B

COLLEGE OF ENGINEERING AND TECHNOLOGY
SCHOOL OF BIOENGINEERING, DEPARTMENT OF BIOTECHNOLOGY
ACADEMIC YEAR 2023-24– ODD SEMESTER
Continuous Learning Assessment Test III

SRM INSTITUTE OF SCIENCE & TECHNOLOGY

Reg. No.	R	A												

Course Code: 21BTB102T	Course Title: Introduction to Computational Biology				
Sem & Year: I/ I	Date: 29/11/2023	Duration: 100 Minutes		Max. Marks: 50	

Course Outcomes (COs)		Program Outcomes (POs)												
		1	2	3	4	5	6	7	8	9	10	11	12
CO-3	Solve protein sequence analysis and biological structure prediction using computing techniques	2	3	-	1	3							
CO-4	Integrate neuronal mechanisms and computer applications that replicate its workings	3	2	2	1	3							
CO-5	Integrate the immune system and its workings to predict vaccine candidates	3	-	2	2	3							

Part A (Answer all)   (MARK THE ANSWERS WITHOUT OVERWRITING ON THE QUESTION PAPER.)

(TEAR THE SHEET AND GIVE IN 15 MINS)   10 x1 Marks = 10 Marks

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)
1	The secondary structure prediction methods can be either Abinitio or _____ (a) neural networks, (b)sequence based (c)machine learning (d) homology based	1	3	2		2,5
2	Which among these is odd (a) space fill (b) ribbon (c) side chain model (d)bat and ball	1	3	2		2,5
3	The anticodon for AAU is (a)TGA (b) GAT (c) UGA (d) UUA	1	3	3		2,5
4	Clustering is a type of _____ machine learning algorithm (a)supervised (b) unsupervised (c) reciprocal (d) hierarchical	1	4	2		1,5
5	Deposits of _____ interfere with neuronal functions in Alzheimer's (a) plaques (B)dopamine (c)amino acids (d)	1	4	2		1,5
6	The spiking period is followed by a _____ period (a)refractory (b) resolution (c) unspike (d)silent	1	4	2		1,5
7	Albert Einstein had inordinate number of _____ cells (a) nerve (b) glial (c) liver (d)heart	1	4	2		1,5
8	MHC is present on _____ (a) human cells (b)bacteria (c) virus (d)protozoa	1	5	2		1,5
9	_____ is a agranular leukocytes (a) basophil (b) eosinophil (c) monocyte (d)neutrophil	1	5	2		1,5
10	Diphtheria and tetanus are developed as _____ vaccine (a) peptide (b)live (c)toxoid (d)attenuated	1	5	2		1,5

---------------------------------------TEAR HERE WITH A RULER---------------------------------------

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Part B   (Answer any 3)   3 x 10 Marks = 30 Marks

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)
11	Write on cell mediated immunity	10	5	2		1,5
12	Explain in detail about artificial neural networks	10	4	2		1,5
13	Give details of secondary structure prediction	10	3	2		2,5
14	Write about translation in detail	10	3	2		2,5

PART C (Answer the Following)   1 x 10 Marks = 10 Marks

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)
15	Design and draw a neural network that would predict breast cancer taking into account the risk factors.	10	4	5		1,5

Attainment Level (H:76 to 100%; M :50 to 75%; L: ≤ 50%)

	Quality	Max Marks	Marks Scored	% of Marks	Attainment
CO-3	L2=23	50			H/M/L
CO-4	L2=14, L5=10				
CO-5	L2=13				
POs/PSOs:					