Total No. of Questions : 6]

SEAT No. :

P1933

[Total No. of Pages : 2

[5324]-21
M.Sc. (Biochemistry)
BCH - 270 : BIOENERGETICS AND METABOLISM
(2008/2010 Pattern) (Semester - II) (Credit System)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to both the sections should be solved in separate answer sheets.***
3) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) Answer any five of the following: **[15]**

a) Outline the oxidation of glucose via Pentose Phosphate Pathway (HMP) and give its significance?

b) Discuss PDH (pyruvate dehydrogenase complex)?

c) Elaborate the role of Glycogenin in glycogen synthesis?

d) Write a note on high energy compound.

e) Write a note on C4 pathway.

f) Write a note on fates of pyruvate?

Q2) Answer any three of the following: **[15]**

a) Explain the role of chloroplast and thylakoid in photosynthesis.

b) What is Pasteur effect?

c) Discuss chemiosmotic hypothesis of peter mitchell in the formation of ATP.

d) Explain all the reaction involved in conversion of lactic to glucose.

Q3) Write short notes on any two of the following: **[10]**

a) Role of hormone in the regulation of glycogenesis and glycogenolysis.

b) Role of glycogenin in glycogen synthesis.

c) Cyclic and non-cyclic photophosphorylation.

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SECTION - II

Q4) Answer any five of the following: **[15]**

a) Describe Transamination and Deamination reactions?

b) What is the significance of Glutamine and Alanine in amino group metabolism?

c) Discuss the steps in urea cycle?

d) Elucidate the role of Tetrahydrofolate and S-Adenosyl Methionine?

e) Explain β-oxidation of Stearic acid with energetics?

f) Write a note on Pyrimidine synthesis?

Q5) Answer any three of the following: **[15]**

a) What are uncouplers? How do they affect ETC and ATP synthesis in mitochondria?

b) Define gluconeogenesis. List out the gluconeogenic precursors.

c) Write note on the defective enzymes that lead to disorders in glycogen Metabolism.

d) Elaborate on the pathway that leads to formation of glucuronate and ascorbic acid.

Q6) Write short notes on any two of the following: **[10]**

a) ALT and AST.

b) Biosynthesis of triglycerides.

c) Glutathione biosynthesis.

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