

B.Sc. Semester - 3 (CBCS) Examination**Oct/Nov. -2018****BIO-TECHNOLOGY (CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Section-I

Que-1 Answer all the questions.

(20 marks)

1. Define cofactor?
2. Define activation energy?
3. What is proximity?
4. What is difference between glucokinase and hexokinase?
5. Why glucose-6-P is impermeable for cell?
6. Site for β -oxidation of fatty acid in eukaryotes?
7. How many ATP produce in Krebs cycle for one glucose molecule?
8. Why HMP pathway is called amphibolic pathway?
9. Which enzyme deficiency causes Alkaptonuria disease?
10. What is Fo-F1 ATPase?
11. Which of the organ is major site for gluconeogenesis?
12. Which function of DHFR?
13. Which endocrine gland secretes epinephrine?
14. Which plant hormone involve in breaking seed dormancy?
15. Write one example of steroid hormone?
16. Which gland is called mixed gland?
17. Define active transport?
18. Give one example of secondary messenger?
19. What is facilitated diffusion?
20. Give the name of one protein involve in cell cycle regulation?

Section-II

Que-1 All questions are compulsory.

a. Answer any three out of six.

(3 × 2 marks)

- i. Define isozyme with one example?
- ii. Write name of all classes of enzyme?
- iii. What is oxidative decarboxylation?
- iv. Write activation of fatty acid before oxidation?
- v. Write two examples of inborn error of metabolism?
- vi. Write role of CDK?

b. Answer any three out of six.

(3 × 3 marks)

- i. What is acid base catalysis?
- ii. Write a note on regulation of glycolysis?
- iii. Write three examples of ETC inhibitor?
- iv. Differentiate plant and animal hormone?
- v. Enlist the name and role of pancreatic hormone?
- vi. Explain diffusion?

c. Answer any two out of five.

(2 × 5 marks)

- i. Derive Michaelis-Menton Constant?
- ii. Explain Krebs cycle?
- iii. Write a note on transamination and oxidative deamination?
- iv. Give the detail account of Auxin?
- v. Describe signal transduction cascade with one example?

Que-2 All questions are compulsory.

- a. Answer any three out of six. (3 × 2 marks)
- Explain covalent catalysis?
 - What are various fate of Pyruvate?
 - Write about gluconeogenesis?
 - What is photosystem?
 - Write four roles of abscisic acid?
 - Write a short note on carrier transport?
- b. Answer any three out of six. (3 × 3 marks)
- Write about orientation effect on enzyme activity.
 - Write oxidation steps of HMP pathway?
 - Discuss about C₄ cycle?
 - Write the four roles of thyroxine?
 - Explain the role of ethylene hormone?
 - Differentiate symport and antiport?
- c. Answer any two out of five. (2 × 5 marks)
- Define enzyme inhibition? Explain the type of enzyme inhibition?
 - Explain Urea cycle?
 - Explain structure and function of membrane?
 - Describe the function of adrenal Hormone?
 - Explain C₃ cycle in detail?
