Register Number:

SRM Institute of Science and Technology

Tiruchirappalli Campus, Trichy – 621 105

Faculty of Engineering Technology

Continuous Learning Assessment – I September-2024 I Semester

Course Code & Course Name: **21BTB102T Introduction to Computational Biology**

(Common for B. Tech 1st Year CSE E,F,G Cyber Security B, CSE-DS, BDA, BCT IT-B & Medical Eng) **SET-B**

(Regulations 2021)

Date: 04/10/2024 Session: FN/AN

Time: 90 min **Max. Marks:** 50

PART – A **Answer All Questions** **(10 x 1 = 10 marks)**

1.	The five kingdom classification was proposed by _____. A) Carl Linnaeus; B) Robert Hooke; C) R. H. Whittaker; D) Charles Darwin	CO 1 BL 1
2.	Recall the role of lysosomes in a cell. A) Transport of molecules; B) Energy storage; C) Protein synthesis D) Breaking down cellular waste	CO 1 BL 1
3.	State in which phase Cytokinesis begins? A) Anaphase; B) Metaphase; C) Prophase; D) Telophase	CO 1 BL 1
4.	DNA replication occurs during _____ phase of the cell cycle. A) Interphase; B) G_1 phase; C) S phase; D) G_2 phase	CO 1 BL 1
5.	Identify the main function of ribosomes. A) DNA replication; B) Protein synthesis; C) Lipid metabolism D) Transport of molecules	CO 1 BL 2
6.	Specify the number of amino acids that make up a protein. A) 10; B) 20; C) 13; D) 15	CO 2 BL 1
7.	Recite which of the following is not a variant of BLAST? A) BLASTN; B) BLASTP; C) BLASTX; D) TBLASTNX	CO 2 BL 1
8.	Identify the role of Homeostasis. A) Cell differentiation; B) Replication of DNA; C) Maintenance of stable internal conditions; D) Tissue repair	CO 2 BL 2
9.	Recognize the bond used to join the two strands in DNA double helix. A) Covalent; B) Hydrogen; C) Ionic; D) Phosphodiester	CO 2 BL 2
10.	Restate the nature of an enzyme. A) Lipid; B) Vitamin; C) Protein; D) Carbohydrate	CO 2 BL 2

	PART – B **Answer All Questions** **(4 x 4 = 16 marks)**	
11.	Illustrate about the differentiation of tissues and organs. *(Definition: 1 mark; illustration: 3 marks)*	CO 1 BL 3
12.	Examine the classification and sources for stem cells. *(Classification: 2 marks, sources: 2 marks)*	CO 1 BL 4
13.	List and explain various Hormones. *(Definition: 1 mark; Explanation: 3 marks)*	CO 2 BL 3
14.	Investigate the characteristics of enzymes with examples. *(Definition: 1 mark; Characteristics: 2 marks; Examples: 1 mark)*	CO 2 BL 4
	PART – C **Answer All Questions** **(2 x 12 = 24 marks)**	
15. (a)	Show mitosis and its phases in detail. *(Definition: 1 mark; Phases with Diagram: 11 marks)*	CO 1 BL 3
	(or)	
15. (b)	Classify various cell organelles of a eukaryotic cell. *(Definition: 1 mark; examples & functions: 7 marks; diagram: 4 marks)*	CO 1 BL 4
16. (a)	Demonstrate the different types of nucleic acids and their components. *(Definition: 1 mark; types: 2 marks; components: 6 marks; diagrams: 3 marks)*	CO 2 BL 3
	(or)	
16. (b)	Compare the types of carbohydrates with examples. *(Definition: 1 mark, types with examples: 8 marks; diagrams: 3 marks)*	CO 2 BL 4