



**R-304003**

Seat No. \_\_\_\_\_

**M. Sc. (Sem. IV) Examination**

**April - 2022**

**MSC1C403 : Bio-Organic Chemistry**

**(Bio Organic Chemistry)**

**(New Course)**

**Time : 3 Hours]**

**[Total Marks : 70**

**Instruction :** All questions are compulsory and of equal marks.

**1** Answer the following :

- (a) Give classification of vitamins with names and structure of each class of vitamins. **7**

**OR**

- (a) Discuss bio chemical function of Vitamin-A. **7**

- (b) What is buffering ? Discuss Henderson Hassel batch equation to check behaviour of weak acid and buffer. **7**

**OR**

- (b) Give brief note on water soluble vitamins.

**2** Answer the following :

- (a) What are enzymes ? Give classification and explain diagram of activation energy. **7**

**OR**

- (a) Give brief note on enzyme inhibitors.

- (b) In a polypeptide what does the trans N-terminal and C-terminal refer ? Discuss how Sanger's method is useful to identify the N-terminal residue ? **7**

**OR**

- (b) Discuss factors affecting enzyme activity.

**3** Answer the following :

- (a) What are nucleic acids ? Give various hydrolysis reactions of nucleic acid and their corresponding products. **7**

**OR**

- (a) Give classification of carbohydrates and their general nomenclature.

- (b) Giving suitable evidence distinguish 1, 4 and 1,6 linkage in carbohydrates. 7

OR

- (b) Describe the structure of DNA and its application.

4 Answer the following :

- (a) Give a brief account on phospholipids glycolipids and neutral lipids. 7

OR

- (a) Name any three essential fatty acids and discuss biosynthesis of fatty acid.

- (b) Give an account to check purity of fats and oils at least five parameters. 7

OR

- (b) What are lipids ? Give general classification of lipids and discuss their biological importance.

5 Write Short Answer : 14

- (1) What are anti metabolites ? Write their uses.
  - (2) Write a reaction of the conversion of NAD to NADH.
  - (3) What are reducing and non-reducing sugars ?
  - (4) How cytosine is converted to uracil ?
  - (5) What is fatty acid ?
  - (6) What are waxes ?
  - (7) Define anti oxidant.
  - (8) What are bile acids ?
  - (9) What is Lysozyme ?
  - (10) What is alpha tocopherol ?
  - (11) What are lipids ?
  - (12) What is a polypeptide linkage ?
  - (13) Give structure of Retinal.
  - (14) What are anti metabolites ?
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