



ANJUMAN-I-ISLAM'S

AKTC KALSEKAR TECHNICAL CAMPUS

INNOVATIVE TEACHING · EXUBERANT LEARNING

School of Architecture

School of Engineering & Technology

School of Pharmacy

Knowledge Resource & Relay Centre (KRRC)

AIKTC/KRRC/SoP/ACKN/QUES/2013-14/13

Date: 13/06/2014

School: SoP-REV.

Branch: SoP

SEM: V

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

(AIKTC)

Received with thanks the following **Semester/Periodic** question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Pharmaceutical & Med. Chem. – I			✓	02
2	Biochemistry – III			✓	02
3	Pharmacognosy – I			✓	02
4	Pharmaceutics – IV			✓	02
5	Hospital Pharmacy & DSM			✓	02
6	Pharmaceutical Biotechnology			✓	02
7	Pharmacology – II			✓	02

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC

(2 hours)

- N.B.** (1) Question no. 1 is **compulsory**.
 (2) Attempt any **four** questions from remaining **six** questions.
 (3) Write **chemical** structures wherever **appropriate**.

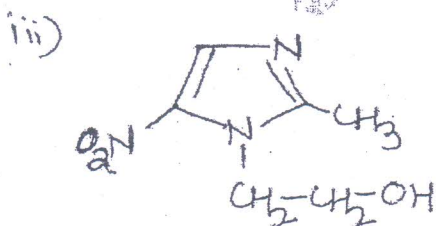
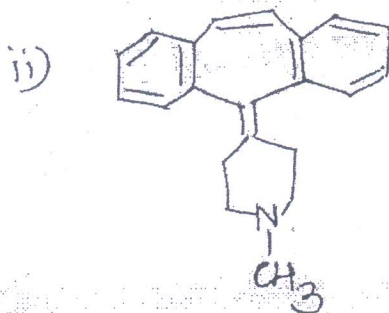
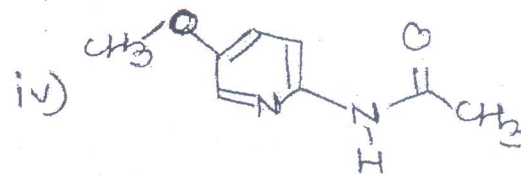
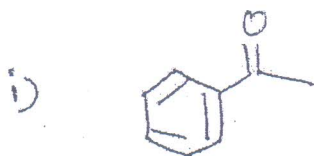
1. Answer the following questions. Draw structures wherever appropriate (any **eight**) :- 8
- Give the chemical name sulphacetamide
 - Write structure and name of a drug which is metabolized by aromatic hydroxylation
 - An oxazolidinone antibacterial agent
 - A sulfonamide prodrug
 - Give example of tetracycline which is acid stable
 - A drug whose geometric isomers differ in potency
 - Hydrophobic derivative of artemisinin
 - Give example of antifungal antibiotic
 - Structure of anti-TB drug with hydrazide moiety.
2. (a) Draw the chemical structure and write generic name and use for the following (any **two**) :- 4
- 1-Ethyl-6-fluro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinoline carboxylic acid
 - 4,4'-Sulfonyl bisbenzeneamine
 - 4-Amino-N-(3,4-dimethyl-isoxazol-5-yl) benzene sulfonamide.
- (b) Write the mechanism of action along with chemical reactions involved (any **two**) 4
- Ethionamide
 - Proguanil
 - Clotrimazole
3. (a) Outline the synthesis of the following by giving reagents and reaction conditions (any **two**) :- 6
- PAS
 - Ciprofloxacin
 - pyrimethamine
- (b) State whether true or false. Justify. 2
- Aged solutions of tetracyclins have decreased therapeutic value
 - Use of sulfadoxine and pyrimethamine together is contraindicated.



[TURN OVER

ANTI-MAN I T S I A B S T R A C T I O N
 Symbol of Secularism
 & National Integration

4. (a) Predict the structures of any two phase-I metabolites for each of the following : 8



5. (a) Explain the relation of following to drug action 4
 (i) P^{ka} value (ii) Stereochemistry
- (b) Describe SAR of sulfonamides. Support your answer with relevant examples. 4
6. (a) Elaborate SAR ofazole antifungal agents in detail. 4
 (b) Discuss degradation of penicillins. 4
7. Explain the following in brief: 8
 (a) Bioisosterism
 (b) Antitubercular antibiotics
 (c) Structural features of macrolide antibiotics
 (d) SAR of fluroquinolones.

Sem IV

~~CPJGS~~

2013-14

QP Code : BM-1961

27-3-14

[Total Marks : 40

(2 Hours)

- N.B.** (1) Question No. 1 is compulsory.
 (2) Attempt any **three** questions from the **remaining**.
 (3) Draw neat **sketches** wherever **necessary**.

1. Answer any **five** of the following :— 10
- (a) State the significance of friability testing.
 - (b) State the properties of materials which make them unsuitable to be used as hard capsule fill material.
 - (c) Enlist various parts of valve of Aerosol container and explain their function.
 - (d) How is spray pattern testing of an aerosol product carried out ?
 - (e) Enlist the extragranular excipients used in tablet formulation and their use.
 - (f) State the formula for Base Adsorption and significance of each term.
2. (a) Explain the factors responsible for weight variation in tablet in detail. 5
 (b) Discuss the containers used for aerosol products. 5
3. (a) State the various principles of Hard Gelatin capsule filling and explain any one machine based on one of the principle. 5
 (b) Discuss in detail dispersion type of aerosol formulation. 5
4. (a) Write the importance of granulation. Describe any one equipment for large scale wet granulation. 5
 (b) Discuss large scale manufacturing of soft gelation capsules. 5
5. Write short notes on (any **two**) :— 10
- (a) Effervescent tablets
 - (b) Propellants for aerosol system
 - (c) Single punch compression machine.



(2 Hours)

- N.B. : (1) Question no. 1 is **compulsory**.
(2) Attempt any **four** questions from the remaining **five**.
(3) **Figures** to the **right** indicate **full** marks.

1. Answer the following (any four): – 8
- (a) Enlist the contents of hospital formulary.
 - (b) Give importance of 'Traffic Flow Analysis' in layout design for retail pharmacy store.
 - (c) Write a note on use of computers for effective drug monitoring.
 - (d) Classify the locations available for establishing a drug store.
 - (e) Explain the role of 'Hospital Pharmacist' in the hospital organization.
2. (a) Explain the need for P and T committee. 3
(b) Explain 'Joint Hindu Family' as a form of business organization. 3
(c) Classify Hospitals. 2
3. (a) Name the various methods of inventory control. Explain any one in detail. 3
(b) What are the objectives of sales promotion? 3
(c) Explain the role of an employee in preventing frauds in retail pharmacy. 2
4. (a) Explain the procedure followed by the nurse in case of loss of narcotics on the ward. 3
(b) Write a note on colour coding of gas cylinders. 3
(c) Discuss in short types of insurance coverages available to a retail pharmacist. 2
5. (a) Define CSSD. Suggest sterilisation methods for the followings and justify – Surgical gloves, needles. 3
(b) Discuss channels of distribution of pharmaceuticals. 3
(c) Explain the role of hospital pharmacist in purchasing of drugs. 2
6. Write short notes on any **two** of the following :- 8
- (a) Code of ethics for pharmacist in relation to medical profession
 - (b) First aid supplies and clinical thermometers
 - (c) Need for prepackaging of medicines in a hospital
 - (d) Technetium-99m-generator.



Pharmacology D

QP Code : BM-1968

Sem V

(2 Hours)

2018-19
[Total Marks :40
04-4-19

- N.B. : (1) Question number 1 is **compulsary**.
(2) Attempt any **three** questions from **remaining**.
(3) **figures** to the **right** indicate **full marks**.

1. (a) Explain mechanism of action of the following (any two) :- 4
(i) Propylthiouracil
(ii) Rifampicin
(iii) Ciprofloxacin
- (b) State whether the following statement is true or false and justify your answer 6
(any three):—
(i) Probenecid increases excretion of penicillin through the kidney.
(ii) Ergot alkaloids are used in the treatment of migraine.
(iii) Chloroquine is used to treat amoebiasis.
(iv) Combination of calcium should be avoided with vitamin D in the treatment of osteoporosis .
2. (a) Discuss pharmacology of azoles as antifungal agents. 6
(b) Compare and contrast between metformin and pioglitazone. 4
3. Explain life cycle of malaria parasite, mentioning antimalarial drugs acting at its various stages. Discuss mode of action of each drug. 10
4. (a) Discuss treatment for HIV infection. 10
5. write short notes on (any two):— 10
(i) Treatment of osteoporosis.
(ii) Pharmacotherapy of Leprosy
(iii) Mechanisms involved in the development of resistance to antimicrobial agents.



Con. 3969-14.

Sem V

(2 Hours)

- N. B. :** (1) questions No. 1 is **compulsory**
 (2) Attempt any **Four** questions from remaining six questions.
 (3) **Draw** diagrams wherever **necessary**.

1. (a) Define Fermentation and discuss in detail production of dextran by fermentation process. 4
 (b) Discuss in detail the production of insulin by r-DNA Technology. 4
2. Differentiate **any Two** of the following :- 8
 (a) Vaccines and sera
 (b) Exotoxins and Endotoxins.
 (c) Type I hypersensitivity and type IV hyper sensitivity.
3. Write short note on **any two** of the following :- 8
 (a) Genomic library
 (b) ELISA test.
 (c) Cell immobilisation by entrapment.
4. (a) Discuss in detail preparation and standerdization of any **one** viral vaccine 4
 (b) Explain in brief different types of expression system used in r-DNA technology 4
5. Write Short Note on any **Two** of the following :-
 (a) Application of monoclonal antibody.
 (b) Diffusion bioassay.
 (c) Transgenic animals.
6. (a) Define **any two** of the following :- 2
 (i) Vector
 (ii) Immobilisation
 (iii) Down stream processing
 (b) Draw **neat** labelled **diagram** of **any Three** of the following :- 6
 (i) Monoclonal antibody production
 (ii) Yeast artificial chromosome
 (iii) Fermenter design.
 (iv) antibody structure



7. Answer **Any Four** of the following :-

8

- (a) Name any two live viral vaccines with the virus involved.
 - (b) Applications of pericillinase enzyme as biosensor.
 - (c) Write Microbial limits of the following Raw Materials
 - (i) Gelatin. (ii) Starch
 - (d) Define and give two examples of auto immunity.
 - (e) Give Scope of Pharmaceutical Biotechnology with relevance to immunology.
 - (f) Give examples and significance of Antifoam agents in fermentation.
-

Pharmacognosy - I

Sem V

2013-14
QP Code: **BM-1959**

25-3-14

[Total Marks : 40

(2 Hours)

- N.B.:** (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions out of remaining **six**.
(3) Illustrate answers with sketches and structures whenever **required**.

1. State **True** or **False** and justify your answer :- 8
- (a) Calcium oxalate crystals are called cystoliths.
 - (b) Chemical classification is used to describe the drugs in Indian pharmacopoeia
 - (c) Alkaloid is primary metabolite
 - (d) Abscisic acid helps in growth of plant
 - (e) Soxhlet extraction is a continuous process
 - (f) Stolon is a type of fruit
 - (g) Terpenoids are biosynthesized via shikimic acid pathway
 - (h) Like cures like is principle of Ayurvedic system of medicine.
2. (a) Explain in detail macroscopy & microscopy of leaf. 4
(b) Write a short note on Nutraceuticals. 4
3. (a) Explain the concept of Authentication of crude drugs. 4
(b) Enlist various methods of classification of crude drugs and explain any one. 4
4. (a) Describe processing of crude drug for market. 4
(b) Discuss in brief plant growth regulators. 4
5. (a) Enumerate shikimic acid pathway. 4
(b) Give an account on plant tissue culture. 4
6. Differentiate between the following :- 8
- (a) Maceration and Percolation
 - (b) Root and Rhizomes
 - (c) Primary and Secondary metabolite
 - (d) Fixed oil and Volatile oil
7. Write a short note on : (any **two**) 8
- (a) Microwave assisted extraction
 - (b) Plant cell contents
 - (c) Polyketides.



- N. B. :** (1) Question no. 1 is compulsory.
(2) Answer any **four** questions from the remaining **five** questions.

1. (a) Explain the following terms (any two) 4
 (i) Operons
 (ii) Optimum pH of enzymes
 (iii) Replication fork
- (b) Choose the best answer 4
 (i) Hydroxylamine causes which of the following mutation
 (a) CG to TA transition
 (b) GT to AC transition
 (c) Thymine dimer formation
 (d) AG to TC transition.
- (ii) The first event in translation is binding of the mRNA to the
 (a) smaller subunit of ribosome
 (b) Larger subunit of ribosome
 (c) Polyribosomal core
 (d) tRNA
- (iii) The presence of non-competitive inhibitor leads to :-
 (a) increase in both k_m & V_{max}
 (b) decrease in k_m & V_{max}
 (c) increase in observed V_{max}
 (d) increase in k_m without affecting V_{max} .
- (iv) The Michaelis constant k_m is :-
 (a) numerically equal to $\frac{1}{2} V_{max}$
 (b) independent of pH
 (c) dependent on enzyme concentration
 (d) numerically equal to the substrate concentration that gives half of the maximum velocity.
2. (a) Write a note on factors affecting enzyme activity. 4
 (b) Explain transcription in prokaryotes. 4
3. (a) Explain feedback inhibition of enzymes 4
 (b) Write a note on solid phase DNA synthesis. 4
4. (a) Discuss mechanism of Reverse transcriptase for producing complementary DNA copies. 4
 (b) Explain Non-competitive enzyme inhibition. 4



5. (a) Write a note on DNA repair mechanism. 4
(b) Enlist the components required for synthesis of proteins & discuss in detail the activation of amino acids. 4
6. Write a note on any **two** of the following :- 8
(i) Difference between prokaryotic & eukaryotic DNA replication.
(ii) Solid phase peptide synthesis.
(iii) Protein biosynthesis inhibitors.
(iv) Plotting systems for enzyme kinetics.
-