B

COLLEGE OF ENGINEERING AND TECHNOLOGY
SCHOOL OF BIOENGINEERING, DEPARTMENT OF BIOTECHNOLOGY
B. Tech. Biotechnology Program
ACADEMIC YEAR 2024- ODD SEMESTER
FT2___ BATCH 1

Reg. No:	R	A												

Course Code: 21BTB102T	Course Title: Introduction to Computational Biology		
Sem & Year: I	Date: 1.10.24	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-1	Correlate cell growth, reproduction, and differentiation				1	-	-	-	-	-	-	-				
CO-2	Categorize the eukaryotic and prokaryotic cell biochemistry and relate their applications in genomics	2			2	-	-	-	-	-	-	-		-	-	-

Part A- Answer all 10 x 1 Marks = 10 Marks

Q. No.	Questions (Mark the answers in the Question paper- 15 mins) Overwriting is prohibited	Mar ks	CO	BL	Mar ks	PO
1.	Pluripotent Stem cells can't form a particular type of cells A] placenta B] liver C]brain D] gallbladder	1	1	L1		4
2.	Which is **not** part of the five kingdoms A] plantae B] animalia C] monera D]anti-fungal	1	1	L1		4
3.	Cells come from already existing cells. This process is called A] clone B] cell cycle C] mitosis D]metabolism	1	1	L1		4
4.	Meiosis forms A] diploid 2 cells B] haploid 2 cells C] diploid 4 cells D] haploid 4 cells	1	1	L1		4
5.	Choose the **wrong** statement: A] enzymes act as catalyst B] Enzymes are specific C]Enzymes are non reusable as they get permanently changed D] Enzymes have 10e6 speed of catalysis	1	2	L2		4
6.	Point the disease associated with lipids A] scurvy B] diabetes C] cystic fibrosis D] atherosclerosis	1	2	L1		1,4
7.	Identify RNA type A] mRNA B] pRNA C] hRNA D] dRNA	1	2	L1		1,4
8.	Sucrose contains _____ bonds A] Phosphodiester bond B] glucose bond C] glycosidic bond D] ionic bond	1	2	L1		1,4
	Copy the PART B and PART C questions in the answer sheet and return the question paper					

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Part B- Answer any 3 of the Following 3 x 10 Marks = 30 Marks

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)/ PSO
9.	Give a note on Meiosis with clear depictions	8	1	L2		4
	OR					
10.	Explain homeostasis and its control mechanisms					
11.	Describe Differences of Nucleic acids	8	2	L2		1
	OR					
12.	Explain Proteins w.r.t to hormones					
13.	Give detailed notes and neat labelled diagrams on 4 major organelles of a cell	8	1	L2		4
	OR					
14.	Explain prokaryotes and eukaryotes and how they are distributed in living cells					
15.	Explain lipids in detail	8	2	L2		1
	OR					
16.	Explain the macromolecule that is the major source of energy in the cell					

Part C- HOTS 1 x 10 Marks = 10 Marks

Q. No.	Questions	Marks	CO	BL	Marks Scored	PO(s)/ PSO
17.	Restriction enzymes have the potential to cut DNA- Mention the different possibilities of using this enzyme to serve mankind (at least 3)	10	2	L3		4