Q.P. Code :02256

[Time: Three Hours] **[Marks:80]**

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory.

Q.1
A. Why TCA cycle is called as amphibolic pathway? 01
B. Cyanide interacts directly with _____of ETC 01
C. Define glycogenolysis 01
D. Give the precursor for biosynthesis of leukotrienes 01
E. Name one enzyme involved in salvage pathway 01
F. Name the drug which inhibits dihydrofolate reductase 01
G. Enlist the shuttles which transport reducing equivalent from cytosol to matrix 02
H. Define oxidative phosphorylation 02
I. State the role of hexose monophosphate pathway 02
J. Calculate the number of ATP formed in B-oxidation of stearic acid 02
K. Draw the structure of cholesterol 02
L. Name the enzyme, substrate and product formed in the rate-limiting step of fatty acid biosynthesis 02
M. Enlist the precursors for purine biosynthesis 02

Q.2 A. Write the names and structures of substrate and products for the following enzyme catalyzed reaction: (any four) 08
i. Pyruvate dehydrogenase
ii. Glucose -6-phosphatase
iii. B-ketoacyl ACP reductase
iv. Aspartate transcarbamoylase
v. Cycloxygenase

B. Give name of enzyme catalyzing the following conversion 04
i. Malate to oxaloacetate
ii. Acetyl CoA to malanyl CoA
iii. Adenylosuccinate to AMP
iv. UTP to UDP glucose (activated glucose)

Q.3 Explain glyoxylate shunt 03
A. Write the three bypass reactions involved in reversal of glycolysis 03
B. Discuss the utilization of ketone bodies 02
C. Give the two general strategies for synthesis of glycerophospholipids 02
D. Discuss the formation of GMP from IMP 02

Q.4
A. Differentiate between substrate level phosphorylation and oxidative phosphorylation 03
B. Describe the biosynthesis of palmitate from malonyl ACP 03
C. Explain modulation of nucleotide biosynthesis by metotrexate and trimethoprin 02
D. Give the formation of 6-phosphogluconate from glucose -6-phosphate 02
E. Write the four reactions involved is β-oxidation of fatty acid 02

TURN OVER

Q.5	A.	Describe the energy generation phase of glycolysis	03
	B.	Explain β-oxidation of polyunsaturated fatty acid	03
	C.	Outline the steps involved in conversion of acetyl CoA to mevalonate	02
	D.	Explain proton motive force	02
	E.	discuss the regulation for De NOVO biosynthesis of purine nucleotide	02
Q.6	A.	Give the reactions involved in conversion of citrate to succinyl CoA	03
	B.	Explain glycogenesis	03
	C.	Explain the significance of salvage pathway	02
	D.	Mention the drugs inhibiting syntheris of prostaglandin	02
	E.	Give the synthesis of UTP from OMP	02

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