

**VIT®**Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SCHOOL OF BIOSCIENCES AND TECHNOLOGY
CONTINUOUS ASSESSMENT TEST -II
WINTERSEMESTER 2025-2026

Programme Name & Branch : MSc Integrated Biotechnology
Course Code and Course Name : TBIT305L & Downstream Processing
Slot(s) : A2 + TA2
Faculty Name(s) : M. Anbalagan
Class Number(s) : VL2025260503477
Date of Examination : 15th Mar 2026 9.30 am to 11.00 am
Exam Duration : 90 minutes **Maximum Marks:50**

General instruction(s):

- Answer All Questions
- Course Outcomes Statements:
 CO 4: Apply different enrichment techniques for protein concentration
 CO 5: Compare different chromatography techniques used for protein purification

Separation techniques used for protein purification																																				
Q.No	Question	M	CO	BL																																
1.	My compound of interest, present in a flower gets inactivated at its boiling point. Apply a suitable technique to extract the compound from the flower with out inactivating it	10	4	3																																
2.	Use relevant technique to separate the below given analytes from each other; based on the data given <table><tr><td>Ana-lyte</td><td>A</td><td>B</td><td>E</td><td>D</td><td>J</td><td>Y</td><td>T</td></tr><tr><td>Mol. wt (kDa)</td><td>40</td><td>60</td><td>90</td><td>60</td><td>50</td><td>10</td><td>50</td></tr><tr><td>pI</td><td>7</td><td>9</td><td>10</td><td>6</td><td>8</td><td>4</td><td>5</td></tr><tr><td>Conc (ug)</td><td>50</td><td>25</td><td>75</td><td>50</td><td>50</td><td>25</td><td>25</td></tr></table>	Ana-lyte	A	B	E	D	J	Y	T	Mol. wt (kDa)	40	60	90	60	50	10	50	pI	7	9	10	6	8	4	5	Conc (ug)	50	25	75	50	50	25	25	10	5	3
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3	Construct a vector to express protein of interest as a 6X His fusion protein at N - terminal end and explain the affinity column used to purify the protein	10	5	3																																
4	Apply relevant chromatography technique to identify molecular weight of a given protein	10	5	3																																
5.	Choose a liquid -liquid extraction technique that is used for extraction of non-polar proteins that are sensitive to non-polar solvents and explain the same	10	4	3																																