	Ullegh
Name:	
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Invigilator's Signature :	

CS/B.PHARM/SEM-4/PT-404/2013 2013

PHARMACEUTICAL CHEMISTRY (Bio-Chemistry)

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

 Choose the correct alternatives t 	for any	ten of	the fol	lowing :
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 $10 \times 1 = 10$

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i)	Wh	Which one is a high energy compound?					
	a)	ATP	b)	Vitamin			
	c)	Mineral	d)	all of these.			
ii)	Co-enzyme Q is a lipophilic						
	a)	Proton carrier	b)	Anion carrier			

- c) Cation carrier d) Electron carrier.

 If glycerol phosphate shuttle operates, the total number of the control of the control
- iii) If glycerol phosphate shuttle operates, the total number of ATP synthesized per mole of glucose oxidation is
 - a) 38b) 36c) 34d) 32.

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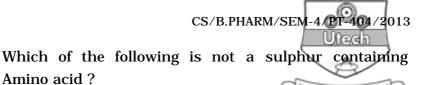
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- iv) Which one of the following enzymes is used in energy investment phase of glycolysis?
 - a) Phosphoglycerate kinase
 - b) Enolase
 - c) Phosphofructokinase
 - d) Pyruvate kinase.
- v) Which of the following generates prostanoids?
 - a) Cyclo-oxigenase
 - b) Lipoxigenase
 - c) Sphingo lipid
 - d) None of these.
- vi) The cofactor used for Vitamin B_6 is
 - a) Thiamine diphosphate
 - b) NAD +
 - c) Pyridoxal phosphate
 - d) Menaquinone.
- vii) Activation of fatty acid occurs in the
 - a) Cytosol
- b) Mitochondria
- c) Stomach
- d) Membrane.
- viii) Cytochrome *C* oxidase is inhibited by
 - a) Succinate
- b) Pyruvate

c) Malate

d) Cyanide.

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a) Cysteine

ix)

- b) Cystine
- c) Methionine
- d) Serine.
- x) In gluconeogenesis process, which is the major substrate?
 - a) Amino acid
- b) Glycogen
- c) Sucrose
- d) Maltose.
- xi) Which of the following is not an essential fatty acid?
 - a) Linolenic acid
- b) Linoleic acid
- c) Arachidonic acid
- d) Oleic acid.
- xii) In liver disease, level of SGOT
 - a) increases
- b) decreases
- c) no change
- d) none of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

- 2. Define schematically Gluconeogenesis and explain its significance. Where does it take place ? 3+1+1
- 3. What are Carbtree effect and Pasteur effect?
- 4. Define and give examples of the following:

2 + 3

- a) Antiport system
- b) Endocytosis.
- 5. Describe the classification and naming of enzymes.
- 6. Write a note on Ketogenesis.

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GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

 $3 \times 15 = 45$

- 7. How do you determine the primary structure of protein ? Write about the β -plated sheet of secondary structure. Write the factors affecting protein stability. What are the bonds present in 3D structure of protein ? What are allosteric proteins? How is a peptide bond formed in primary structure of protein? 3 + 3 + 2 + 2 + 2 + 2
- 8. Explain Beta-oxidation process of palmitic acid and energetics associated with it. What is the structure of cholesterol? 9+4+2
- 9. Derive Michaelis-Menten equation for ES complex formation. What is Lineweaver-Burk plot ? Define its significance. Define K_m . 7 + 4 + 3 + 1
- 10. a) How does the amino acid sequence affect the stability of an α -helix ?
 - b) Write a note on ATP production and its significance.
 - c) Discuss the role of vitamins and metals as cofactors.

5 + 5 + 5

11. Write a detailed note on oxidative phosphorylation in reference with its different mechanisms and processes.Write short note on inhibitors involved in different processes of oxidative phosphorylation.9 + 6

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