



Name :

Roll No. :

Invigilator's Signature :

CS/B.PHARM(N)/SEM-5/PT-504/2012-13

2012

**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) Which of the following is not a termination codon ?
 - a) UAA
 - b) UAG
 - c) AUG
 - d) UGA.
 - ii) Hormone action on adjacent cells of origin is referred as
 - a) Endocrine action
 - b) Exocrine action
 - c) Autocrine action
 - d) Paracrine action.
 - iii) Which of the following is a left handed DNA ?
 - a) A DNA
 - b) B DNA
 - c) cDNA
 - d) Z DNA.
 - iv) The short DNA fragments formed in the elongation step is called
 - a) Okazaki fragments
 - b) Klenow fragments
 - c) Major groove
 - d) Minor groove.

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[Turn over



- v) Which of the following is a dietary carcinogen ?
- a) Diethylstilbesterol b) Aflatoxin
c) Phenobarbitone d) X-ray.
- vi) Sulphur containing amino acid is
- a) Methionine b) Glycine
c) Arginine d) Alanine.
- vii) Transaminases require Co-enzyme
- a) Pyridoxal phosphate b) Vit-B₁₂
c) NADP d) NAD⁺.
- viii) Parkinson's disease is linked with decreased synthesis of
- a) Dopamine b) Epinephrine
c) Nor-epinephrine d) Tyrosine.
- ix) Initiating codon for protein synthesis is
- a) GUA b) UAG
c) AUG d) UAA.
- x) The enzyme which catalyzes the Peptide bond formation is
- a) RNA-polymerase-I b) Peptidyl transferase
c) *t*-aminoacyl transferase d) RNA-olymerase-III.
- xi) Melanin is produced from
- a) Methionine b) Tyrosine
c) Cystine d) Cysteine.
- xii) Direction of transcription is
- a) 3' → 5' b) 5' → 3'
c) may be both d) none of these.



- xiii) Replication of DNA is
- a) semiconservative b) conservative
- c) both (a) and (b) d) none of these.
- xiv) Source of DNA polymerase in PCR is
- a) *E.coli*
- b) *Thermus aquaticus*
- c) *Pseudomonas aeruginosa*
- d) *Bacillus subtilis*.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Classify hormones according to their chemical nature and mechanism of action.
3. Draw the structure of *t*-RNA with labelling along with the function of its arms.
4. What is meant by Genetic code ? Write down its characteristics.
5. What do you mean by hypothyroidism and hyperthyroidism ?
6. Write a short note on B-DNA or Z-DNA.



GROUP – C

(Long Answer Type Questions)

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

7. Explain how insulin can be prepared by Recombinant DNA Technology. What are various applications of PCR ? $12 + 3$
8. a) What is carcinogenesis ? Classify the different carcinogens with suitable example. 5
b) What is oncogene ? Write its mechanism of action. What do you mean by tumour suppressor gene ? 5
c) How is tyrosine converted to epinephrine and nor-epinephrine ? 5
9. What is the significance of Urea cycle ? Explain urea cycle in brief. Mention the metabolic defects of urea cycle.
 $2 + 10 + 3$
10. What is replication ? Write down a short note on proof reading activity. $10 + 5$
11. a) Write a short note on CAMP Pathway.
b) Discuss on the biochemical functions of oxytocin.
c) Mention the different types of RNA. Mention their functions. $5 + 5 + 5$

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