VI) Examination

March / April - 2015

Biotechnology : Paper - CC-I-14

(Analytical Techniques in Biotechnology)

Time : 3 Hours]

[Total Marks : 70

1 Multiple choice question. 10

(1) Full form of MIPS

- (a) Martein Institute for protein sequence
- (b) Martinsried Institute for protein sequence
- (c) Microbial Institute of Protein sequence
- (d) Mol bio institute of pyro sequence

(2) Which of the following is used to increase the resolution in the electron microscope

- (a) Vacuum
- (b) electron
- (c) oil
- (d) UV light

(3) The technique that gives three dimensional quality to the image is

- (a) TEM
- (b) SEM
- (c) BOTH
- (d) none

(4) The immobilization which uses RBC as matrix is

- (a) adsorption
- (b) encapsulation
- (c) entrapment
- (d) cross linking

(5) When there is a study of comparative evolution, that field is called

- (a) pharmacogenomics
- (b) metabolomics
- (c) phylogenetics
- (d) cheminformatics

- (6) Which of the following is DNA data base?
(a) PDB (b) Swiss-prot
(c) NCBI (d) Pfem
- (7) Which of the following is a principle of analysis ?
(a) Accuracy (b) Precision
(c) Trial & Error (d) Reproducibility
- (8) Range of UV light waves is
(a) Below 180nm (b) 180-400nm
(c) 400-780nm (d) Above 780nm
- (9) Which of the following is not a principle of analysis?
(a) Accuracy (b) Precision
(c) Trial & Error (d) Reproducibility
- (10) Which of the following is example of reagents used in cross linking'
(a) Diazobenzidine (b) Gluteraldehyde
(c) none (a) & (b) (d) both (a) & (b)

2 Answer the following : **(any five)**

10

- (1) Enlist the biochemical component which can be used in biosensors
- (2) Give examples of cross linking agent used in immobilization by cross linking process
- (3) Enlist the drawback of electron microscopy
- (4) Enlist various parts of Atomic Force Microscope
- (5) What is bioinformatics? Give examples of protein structural databases.
- (6) Discuss phylogenetic application of bioinformatics

- 3** Answer the following : **(any five)** **30**
- (1) Write a short note on detectors used in mass spectroscopy
 - (2) Discuss Ideal characteristics of biosensors
 - (3) Explain the uses of biosensors in detail.
 - (4) Write note of nucleotide data bases used in bioinformatics.
 - (5) Write about different analysis and their principles.
 - (6) Discuss biological software RASMOL

- 4** Answer the following : **(any two)** **20**
- (1) Describe methods of immobilization in detail.
 - (2) Human genome Project
 - (3) Discuss GLP in detail.
 - (4) Discuss the electron microscopy in detail.
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