

## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- October 2017

B.Tech (Biotechnology) III<sup>rd</sup> Semester

COURSE CODE: 10B11BT312

MAX.MARKS: 25

COURSE NAME: Biochemistry

COURSE CREDITS: 3

MAX. TIME: 1.5 Hrs

*Note: All questions are compulsory. Carrying of mobile phone and calculator during examinations will be treated as case of unfair means. Marks are indicated in square brackets.*

- Q1. Define the molecular target of arsenic toxicity in humans? (1 mark)
- Q2. What is the biological significance of Thiamine pyrophosphate? (1 mark)
- Q3. What are Lipases and explain the biochemical reaction catalyzed by different lipases during catabolism? (3 mark)
- Q4. Define the structural features of phospholipids and explain their biochemical significance in cellular structures and drug delivery systems. (3 mark)
- Q5. "Cholesterol is an amphipathic molecule". Justify the statement with suitable structural features of cholesterol. Also, explain the merits and demerits of cholesterol. (4 mark)
- Q6. Explain the fate of Acetyl COA in response to high energy and low energy states of an organism in terms of converging catabolism and diverging anabolism with suitable examples. (4 mark)
- Q7. Explain the following in brief. (9marks)
- Glycerol phosphate shuttle
  - Glucokinase and hexokinase enzymes
  - Differentiate between glycolysis and gluconeogenesis