

Sample Paper of Mphil Biotechnology

Read the statement carefully and **ENCIRCLE** the best choice for each. Do not delete/overwrite

- 1. Enzymes which recognize identical sequences, but have different optimum reaction conditions and stabilities are known as**
 - a. Endonucleases
 - b. Exonucleases
 - c. Isoschizomers
 - d. b & c
 - e. None of above
- 2. Automated DNA sequencing results are shown in the form of**
 - a. Electogram
 - b. Electropherogram
 - c. Electronanogram
 - d. d) None of above
- 3. CpG dinucleotides are often:**
 - a. Deleted from the genome by DNA repair enzymes
 - b. Methylated in the mammalian cells
 - c. Useful as markers indicating inactive genes
 - d. Hot spots for translocations
 - e. Deaminate at high frequency to become ApG dinucleotides
- 4. p53 mutation in cancer cells can lead to:**
 - a. Apoptosis
 - b. Cell cycle arrest
 - c. Tumor progression
 - d. None of these
- 5. Phosphatidylserine residues in the plasma membrane are located at**
 - a. Inner leaflet of the plasma membrane
 - b. The outer leaflet of the plasma membrane
 - c. Evenly distributed in the inner and outer leaflet
 - d. None
- 6. Which cell organelle is involved in apoptosis?**
 - a. Lysosome
 - b. ER
 - c. Golgi
 - d. Mitochondria
- 7. Which one among the following is a bacterium commonly found in human gut?**
 - a. *Stenotrophomonas maltophilia*
 - b. *Staphylococcus aureus*
 - c. *Streptococcus pyogenes*
 - d. *Salmonella enterica*
 - e. *E. coli*
- 8. Among followings which characters do not exist in fungi?**
 - a. Pathogenic
 - b. Can handle high osmotic pressure
 - c. Can synthesize their food
 - d. Can solubilize the phosphorous
 - e. Cell wall made up of chitin

9. Which of the following will bind to the column during cation-exchange chromatography?

- a. Positively charged protein
- b. Negatively charged protein
- c. both positively and negatively charged proteins
- d. Uncharged proteins

10. Centrifugation can be used to separate:

- a. Suspended particles in a fluid
- b. Two fluids having same density
- c. Two particles of same size and geometry
- d. All solutes present in a solution

11. Keratin is an example of a(n):

- a. fibrous protein
- b. globular protein
- c. allosteric enzyme
- d. denatured protein

12. There is a family of four members. In this family a son is color blind while rest three members (mother, father, and a son) are phenotypically normal; In this family who else has the faulty X gene other than affected son?

- a. The mother
- b. The father
- c. The normal son
- d. The effected son only

13. The woman could be a carrier for certain genetic disorder that means

- a. she has 1 faulty gene, but not the disorder
- b. She has no faulty gene
- c. she has 2 faulty genes for the disorder
- d. she can pass the gene only to male children
- e. she can pass the gene only to female children

14. What type of cells cannot be used for Gene therapy?

- a. endothelial cells
- b. White blood cells
- c. Liver cells
- d. Red blood cells

15. Expression of genes can be regulated via

- a. microRNA
- b. Anti-sense RNA
- c. siRNA
- d. All of these