

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2023 – 2024)

M. Sc. DEGREE EXAMINATION - NOVEMBER 2023
BIOTECHNOLOGY
FIRST SEMESTER

COURSE : CORE
PAPER : BIOCHEMISTRY
SUBJECT CODE : 23BY/PC/BC14
TIME : 3 HOURS

MAX. MARKS:100

Q. No.	SECTION A Answer ALL Questions (10 x 1 = 10 marks)	CO	KL
1	Define pH.	1	1
2	Describe blood plasma.	1	1
3	Draw the structure of galactose.	1	1
4	Define peptide bond.	1	1
5	Describe sterols.	1	1
6	Draw the structure of triglyceride.	1	1
7	How many ATPs are produced at the end of the TCA cycle?	1	1
8	List the phases of the HMP shunt.	1	1
9	Define a biocatalyst.	1	1
10	Write the functions of isomerase.	1	1
Q. No.	SECTION – B Answer ALL Questions (5 x 2 = 10 marks)	CO	KL
11	Relate the properties of water.	2	2
12	Explain reducing and non-reducing disaccharides.	2	2
13	Illustrate the structure of any two pyrimidine bases.	2	2
14	Explain the importance of oxidative phosphorylation.	2	2
15	Indicate is the function of creatine kinase.	2	2
Q. No.	SECTION C Answer ALL Questions (4 x 10 = 40 marks)	CO	KL
16a	Demonstrate how does haemoglobin and respiration help in maintaining the pH of the body. (or)	3	3
16b	Present the classification of monosaccharides and give the anomeric forms of glucose.		
17a	Compile and classify the amino acids based on their nutritional properties. (or)	3	3
17b	Present an illustrative account on the structure of DNA and mention its functions.		
18a	Examine the respiratory chain with labelled illustrations. (or)	4	4
18b	Outline the urea cycle.		
19a	Categorize the factors that affect enzyme action. (or)	4	4
19b	Organize and classify the enzymes based on the IUBMB.		

Q. No.	SECTION – D Answer ALL Questions (2 x 20 = 40 marks)	CO	KL
20a	Evaluate the structural conformation of proteins. List out and explain the structures and bonds involved. (or)	4	5
20b	Evaluate the steps in glycolysis. Give its bioenergetics.		
21a	Make the steps involved in activation of acyl CoA and explain the steps in the β -oxidation of fatty acids (or)	5	6
21b	Formulate the clinical and pharmaceutical uses of enzymes.		
