



BD-228

Seat No. _____

B. Sc. (Sem. - VI) Examination

March/April - 2014

CC-I-14 : Biotechnology : Paper - XIV
(Analytical Techniques in Biotechnology)

Time : 3 Hours]

[Total Marks : 70

1 MCQ : 10

- (1) Resolution of microscope depends on
 - (a) Only wave length of light
 - (b) Refractive index of medium through which light travels
 - (c) Both "(a)" and "(b)"
 - (d) Glass of slide
- (2) Qualitative tests provide information about
 - (a) Nature of analyte
 - (b) Amount of analyte
 - (c) Both of the above
 - (d) None of the above
- (3) In dark field light microscopy one will observe following :
 - (a) Is Dark compared to specimen
 - (b) Microscopic field is Brighter compared to specimen
 - (c) Both appear bright
 - (d) Both appear dark
- (4) DDBJ stands for
 - (a) DNA Databank of Japan
 - (b) DNA Database of Japan
 - (c) Above both are correct terms

- (5) Which of the following is molecular viewer ?
 (a) RasMol (b) GenBank
 (c) PDB (d) PIR
- (6) Which of the following is protein structural database ?
 (a) EMBL (b) PDB
 (c) Swiss-Prot (d) PIR
- (7) Which of the following enzymes is used as biological sensitive element in glucose biosensor for measuring blood glucose level ?
 (a) Gluco transferase (b) Hexo kinase
 (c) Glucose oxidase (d) All of the above
- (8) Which of the following methods can be used to immobilize any enzyme ?
 (a) Adsorption (b) Entrapment
 (c) Cross linkage (d) All of the above
- (9) Titration is which kind of analysis method ?
 (a) Qualitative (b) Quantitative
 (c) Both of above (d) None of above
- (10) Which of the following is benefit of enzyme immobilization ?
 (a) Increased resistance to pH and temperature
 (b) Efficiency of reaction
 (c) Ease of reaction
 (d) All of the above

2 Attempt any **five** :

10

- (1) Write the importance of Quality Management in laboratory
- (2) Explain in brief : Differential interference contrast microscopy
- (3) Give any four differences between light and electron microscopy
- (4) Give fullforms of NCBI and EMBL.
- (5) Write URLs for NCBI and DDBJ.
- (6) What is Biosensor ?
- (7) Define : Immobilization

- 3 Attempt any **five** : 30
- (1) Write a note on Qualitative analysis of analyte.
 - (2) Write a short note on light microscopy.
 - (3) Explain in brief about MALDI.
 - (4) Write a short note on Human Genome Project.
 - (5) Explain the applications of Bioinformatics.
 - (6) Write a note on methods of immobilization.
 - (7) Explain the types of bioreactors used for immobilization.
- 4 Attempt any **two** : 20
- (1) Write a detailed account on GLP.
 - (2) Write detailed note on electron microscope.
 - (3) Explain in detail : Nucleotide sequence databases.
 - (4) Write detailed note on principle and instrumentation of ideal biosensor. Add a note on applications of biosensors.
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