

Seat
No.

B.Sc.(Semester - II) (CBCS) Examination Oct/Nov-2019
Entrepreneurship
Industrial Biotechnology (Paper - II)
BASICS OF METABOLISM

Day & Date: Wednesday, 16-10-2019
 Time: 11:30 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
 2) Figures to the right indicate full marks.
 3) Draw neat and labeled diagrams wherever necessary.

Q.1 Fill in the blanks by choosing correct alternatives given below.**14**

- 1) The photosynthetic bacteria are also known as _____.
 a) Chemoorganotrophs b) Autotrophs
 c) Chemolithotrophs d) Phototrophs
- 2) The enzymes of glycolysis are located in _____.
 a) Nucleus b) Mitochondria
 c) Lysosomes d) Cytoplasm
- 3) The first substance produced in the citric acid cycle is _____.
 a) Acetyl CoA b) ATP
 c) Oxaloacetate d) Citrate
- 4) _____ type of metabolite is used for generating glucose under severe starvation condition.
 a) Amino acids b) Fats
 c) Glycogen d) Starch
- 5) Movements oxidized in electron transport chain are _____.
 a) Diffusion b) Osmosis
 c) Repulsion d) Force of attraction
- 6) Molecules oxidized in electron transport chain are _____.
 a) Carbon b) FMN
 c) NADH d) ADP
- 7) Cytochrome were described by _____.
 a) Darwin b) MacMunn
 c) Crick d) Mendel
- 8) The carbon dioxide is primary a product of _____.
 a) Glycolysis
 b) Electron transport phosphorylation
 c) Krebs cycle
 d) Lactate fermentation
- 9) Na⁺ glucose transporter is an example of _____.
 a) Facilitate diffusion b) Symport
 c) ATP driven active transport d) Antiport
- 10) Oxidation of a molecule involves _____.
 a) Gain of electron b) Gain of proton
 c) Loss of electron d) Loss of proton

- 11) The main enzyme responsible for activation of xenobiotic is _____.
 a) Gluthione S – transferase
 b) Cytochrome P – 450
 c) NADPH cytochrome P – 450 reductase
 d) Glucuronly transferase
- 12) In anabolism, cellular size _____.
 a) Remains same
 b) Decreases
 c) Increases
 d) Becomes zero
- 13) End product of Krebs cycle / Citric acid cycle is _____.
 a) Citric acid
 b) Pyruvic acid.
 c) Lactic acid
 d) Carbon dioxide and water.
- 14) Glycolysis is the name given to the pathway involving the conversion of _____.
 a) Glycogen to glucose-6-phosphate.
 b) Glycogen or glucose to pyruvate or lactate
 c) Glucose or fatty acids to pyruvate or acetyl CoA
 d) Glycogen or glucose to fructose

- Q.2 A) Answer the following questions. (Any Four) 08**
 1) Define Autotrophs.
 2) Draw a neat labelled structure of mitochondria.
 3) LC50
 4) Catabolism.
 5) Explain role of enzyme in biotransformation.
- B) Write short notes (Any Two) 06**
 1) Explain structure of biological membrane.
 2) Write a note on inhibitors of electron transport chain.
 3) Describe anabolism.
- Q.3 A) Answer the following questions. (Any Two) 08**
 1) What are transporters? Add a detailed note on its classification.
 2) Give a brief account on biotransformation.
 3) Explain Glyoxilate cycle.
- B) Answer the following questions. (Any One) 06**
 1) Explain cyclic electron transport chain.
 2) Write a detailed note on glycolysis.
- Q.4 A) Answer the following questions. (Any Two) 10**
 1) Discuss in detail Biotransformation of Xenobiotics.
 2) Write a note on Inhibitors of Oxidative phosphorylation.
 3) Explain non - cyclic electron transport chain.
- B) Answer the following questions. (Any One) 04**
 1) Explain HMP pathway.
 2) Discuss energy transfer between photosystem.
- Q.5 Answer the following questions. (Any Two) 14**
 1) Explain Ion gated channel with example.
 2) Discuss in brief Active transport.
 3) Define transporters and briefly explain its classification.