

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov - 2022 [NEW COURSE]
BioTechnology-BT301(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q-1**A. Answer the following (any one out of two) (07)**

1. Derive Michalis Menton equation and also discuss Lineweaver Burk plot
2. Explain Irreversible and reversible enzyme inhibition mechanism.

B. Attempt Any one (any one out of two) (04)

1. Write the properties of enzymes and Give Two examples of enzymes.
2. What is allosteric regulation?

C. Attempt Any three (any three out of five) (03)

1. Lock and key model was proposed by _____.
2. Enzymes are made of ____
3. Removal of phosphoryl group is catalyzed by
4. The allosteric inhibitors of an enzyme participate in ____ regulation.
5. Define cofactors.

Q-2**A. Answer the following (any one out of two) (07)**

1. ETC and Oxidative Phosphorylation.
2. Write a note on beta-oxidation of fatty acids. Calculate net ATP generation on complete oxidation of palmitate.

B. Attempt Any one (any one out of two) (04)

1. Write note on Glycolysis with its energetics and also discuss fate of pyruvate
2. Write note on TCA cycle with its energetics.

C. Attempt Any three (any three out of five) (03)

1. Give one example of regulatory enzyme of glycolysis.
2. Give one example of regulatory enzyme of TCA.
3. Full form of HMP is?
4. Comment on anaplerotic reactions.
5. Define: Glycolysis.

Q-3**A. Answer the following (any one out of two) (07)**

1. Write Note on Biosynthesis of Nucleic Acid.
2. Write Note on Inborn Errors of Metabolism.

B. Attempt Any one (any one out of two) (04)

1. Draw the Urea cycle and write its regulation
2. Explain the light reaction of photosynthesis.

C. Attempt Any three (any three out of five) (03)

1. Transamination means the transfer _____ of group.
2. Dark reaction takes place in ____ of chloroplast.
3. A temperature of above 40 °C _____ the rate of photosynthesis.
4. C4 cycle takes place in which cell.
5. Define deamination

Q-4**A. Answer the following (any one out of two)****(07)**

1. Plant Hormones and its functions.
2. Types of Animal Hormones

B. Attempt Any one (any one out of two)**(04)**

1. Disorders due to hormonal imbalance in humans.
2. Animal Hormones and its functions.

C. Attempt Any three (any three out of five)**(03)**

1. Name the gland which acts as an endocrine as well as exocrine gland.
2. Acetylcholine is ____?
3. _____are the groups of hormones that makes the plant root grow.
4. TSH is ____.
5. Comment on endocrine.

Q-5**A. Answer the following (any one out of two)****(07)**

1. Write a note on signal transduction Cascade.
2. Explain regulation and function of protein kinases.

B. Attempt Any one (any one out of two)**(04)**

1. Explain the architecture of membrane.
2. Explain Active and Passive transport.

C. Attempt Any three (any three out of five)**(03)**

1. Who devised the fluid mosaic model for biological membrane?
2. Define Osmosis.
3. Full form of Cdk is ____?
4. _____ diffusion is the spontaneous phenomenon that increases the entropy of a system and decrease free energy.
5. Give one function of sodium and potassium pumps.
