



Name :

Roll No. :

Invigilator's Signature :

CS/B.Pharm/SEM-8/PT-809C/2011

2011

ADVANCED PHARMACEUTICAL 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.

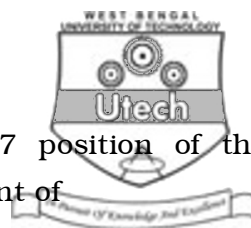
GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
10 × 1 = 10
- i) The conversion of amide to thioamide is achieved with
 - a) thiourea
 - b) phosphorous trisulphide
 - c) phosphorous pentasulphide
 - d) ammonium thiocyanate.
 - ii) Inhibitor of sterol-14 α -demethylase is
 - a) Naftifine
 - b) 5-flucytosine
 - c) Ciclopiron
 - d) Ketoconazole.
 - iii) Which one of the following is a glycopeptide antibiotic ?
 - a) Bleomycin
 - b) Actinomycin D
 - c) Mithramycin
 - d) Mitomycin.

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[Turn over



- iv) Introducing an allyl moiety at N-17 position of the morphine ring leads to the development of
- a) partial agonism b) inverse agonism
c) agonism d) antagonism.
- v) Aldol condensation is used in the synthesis of
- a) Ethionamide b) PAS
c) Rifampicin d) none of these.
- vi) SCAL stands for
- a) safety catch linker
b) sequential catch linker
c) sesquiterpene catch linker
d) none of these.
- vii) The process 'micro fluidics' is applied in
- a) high throughput screening
b) solution phase synthesis
c) column chromatography
d) HPLC.
- viii) Paclitaxel is a
- a) diterpene b) sesquiterpene
c) alkaloid d) glycoside.
- ix) Nalorphine is used as
- a) narcotic agonist b) narcotic antagonist
c) partial antagonist d) GABA antagonist.



- x) The glycone portion of Amphotericin B is known as
- N-methyl-L-glucosamine
 - mycosamine
 - streptidine
 - streptonx.
- xi) The anti fungal with bio-triazole nucleus is
- Ketoconazole
 - Butaconazole
 - Flaconazole
 - Clotrimazole.
- xii) Amphotericin B is isolated from
- S. nodosus
 - S. noursei
 - S. griseus
 - none of these.

GROUP – B

(Short Answer Type Questions)

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

- Explain the mechanism of action of cyclophosphamide with relevant structures.
- Give the structure, chemical name and uses of the following :
 - Methotrexate
 - 6-mercaptopure.
- Match the following drugs with their starting compounds and write down the structures of the drugs :

a) Isoniazide	i) 2-amino-1-butanol
b) Ethionamide	ii) 4-Picoline
c) PAS	iii) Glyoxal
d) Pyrazinamide	iv) Anthranilic acid
e) Ethambutol	v) Diethyl oxalate.

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5. Write a note on solid support and various linkers used in parallel synthesis.
6. Write a note on vinca alkaloids.

GROUP – C

(Long Answer Type Questions)

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

7. a) What are the methods used in solid phase synthesis ?
Write in brief about them.
- b) Write in detail about the various techniques used in combinatorial chemistry for determination of active structure. $2 \times 7\frac{1}{2}$
8. a) What are the general structural requirements of opioids ? Explain with morphine as example.
- b) Write a note on cannabinoids.
- c) Outline the synthetic protocol for any one compound :
- i) Folsaftate
- ii) Ferbinafine. $5 + 5 + 5$
9. Write in detail about antimycobacterial agents.
10. Write short notes on :
- a) Polyene antibiotics
- b) High throughput screening
- c) Photolithography.