

Dr. Arupel

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3 EXAMINATION- 2021
B.Tech IIIRD Semester

COURSE CODE: 18B11BT314

MAX. MARKS: 35

COURSE NAME: General Chemistry

COURSE CREDITS: 3

MAX. TIME: 2 Hours

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Draw proper reactions to explain wherever required.

Q1. Answer the following questions.

- Draw proper bond line structure of tripeptide A-Y-K. [1]
- Why reactivity of anion is higher in polar aprotic solvent? [1]
- How will you calculate pI of amino acid having acidic and basic side chain. [1]
- What are the functions of prostaglandins? [1]
- Explain Mutarotation observed in d-glucose. [2]
- How will you synthesize (\pm) Phenylalanine? Explain any one method in one stepwise manner. [2]
- Explain chemistry of sequencing of peptide by the Edman degradation. [2]

Q2. Answer the following questions.

- Specific rotation of optically pure (-) compound X in water is -63° . A chemist observed synthesis of (-) compound X with small amount of undesirable enantiomers. Its observed rotation is found to be -45° . a) Calculate % enantiomeric excess. b) What is the % of (+) compound X? [2]
- Explain various mechanisms of elimination reactions. How different conditions affect product formation. [3]
- Bradykinin has the following sequence: (N terminus) Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg (C terminus) Identify all fragments that will be produced when bradykinin is treated with: (a) Trypsin (b) Chymotrypsin [2]

Q3 Answer the following questions?

[3x6=18]

- Draw and explain free radical polymerization mechanism in step wise manner?
- Explain synthesis of dipeptide Gly-Ala in stepwise manner. How many products are possible if appropriate protecting groups are not used in synthesis of above dipeptides?
- What is polydispersity index of polymer? How no. average molecular weight and weight average molecular weight of polymer is calculated? Explain.
- Explain the products formation when alpha d-glucose reacts with methanol in presence of hydrochloric acid.
- How lipids are classified? Give one example of each type. How to name steroids?
- Assign R/S or E/Z to the following compounds.

