MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS)
FIRST SEMESTER EXAMINATION
(2024 ADMISSION ONWARDS)
COURSE CODE- MG2DSCFTQ100
COURSE TITLE: BASIC BIOCHEMISTRY

Duration: 1.5 hrs Maximum Marks: 50

Part **A**
Short Answer Type Questions
Answer any **5** questions
Each question carries **2** Marks

1. What do you mean by the term mutarotation? [Taxonomy, (K)] [Course Outcome Number1]
2. Differentiate between amylose and amylopectin. [Taxonomy, (An)] [Course Outcome Number1]
3. Draw the structure of (a) amino acid containing guanidino group (b) amino acid containing immidazole group. [Taxonomy, (U)] [Course Outcome Number 2]
4. What are Zwitter ions? [Taxonomy, (K)] [Course Outcome Number 2]
5. Define Km and state its significance. [Taxonomy, (U)] [Course Outcome Number 3]
6. Why are humans unable to synthesize Linoleic, Linolenic and Arachadonic acid in their body? [Taxonomy, (A)] [Course Outcome Number 4]
7. Draw the structure of cholesterol. [Taxonomy, (U)] [Course Outcome Number 4]

(5x2=10 marks)

Part **B**
Short Essay Type Questions
Answer any **5** questions
Each question carries **4** Marks

8. Chalk out the following reactions for glucose (1) Oxidation (2) Reduction (3) Dehydration (4) Osazone Reaction. [Taxonomy, (U)] [Course Outcome Number 1]
9. Elucidate the structural configuration of ketoses. [Taxonomy, (K)] [Course Outcome Number 1]
10. Describe the nutritional classification of amino acids. [Taxonomy, (U)] [Course Outcome Number 2]
11. Define Active site. Write its salient features. [Taxonomy, (U)] [Course Outcome Number 3]
12. Compare and Contrast Competitive, Non-Competitive and Uncompetitive inhibition with LB plots and examples. [Taxonomy, (E)] [Course Outcome Number 3]
13. Give a brief account of classification of Lipids. [Taxonomy, (U)] [Course Outcome Number 4]
14. Enumerate the structure and function of essential fatty acids. [Taxonomy, (U)] [Course Outcome Number 4]

(5x4=20 marks)

Part **C**
Long Essay Type Questions
Answer any **2** questions
Each question carries **10** Marks

15. What are the steps involved in Kiliani-Fischer synthesis? Describe the structural configuration of aldoses. [Taxonomy, (U)] [Course Outcome Number 1]
16. Explain in detail on the structural organisation of proteins and the bonds involved in formation of proteins. [Taxonomy, (U)] [Course Outcome Number 2]

17. With the help of graphs evaluate how the following factors affect enzyme activity
(a) Substrate Concentration (b) Effect of temperature (c) Effect of pH (d) Product concentration (e) Effect of inhibitors. [Taxonomy, (A)] [Course Outcome Number 3]
18. Elaborate in detail on structure and function of phospholipids. [Taxonomy, (U)] [Course Outcome Number 4]

(2x10=20 marks)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

BSc (Honours) Food Technology and Quality Assurance

Second Semester Examination (2024 Admission onwards)

Course Code- MG2MDCFTQ100 Course Title: Food Additives

Duration: **1Hour** Maximum Marks: **35**

Part **A**

Short Answer Type Questions

Answer any **5** questions

Each question carries **1** Mark

1.	Define food additives?	[U]	[CO1]
2.	Elaborate (i) FDA (ii) EFSA	[K]	[CO2]
3.	Antifoaming agents	[U]	[CO3]
4.	Antioxidants.	[U]	[CO4]
5.	P^H control agents	[U]	[CO5]
6.	Polyols	[U]	[CO5]
7.	Natural flavour	[U]	[CO5]

(5x1=5 Marks)

Part **B**

Short Essay Type Questions

Answer any **4** questions

Each question carries **5** Marks

8.	Give an account of need for food additives.	[U]	[CO1]
9.	Enlist the functions of food additives?	[R]	[CO1]
10.	Add a note on antimicrobial agents .	[U]	[CO2]
11.	What are synergists and antagonists?	[K]	[CO3]
12.	What are flavour enhancers and flavour stabilizers? Give examples.	[U]	[CO5]
13.	What do you mean by flavour encapsulation technique?	[An]	[CO5]
14.	What are the functions of emulsifiers?	[K]	[CO5]

(4x5=20 Marks)

Part **C**

Long Essay Type Questions

Answer any **1** question

Each question carries **10** Marks

15.	Discuss in detail about food additives with examples.	[U]	[CO1]
16.	Give an account of chelating agents, uses and functions.	[U]	[CO 4]
17.	What are leavening agents? Explain about their role in foods.	[U]	[CO 5]

(1x10=10 Marks)