

[Time: 2½ Hours]

[Marks:75]

Please check whether you have got the right question paper.

- N.B:
1. Attempt all questions.
 2. All questions carry equal marks.
 3. Draw neat labelled diagrams wherever necessary.
 4. Use of non-programmable calculator is allowed.

Q.1

Do as directed: (any fifteen)

15

- The functional unit of an enzyme is called as _____.
 a. Apoenzyme b. Holoenzyme c. Core-enzyme
- A plot of reciprocal of velocity versus the reciprocal of substrate concentration which yields a straight line is called as _____.
 a. Line Weaver Burk plot b. Haldane plot c. Ramachandran plot
- _____ is the non-protein part of the enzyme required for enzyme activity.
 a. Apoenzyme b. Holoenzyme c. Co-enzyme
- James Sumner first achieved the isolation and crystallization of the _____.
 a. Urease b. Catalase c. Amylase
- Enzymes reduce the _____ energy to increase the rate of reaction.
 a. binding b. potential c. activation
- A low _____ indicates strong affinity between substrate and enzyme.
 a. Vmax b. Km c. [S]
- _____ enzymes have special sites other than active sites for modulators to bind.
 a. Extracellular b. Intracellular c. Allosteric
- Define Innate Immunity.
- Give the name of the antibody that crosses the placental barrier.
- Name any one primary lymphoid organ.
- The acronym HI stands for _____.
- One method of purification of monoclonal antibodies.
- Any one category of traditional vaccines.
- Compute Mean 11,12,13,14,15,16,17,18,19,20
- _____ is a positional average.
- Square of Standard Deviation is _____.
- State True or False:- Histogram is a two dimensional graph.
- State True or False:- The figure obtained by joining vertical bars is known as frequency polygon.
- Define- Range.
- Give the formula to calculate Coefficient of Variance.

Q.2 a. Enlist the salient features of active site of an enzyme.

8

b. Give an account of different classes of enzymes.

7

OR

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- c. Derive the relationship between substrate concentration and enzyme activity. 8
- d. Give an account of different theories/models of enzyme-substrate complex formation. 7

Q.3 a. Differentiate Active and Passive Immunity. 8

b. Diagrammatically explain the structure of an antibody molecule. 7

OR

c. Discuss various classes of immunoglobulins. 8

d. Schematically explain the production of monoclonal antibodies. 7

Q.4 a. Define Biostatistics. Discuss the importance of Biostatistics in Biology. 8

b. Explain Median and Mode and also Compute Median and Mode for the following data 7

15, 16, 17, 18, 19, 20, 33, 12, 56, 14, 14, 11, 14, 14, 14, 16, 17, 18, 19, 30, 34, 35, 34, 14, 25.

OR

c. Compute Standard Deviation for the respiratory rate in 10 cases as follows 8

23, 22, 20, 24, 16, 17, 18, 19, 21, 20.

d. Explain representation of data using Bar graph, Pie charts and Histogram. 7

Q.5 Write short notes on any three of the following: 15

a. Reversible Enzyme Inhibition.

b. Applications of enzymes.

c. Any one technique of Agglutination.

d. Variance.

e. Data and its types.