

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2023

B.Tech-I Semester (BT/BI)

COURSE CODE (CREDITS): 18B11BT111 [3]

MAX. MARKS: 35

COURSE NAME: Fundamental Biology

COURSE INSTRUCTORS: Dr. Tyson

MAX. TIME: 2 Hours

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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1. What are the merits and demerits of five kingdom classification? [CO-3] 2
2. Write briefly about the cytoskeleton system in cell and differentiate between cilia and centrioles. [CO-3] 2
3. Define a taxon. What is meant by taxonomic hierarchy? Give a flow diagram from the lowest to highest category for a plant or animal. [CO-1] 2
4. Explain main criteria for classification of algae accounting their classes with examples. [CO-3] 3
5. List all the stages of cell cycle and explain them briefly. [CO-4] 3
6. The base sequence on one strand of DNA is "ATGTCTATA" (polarity 3'-5'). [CO-4] 3
  - (i) Give the base sequence of its complementary strand.
  - (ii) If an RNA strand is transcribed from this strand what would be the base sequence of RNA?
  - (iii) What holds these base pairs together?
7. Is extra genomic DNA present in prokaryotes and eukaryotes? If yes, indicate their location in both the types of organisms and explain their structure and functions. [CO-3] 5
8. Explain briefly about the following : [CO-2] 5
  - i) Chitin
  - ii) Starch
  - iii) Phospholipids
  - iv) Epimers
  - v) Secondary Protein
9. What are the different types of RNA & mention their structure and role in protein Synthesis? [CO-5] 5
10. Where do transcription & translation takes place in a prokaryotic and eukaryotic cell? Describe the steps involved in prokaryotic translation? [CO-5] 5