

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Feb. 2020

B.Tech. IV Semester

COURSE CODE: 18B11BT412

MAX. MARKS: 15

COURSE NAME: Molecular Biology

COURSE CREDITS: 03

MAX. TIME: 1.0 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Give the answers of following.

(1X5=5 marks) (COI)

- Name the enzyme which is required for DNA amplification in PCR.
- Structure of a purine base
- What is the significance of T_m of primers in PCR?
- Significance of different carbons of pentose sugar in nucleotides
- Chargaff rule

Q2. Explain the following in brief.

(1.5X2 = 3.0 marks) (COI, II)

- Electrophoretic Mobility shift assay
- Differential solubility and genomic DNA isolation

Q3. Can RNA form any double stranded structures? Justify your answer with suitable examples.
(2 marks) (COI)

Q4. Explain different bonds present in DNA which are required for the stabilization DNA double helical structure.
(2 marks) (COI)

Q5. Why thymine is preferred over uracil in DNA? Also explain, why DNA is highly stable as compared to RNA?
(3 marks) (COI)