

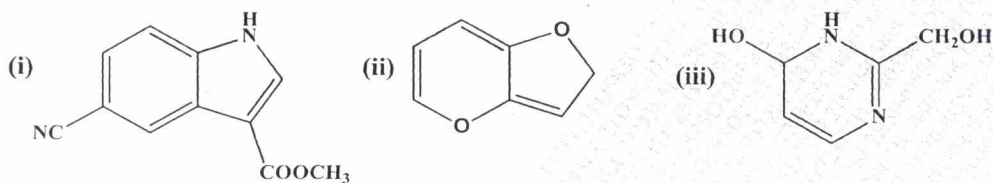
(3 Hours)

N.B.: 1. All Questions are compulsory.
2. Figures to right indicate full marks.

Total Marks: 70

Q1. A. Give IUPAC nomenclature of the following compounds:

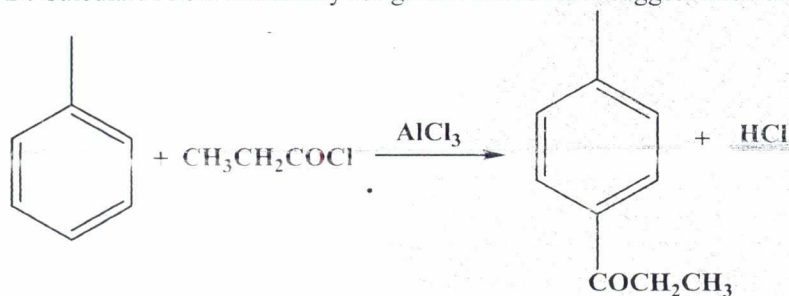
(03)



B. Explain why pyrimidine ring is resistant to electrophilic attack under normal conditions. (02)

C. Give synthetic equivalent for the synthon: $\text{HO}-\text{CH}_2-\text{CH}_2^{\oplus}$ and $\text{Ph}-\text{CH}_2^{\oplus}$ (02)

D. Calculate Atom Efficiency for given reaction and suggest alternatives for greener reaction: (02)



Atomic wt.: C=12, O=16, Cl= 35.5, H=1

E. Answer the following: (03)

- Give an example of Cope rearrangement reaction.
- Give names of two solid acid catalysts used in green chemistry.
- Write structure of product formed on hydrohalogenation of Androst-9(11)-ene.

F. Give structures of the following: (03)

- 5 α -Estrane (in chair form).
- 2,3-seco-5 β -androstan-2,3-dioic acid.
- 5 β -cholestane-3 β ,6 β -diol (in chair form).

Q2. A. Write complete mechanism for the following (any two): (04)

- Knorr pyrrole synthesis.
- Madelung synthesis.
- Bischler Napieralski

B. Using orbital diagram explain thermal cycloaddition of 1,3-Butadiene with 2-propenenitrile is symmetry allowed (04)

C. Compare classical Aldol condensation with greener approach along with its merits. (03)

Q3. A. Attempt the following conversions (any four): (04)

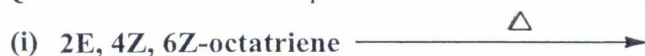
- Benzil to 2,4,5-triphenylimidazole
- 4-bromopyridine to 3,4-pyridyne
- Quinoline to Pyridine-3-carboxylic acid
- Imidazole to 2,4,5-tribromoimidazole
- 2,4-dihydropyrimidine to 2,4-dihydroxy-5-nitropyrimidine

B. Using synthon approach devise an economical scheme for synthesis of paracetamol. (04)

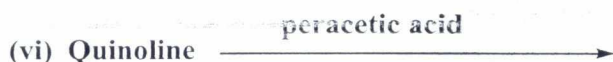
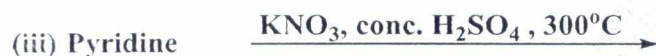
C. Discuss greener alternatives of classical MPV reduction. (03)

{TURNOVER

Q4. A. Write structures of products formed for the following reactions: (03)



Q4. B. Write structures of products formed for the following reactions (any eight): (08)



Q5. A. Draw resonating structures of: (i) Pyrrole (ii) Isoquinoline (iii) Pyrimidine (03)

B. Answer the following questions with suitable justification (08)

(i) Which is the preferred position for nucleophilic substitution in Quinoline?

(ii) Which product is formed on cation of cholestan-3 β ,5 α ,6 β -triol?

(iii) Compare the rate of oxidation of 5 α -cholestan-2 α -ol with 5 α -cholestan-2 β -ol.

(iv) Pyrrole is less basic than pyridine.

Q6. A. Write complete mechanism for: (i) Hantzsch pyridine synthesis. (ii) Skraup synthesis. (04)

B. (i) Predict the products formed when 5-methyl-1,3-cyclopentadiene undergoes [1,5]-H sigmatropic shift at room temperature. (02)

(ii) Using orbital diagram depict the thermal Claisen sigmatropic rearrangement (02)

C. Predict the economical retrosynthetic & synthetic pathway for 3-cyclohexenecarboxylic acid. (03)

Please check whether you have got the right question paper.

N.B:

- Q.1
- a) Define microbial assay 1
 - b) Write two autoimmune disease (Names only) 1
 - c) Write the difference between exotoxin & Endotoxin 2
 - d) What is prozone effect? 1
 - e) Write the difference between agglutinin and precipitation reaction 2
 - f) Name any four application to recombinant DNA Technology 2
 - g) Define gene library with application 2
 - h) Name any two killed viral vaccines with the organism involved. 2
 - i) Write two types of immunoglobulin with their significance. 2
- Q.2
- a) Write the production of penicillin G 4
 - b) Explain the different steps required for downstream process. 3
 - c) Write different steps involved in r-DNA technology 4
- OR
- c) Write the following factor effect in fermentation.
1) Temperature 2) pH 3) Aeration 4) Agitation
- Q.3
- a) write a note on (any one) 4
 - 1) plasmid
 - 2) cosmid
 - b) Write enzyme involved in r-DNA technology with reference to restriction endonucleases. 3
 - c) Draw a neat labelled diagram at a fermentor 3
 - d) What is YAC 1
- Q.4
- a) Describe the method of enzyme immobilization by gel entrapment method. 3
 - b) What is biosensor ? write application of biosensor? 3
 - c) Write a note on PCR 3
- OR
- c) Write the use of gene therapy 3
 - d) Differentiate between northern blotting and Southern blotting. 2
- Q.5
- a) Write in detail about soluble mediators involved in body defense 3
- OR
- a) What are the uses of transgenic plants. 4
 - b) What are the types of ELISA? Write any one method in detail. 4
 - c) Write the production of a monoclonal antibody with its application. (with diagram) 4
- Q.6
- a) Outline the general method of preparation of BGC vaccine. 4
- OR
- a) What are the 1st line body defense? 4
 - b) Classify hypersensitivity and explain the process of type IV. 4
 - c) Short note on: stem cell culture. 3
-

T.Y.B. Pharm, Sem-V (CBCGS)
Sub-Pharmacology-II

28/04/17

Q.P. Code :05327

[Time: 3Hours]

[Marks:70]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate full marks.

- Q.1 (a) Answer the following :- 12
- i. Explain mechanism of any one synergistic antimicrobial combination with suitable example.
 - ii. Classify antimicrobial agents based on mechanism of action.
 - iii. What is an immunomodulator? Give two examples of immunomodulators used in the treatment of HIV.
 - iv. Give clinical indications for the use of thrombolytic drugs.
 - vi. Explain the mechanism of action of thiazolidinediones.
- (b) Fill in the blanks:- 3
- i. Metformin is ----- class of hypoglycemic drug.
 - ii. ----- is a fat soluble vitamin essential for formation of clotting factors.
 - iii. ----- produces gray baby syndrome.
- Q2 (a) Answer any two of the following :- 8
- i. Classify beta lactamase antibiotics. Write in brief about Methicillin.
 - ii. Discuss the pharmacology of tetracyclines.
 - iii. Classify antileprotic drugs. Write a note on dapsone.
- b) Answer any one of the following :- 3
- i. Discuss in brief the adverse effect of aminoglycosides.
 - ii. Write a note on ketoconazole.
- Q3 (a) Answer any two of the following:- 8
- i. Classify oral hypoglycemic drugs and discuss mechanism of action and adverse effects of sulfonylureas.
 - ii. Enlist the drugs used for the treatment of osteoporosis. Elaborate on bisphosphonates.
 - iii. Give the mechanism of action of anti-thyroid drugs. Discuss the clinical uses of radioactive iodine.
- (b) Answer any one of the following:- 3
- i. Write a note on oral contraceptives.
 - ii. What is the physiological role of vitamin D. State the active forms of vitamin D.
- Q4 (a) Answer any two of the following :- 8
- i. Classify anticoagulants. Discuss mechanism of action and uses of warfarin.
 - ii. Explain the physiological role of iron and vitamin B 12
 - iii. Discuss the pharmacology of DPP-IV Inhibitors.

(P.T.O)

6/3/05/17

Sem-V
SUB-P19

Q.P. Code :01273

[Time: Three Hours]

[Marks:70]

Please check whether you have got the right question paper.

- N.B:
1. Question.No.1 is compulsory.
 2. Attempt any five questions from Q.2 to Q.7.
 3. Attempt in all six questions.

- Q.1) Answer the following:
- 1) Define Marketing 02
 - 2) Define Management 02
 - 3) Define Targeting 01
 - 4) Define Patents 01
 - 5) Define Time Management 02
 - 6) Define Stress Management 02
 - 7) Draw & Label the PLC 02
 - 8) Explain Marketing Mix 03
- Q.2) a) Explain DPCO its role 04
b) Explain the components of profit & loss account 04
c) Explain porter 5 force model 03
- Q.3) a) Explain Communication? Draw & explain the process of two way communication? 04
b) Explain FDA regulations & its approvals 04
c) Explain the importance of Multi-tasking? How does it help managers in today's competitive world? 03
- Q.4) a) Explain the types of segmentation 04
b) Explain any 4 major pharma player in the pharma industry. 04
c) Explain the importance of body language for an interview. 03
- Q.5) a) Explain Delegation? Explain when a leader should not delegate his work? 04
b) Explain SWOT analysis 04
c) Sketch an outline for a resume? What all components a resume should have? 03
- Q.6) a) Explain packaging? Different types of packaging 04
b) Explain the components of Balance sheet 04
c) Explain the BCG matrix with suitable examples. 03
- Q.7) a) Explain how motivation can help an organization achieve its long term goals 04
b) Explain as a leader how would you resolve conflict in you organization. 04
c) Explain the importance of pricing and distribution strategy in the pharma Industry. 03