

Name :

Roll No. :

Invigilator's Signature :

CS/B.PHARM(NEW)/SEM-5/PT-504/2011-12

2011

**PHARMACEUTICAL CHEMISTRY
(BIOCHEMISTRY)**

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)**

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

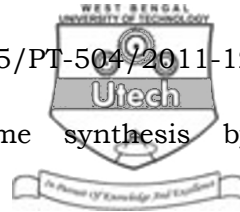
- i) Octapeptide contains how many peptide bonds ?
a) 6 b) 7
c) 8 d) 9.
- ii) Many cancer cells are associated with abnormal production of
a) carbohydrate b) protein
c) vitamin d) fats.
- iii) In eukaryotic cell, *m*-RNA contains cap.
a) 3-methyl guanosine b) 7-methyl guanosine
c) 1-methyl guanosine d) 9-methyl guanosine.

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[Turn over



- iv) Tryptophan operon is
- a) inducible
 - b) initially inducible then repressible
 - c) repressible
 - d) initially repressible then inducible.
- v) Which of the following amino acids can undergo non-oxidative deamination reaction ?
- a) Glycine
 - b) Phenyl alanine
 - c) Serine
 - d) Tyrosine.
- vi) Required co-enzyme for all transamination reactions is
- a) FAD
 - b) FMN
 - c) PLP
 - d) NADP.
- vii) Which of the following acts as an allosteric activator for carbamoyl phosphate synthase-I in urea cycle ?
- a) Folic acid
 - b) Biotin
 - c) N-acetyl glutamate
 - d) All of these.
- viii) The nicking-resealing enzymes are called
- a) Polymerases
 - b) Ligases
 - c) Reverse transcriptases
 - d) DNA topoisomerases.
- ix) Urea biosynthesis occurs in
- a) Liver
 - b) Kidney
 - c) Pancreas
 - d) Urethra.



- x) Lead poisoning inhibits the heme synthesis by inhibiting
- a) Ferrochelatase & ALA dehydratase
 - b) only ALA synthetase
 - c) Ferrochelatase & ALA synthetase.
- xi) The number of base pairs present in each turn (pitch) of *B*-form of DNA helix is
- a) 10
 - b) 12
 - c) 7
 - d) 9.
- xii) Choose the correct palindromic sequence :
- a) $5' - \text{GGGGGG} - 3'$
 $3' - \text{CCCCCC} - 5'$
 - b) $5' - \text{ATGCAG} - 3'$
 $3' - \text{TACGTC} - 5'$
 - c) $5' - \text{GGCGCC} - 3'$
 $3' - \text{CCGCGG} - 5'$
 - d) $5' - \text{GGAAGC} - 3'$
 $3' - \text{GCTTCG} - 5'$

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following $3 \times 5 = 15$

2. Name the thyroid hormones and discuss the abnormalities associated with them.
3. Briefly explain post-translational modifications.
4. Write down the catabolism of methionine and histidine.
5. What is ammonia intoxication ? Which complication arises due to ammonia intoxication ?
6. Write an account on Lac Operon.

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GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Discuss in detail the role of Vitamin A in vision. 6 + 8 + 1
- b) Describe the coenzyme activity of water soluble vitamins in various biochemical reactions.
- c) Write down the deficiency symptoms of vitamin D.
8. Discuss in detail the biosynthesis of purine nucleotides. Write a short note on disorders of purine nucleotide metabolism. 12 + 3
9. Explain the citric acid cycle. What are the disorders of the citric acid cycle ? 10 + 5
10. Define vector with one example. Enumerate Insulin production by Recombinant DNA Technology. 3 + 12
11. Write short notes on the following : 2 × 7½
- a) Urea cycle
- b) DNA transcription.

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