

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Test -1 EXAMINATION, September 2018

**B.Tech. Biotechnology**

COURSE NAME: Food Processing engineering

MAX.MARKS:15

COURSE CODE: 14M1WBBT331

MAX.TIME: 1 hour

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**Note: Attempt all questions. Carrying of mobile phones during examinations will be treated as a case of unfair means. Marks are indicated against each question in square brackets.**

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1. (a) Explain the concept of food processing and food process engineering citing any two examples of each (1)  
(b) Write advantages of using steam as a source of heat in food processing industry (1)
2. Draw a well labelled temperature-heat diagram of ice heating, and explain following terms i. Latent heat of fusion, ii. Sensible heat of water, iii. Enthalpy of wet steam, iv. Latent heat of vaporization, v. Dryness factor of steam (4)
3. What are the fibres in the food products, their types and different properties? (2)
4. Write on anti-oxidant with examples? What is the importance of having antioxidant in the food products? (2)
5. Define; Bioavailability and bio accessibility, and explain the *in vitro* digestion system that are used test various food products (3.5)
6. Write on the these enzyme and where they are present in the digestive system; (1.5)
  - i. Pepsin
  - ii. alpha amylase
  - iii. lipase