

B.Sc. Semester - 3 (CBCS) Examination
December. -2020 [NEW COURSE]
BioTechnology-BT301(Core)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figure to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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Q. 1 Answer all the questions:**a. Answer one out of two-****(07)**

- i. Discuss the reversible enzyme inhibition in detail.
- ii. Give the detail account of Michaelis-Menten equation to describe enzyme kinetics.

b. Answer one out of two-**(04)**

- i. Write covalent catalysis with suitable example.
- ii. Write short notes on allosteric enzyme.

c. Answer any three out of five-**(03)**

- i. Define K_m value.
- ii. Write name of metal ion for enzyme nitrogenase for their catalysis.
- iii. What is turn over number.
- iv. Different form of same enzyme is called.....
- v. RNase shows covalent catalysis-True/False

Q. 2. Answer all the questions:**a. Answer one out of two-****(07)**

- i. Discuss the glycolysis pathways with energetics.
- ii. Explain β -oxidation of fatty acid.

b. Answer one out of two-**(04)**

- i. Briefly write on ETC.
- ii. Write the various fate of pyruvate.

c. Answer any three out of five-**(03)**

- i. HMP provide the pentose sugar for DNA synthesis-True/False.
- ii. Which molecules act as final electron acceptor in ETC.
- iii. Give the function of carnitine in fatty acid oxidation.
- iv. Name the product of pyruvate carboxylase enzyme.
- v. Write name of site for TCA cycle in cell.

Q. 3 Answer all the questions:**a. Answer one out of two-****(07)**

- i. Give the detail account of Urea cycle.
- ii. Discuss the light reaction during photosynthesis.

b. Answer one out of two-**(04)**

- i. Briefly write on transamination.
- ii. Give the reason for phenylketonurea and alkaptonurea.

c. Answer any three out of five-**(03)**

- i. Write the product of glutamate dehydrogenase.
- ii. Dark reaction of photosynthesis occur in
- iii. Which one is more toxic for human-Ammonia or Urea.
- iv. Major site of purine biosynthesis is cytoplasm-True/False.
- v. What is salvage pathway?

Q. 4 Answer all the questions:

a. Answer one out of two-

(07)

- i. Explain the role of adrenal hormone.
- ii. Discuss the major functions of auxins in plant.

b. Answer one out of two-

(04)

- i. Give four major differences between animal hormone and plant hormone.
- ii. How calcitonin and parathormone work together.

c. Answer any three out of five-

(03)

- i. Insulin works antagonistically with glucagon-True/False.
- ii. Which plant hormone promote amylase activity in germinating seeds.
- iii. Deficiency of which hormone cause Diabetes insipidus.
- iv. Name the plant hormone decrease the rate of transpiration .
- v. Steroid hormone derived from cholesterol-True//False

Q. 5 Answer all the questions:

a. Answer one out of two-

(07)

- i. Give the detail account of membrane transport.
- ii. Write mechanism of signaling by insulin.

b. Answer one out of two-

(04)

- i. Briefly writes on membrane architecture.
- ii. Discuss role of protein kinase in cell cycle regulation.

c. Answer any three out of five-

(03)

- i. Show the role of cholesterol in membrane.
- ii. Glucose transport in cell by..... diffusion.
- iii. Write name of enzyme which synthesize c-AMP.
- iv. Phospholipid is major lipid constituent present in membrane-True/False
- v. Give one example of secondary messenger.
