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Roll No:

B.Sc. Biochemistry, Semester-V Examination-2023
Paper Title: Introduction to Techniques in Biochemistry
Paper Code: BBC-DSE07

Time: 3hour

Max Marks: 75

Note: This paper has 3 sections A, B, and C. Attempt all the three sections

Section A: Answer all the questions; Section B: Answer any 2 out of 4; Section C: Answer all the questions, each question has an internal choice

Abbreviations Used

CLO- Course Learning Outcome, PLO- Program Learning Outcome, BTL- Bloom Taxonomy Level: BT level 1- Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

Section A (Attempt all questions)

(10X1=10 Marks)

Q. No	Questions	BTL	CLO	PLO
A	Hopkin's Cole test is a specific test used for the detection of	4	5	3
B	Salt fractionation is frequently carried out using.....	4	5	3
C	centrifugation is used for Subcellular fractionation	1	2	3
D	The magnetic field B_0 , that correspond to frequency of 600Hz for ^1H	5	1	3
E	Total vibrational modes in the tetrahedral CH_4 molecule.....	5	1	2
F	The total volume of column that is packed with solid matrix in Size Exclusion Chromatography is.....	1	1	3
G	Negatron is.....	2	3	2
H	The unit of Radioactivity.....	1	3	2
I	is used as the scintillator for the detection of protons and alpha particles	3	3	2
J	The most common media used in Plant Tissue Culture.....	1	4	2

SECTION B: Long type Questions (Attempt any two out of four)**(2X15=30 Marks)**

Q. No	Questions (Any Two)	BTL	CLO	PLO
1	Discuss briefly the Test that distinguishes between aldose and ketose sugars	4	5	3
2	Explain the different modes of Bond vibrations when absorption of IR occurs	2	1	3
3	Give a detail account of Radioactivity decay and its types with suitable examples	3	3	2
4	Explain methodology of Hairy Root Culture	1	4	2

SECTION C: Short-type Questions. (Attempt all questions, each question has an internal choice)**(7X5=35 Marks)**

Q. No	Questions	BTL	CLO	PLO
1	Explain semi-continuous solvent extraction of lipids with diagram OR Describe methods involved in qualitative analysis of Amino acids	4	5	3
2	Explain GOD-POD method of Glucose estimation OR Briefly explain the methods involved in qualitative analysis of Nucleic acids	4	5	3
3	Explain Chemical Shift and Draw the Proton NMR of Ethyl acetate OR Discuss in detail Spin-Spin coupling with suitable example	5	1	3
4	Briefly illustrate Instrumentation of HPLC OR Describe principle behind Flow cytometry and its applications	3	1	3
5	Describe the method of measuring radioactivity that is based upon exposure of Photographic emulsions and its principle of working OR Describe working principle of Phosphor Imaging and its applications	4	3	2
6	Briefly illustrate Scintillation Counters with suitable diagram OR Describe method of radioactivity measurement by Gas Ionization Counters and its principle	5	3	2
7	Discuss in detail Micropropagation and its stages OR Describe the methods used for Protoplast Isolation	2	5	3
