

2018

MICROBIOLOGY

[HONOURS]

Paper : II

Full Marks : 45 ; Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** of the following (Write in full sentence): 1×5=5

- a) What do you mean by denaturation of protein?
- b) What should be the range of pH of a solution?
- c) What is epimer?
- d) In which condition K_m is equal to substrate concentration?
- e) What is prosthetic group?
- f) Which of the following is a reducing sugar?
 - i) Glucose
 - ii) Erythrulose
 - iii) Dihydroxyacetone
 - iv) None of these

- g) What is iodine number?
- h) The H-O-H bond angle in a water molecule is
 - i) 104.0°
 - ii) 104.5°
 - iii) 105°
 - iv) 105.5°

2. Answer any **four** of the following: 10×4=40

- a) What are isoenzymes and abzymes and also write down their importance? Explain kinetics of competitive and non-competitive inhibition with the help of line-weaver bark plot? What is turnover number of an enzyme?3+6+1=10
- b) Define carbohydrate. Write the cyclic structure of glucose and fructose. Name important derivatives of monosaccharides. What is the difference between homoglycan and heteroglycan?2+2+4+2=10
- c) Write a comprehensive note on nomenclature and classification of enzymes, mentioning specific examples of reactions involved in each class.4+6=10

[Turn over]

- d) Describe the structure of DNA and mention its properties. What is denaturation of DNA?

(4+4)+2=10

- e) What is buffer? What is the role of buffers in biological system? Write the physiochemical properties of water.

2+4+4=10

- f) Write down the properties of different types of lipids mentioning their names. What is Reichert Meissel Number? Write a short note about micelle with a diagram. 5+2+3=10
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