



Name :
Roll No. :
Invigilator's Signature :

CS / B.PHARM (NEW) / SEM-5 / PT-504 / 2010-11

2010-11

**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) The short DNA fragments formed in the elongation step of DNA replication is called
- a) Okazaki fragments b) Klenow fragments
c) Major groove d) Minor groove.
- ii) Which of the following enzymes is not generated through lactose-operon ?
- a) Galactosidase b) Permease
c) Acetylase d) Lipase.

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[Turn over]



- iii) Which bacteria is utilized in PCR ?
- a) *Bacillus subtilis*
 - b) *Pseudomonas aeruginosae*
 - c) *Helicobacter pylori*
 - d) *Thermus aquaticus*.
- iv) Which hormone can increase blood glucose level ?
- a) Insulin
 - b) Glucagon
 - c) Somatostatin
 - d) Prolactin.
- v) Which of the following amino acids is not sulphur containing ?
- a) Cysteine
 - b) Cystine
 - c) Valine
 - d) Methionine.
- vi) Identify the incorrect statement :
- a) A DNA is both right handed and left handed
 - b) B DNA is right handed and biologically active
 - c) Z DNA is left handed and zigzag in appearance
 - d) *mt* DNA is mitochondrial DNA and is related to various diseases.
- vii) Which of the following is a dietary carcinogen ?
- a) Diethyl stilbesterol
 - b) Aflatoxin
 - c) Phenobarbitone
 - d) X-rays.
- viii) A purine nucleotide is
- a) AMP
 - b) UMP
 - c) CMP
 - d) TMP.
- ix) A pyrimidine nucleotide is
- a) GMP
 - b) AMP
 - c) CMP
 - d) IMP.



GROUP - C

(Long Answer Type Questions)

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

7. a) Classify hormones according to their (i) mechanism of action and (ii) origin.
b) Write a brief account on Fat-soluble vitamins.
c) Explain CAMP pathway of hormone action.

(4 + 4) + 4 + 3

8. Enumerate the steps of the Polymerase Chain Reaction. Mention its various applications.

9 + 6

9. Explain the process of Porphyrin biosynthesis. What is hyperbilirubinemia ?

12 + 3

10. Enumerate the process of Translation. What is post-translational modification ?

10 + 5

11. Write down the synthesis of any *three* of the following amino acids :

3 × 5

- a) Proline
b) Methionine
c) Arginine
d) Alanine
e) Valine
f) Leucine.

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