A

COLLEGE OF ENGINEERING AND TECHNOLOGY
SCHOOL OF BIOENGINEERING, DEPARTMENT OF BIOTECHNOLOGY
B. Tech. Biotechnology Core and RM & GE Specializations

ACADEMIC YEAR 2024-25 – ODD SEMESTER
Continuous Learning Assessment Test II - FT 4

Reg. No.	R	A												

Course Code: 21BTB102T	Course Title: INTRODUCTION TO COMPUTATIONAL BIOLOGY		
Sem & Year: I/I	Date: 04/12/24	Duration: 100 Minutes	Max. Marks: 50

	Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
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 Choose the BEST Answer (15 MINS) — **11 x 1 Mark = 11 Marks**

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)/ PSO
1.	Which is the molecule that leaves the nucleus and reaches the cytoplasm during protein synthesis a) tRNA b)bRNA c) rRNA d) mRNA	1	3	L1		5
2.	rRNA associates with ---------- a) Nucleus b) mitochondria c) ribosomes d)rough ER	1	3	L2		5
3.	Segments of DNA that codes for amino acids is called _____ a) Genes b)codes c)genomes d)nucleotides	1	3	L3		5
4.	Glial cells outnumber neurons by a) 10 to 1 b) 1 to 10 c)5 to 1 d) 7 to 1	1	4	L3		5
5.	The irregular star shaped cell bodies are a) Neurons b) microglia c) dendrites d) astrocytes	1	4	L3		5
6.	The cell that wraps themselves around axons are a) Astrocytes b) oligodendrocytes c) dendrites d) epithelial	1	4	L2		5
7.	Microglia are derived from a) Lymphocytes b) Bcell c) Tcell d) Monocytes	1	4	L3		5
8.	Which is **not** a part of immune system a) Thymus b) spleen c) bone marrow d) pancreas	1	5	L1		5
9.	NK cells are part of ----------immunity a) Innate b) humoral c) cell-mediated d) none of these	1	5	L3		5
10.	Non-self cells are a) Brain cells b) liver cells c) foreign cells d)skin cells	1	5	L3		5
11.	The marker that helps distinguish self from non-self is a) THC b) MHS c) MHC d) THS	1	5	L3		5

PLEASE WRITE THE QUESTIONS OF PART B AND C ON YOUR ANSWER SHEET AND SUBMIT THE MCQS TO THE TEACHER

COLLEGE OF ENGINEERING AND TECHNOLOGY
SCHOOL OF BIOENGINEERING, DEPARTMENT OF BIOTECHNOLOGY
B. Tech. Biotechnology Core and RM & GE Specializations

ACADEMIC YEAR 2024-25 – ODD SEMESTER
Continuous Learning Assessment Test II FT4

Reg. No.	R	A													

Course Code: 21BTB102T	Course Title: INTRODUCTION TO COMPUTATIONAL BIOLOGY		
Sem & Year: I/I	Date: 04/12/24	Duration: 100 Minutes	Max. Marks: 50

	Course Outcomes (COs)	Program Outcomes (POs)												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
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 B Answer the Following **3 x 8 Marks = 24 Marks**

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)/ PSO
12. a	Explain the way pre-mRNA is made and processed	8	3	L1		
	OR					
12. b	Draw and explain different levels of protein structure	8	3	L1		
13. a	List different glial cells and explain their functions	8	4	L2		
	OR					
13. b	Explain the structure of a neuron in detail		4	L2		
14. a	Explain the innate defences in our body against infection	8	5	L3		
	OR					
14. b	Describe Bcell and Tcell epitope prediction	8	5	L3		

Part C Answer the Following **1 x 15 Marks = 15 Marks**

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)/ PSO
15	Explain with examples of autonomous and somatic nervous systems with elaborate examples	15	4	L4		
	OR					
16	Hemoglobin protein is synthesized using an intracellular process. Explain in detail	15	3	L4		

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

	Quality	Max Marks	Marks Scored	% of Marks	Attainment
CO	L1 & L2 = 20 Marks	50			H/M/L
	L3 & L4 = 30Marks				
POs/PSOs:					

- L1- Remember, L2-Understand, L3-Apply, L4-Analyse