Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. Discuss the collection, processing and storage of the following product:—
   (a) Human fibrinogen
   (b) Plasma substitute
   (c) Whole human blood RBC
   (16)

2. (a) Discuss various types of shampoo with suitable example. Give a brief note on evaluation of shampoo.
   (b) Write in brief about the formulation nail polish and hair colourant.
   (8)

3. (a) Define radiation dosimetry? Discuss the diagnostic application of radiopharmaceuticals.
   (b) Discuss various types of opthalmic formulations with their merits and demerits.
   (8)

4. Discuss in detail (any two):—
   (a) Evaluation of suppositories

P.T.O.
(b) Suspending agents and emulsifying agents

(c) Semisolid bases

5. (a) Discuss various types of additive of liquid dosage forms with examples. (8)

(b) What is solubilization? Discuss various methods of solubilization. (8)

6. Discuss in detail the mechanism of drug penetration through the skin. Describe in detail the factors influencing permeation across the skin. (16)

7. Write short notes on:

(a) Organ replacement materials

(b) Sutures

(c) Medical prosthetics

(d) Bandages (4×4)

(100)
[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 332
Name of the Course : B. Pharm. – IIIrd Yr. (2014)
Name of the Paper : XXI Pharmaceutics – VIII (Physical Pharmacy)
Duration : 3 Hours
Maximum Marks : 80

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.
4. Different parts of a question should be answered in sequence.

1. Discuss the adsorption at solid interfaces and adsorption isotherms. Give their pharmaceutical significances. (16)

2. (a) Classify surfactants. Discuss in brief the factors affecting solubilisation.
   (b) What is micelle formation? Discuss factors affecting micelle formations. (8+8)

3. (a) Discuss any two methods for the measurements of viscosity.
   (b) Give the various applications of Rheology to pharmacy. (8+8)

4. (a) Discuss the various routes of chemical decomposition of a medicinal agent in brief.
   (b) Elaborate various factors influencing the physical stability of emulsions. (8+8)

5. (a) Discuss any one method for the determination of particle size.
   (b) Discuss the pharmaceutical applications of colloids. (8+8)

P.T.O.
6. (a) Derive a buffer equation for the solution of weak acid & its salt.

(b) Discuss various methods improve the flow of powders. (8+8)

7. Write short notes on:

(i) Spreading coefficient

(ii) Thixotropy

(iii) Antifoaming agents & their applications

(iv) Protective colloidal action (4×4)

(100)
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. Describe the constitution of State Pharmacy Council. Write the various functions performed by it. (6+10)

2. Discuss the qualifications required for appointment of Government Analyst. Write the procedure used for analysis of drugs. What are the duties to be performed by Government Analyst? (5+6+5)

3. Write in brief about import, manufacture and sale of Ayurvedic drugs under the Drugs and cosmetics Act and Rules. (5+6+5)

4. Explain the provisions under the Delhi Shops and Establishment Act relating to working hours, opening and closing times of establishment, payment of wages and leave under the Act. (4×4)

5. Write short notes on the following:
   (i) Loan Licence
   (ii) Export of alcoholic preparations.
   (iii) Conditions for medical termination of pregnancy. (5+6+5)

P.T.O.
6. Write in brief the layout and various steps involved in manufacture of alcoholic preparations in non-bonded laboratory. (16)

7. Write in brief about the following:
   (i) Exemption of certain advertisement.
   (ii) Poison Act
   (iii) Wholesale of drugs (5+5+6)

(100)
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. Be specific in answering the questions.
4. All questions carry equal marks.

1. (a) Discuss the choice for site and location of pharmaceutical plant. (8)
   (b) Discuss sales promotion and market research. (8)

2. Write short notes on following:
   (a) Material handling and inventory control costs. (8)
   (b) Warehouse management and safety stock. (8)

3. Discuss the following in brief:
   (a) Industrial relations
   (b) Human Resource Planning
   (c) Mc Gregor’s theory
   (d) Types of sales organizations (4×4)

P.T.O.
4. What are the qualifications of sales persons? Discuss merchandising presentation for pharmaceutical products. (16)

5. (a) Discuss pricing of stock. (8)

(b) What are the objectives and responsibilities of purchasing department? (8)

6. What is motivation? Discuss the theories of motivation in details. (16)

7. (a) Discuss the barriers to communication and communication failure. (8)

(b) Discuss the process of recruitment. (8)

8. (a) What is Factory Act? (8)

(b) Discuss the Herzberg's time factor theory. (8)
[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 335                        Roll No..............
Name of the Course       : B. Pharm. – IIIrd Yr. (2014)
Name of the Paper        : XXIV Pharm Chemistry – VII (Medicinal Chemistry – I)
Duration                 : 3 Hours
Maximum Marks            : 80

Instructions for Candidates
1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. (a) What are NSAIDs? Classify NSAIDs with examples and structures. Outline the synthesis of aspirin and paracetamol.
      (8)
    (b) Discuss SAR of pyrazolindione derivatives and aryl-acetic acid derivatives.
      (8)

2. Write chemical classification of antihistaminics with example and structures. Outline the synthesis of diphenhydramine and meclizine.
      (16)

3. Write the synthesis and uses of the following (any four):
   (a) Acetazolamide
   (b) Phenobarbitone
   (c) Phenytoin
   (d) Naproxen
   (e) Phenbufen
      (4×4)

P.T.O.
4. Discuss the SAR of the following (any two):
   (a) Adrenomimetics
   (b) Cholinomimetics
   (c) Xanthine derivatives (8x2)

5. (a) Classify antiparkinsonism drugs with example and structures. (8)
   (b) Write the synthesis and therapeutic uses of the following (any two):
      (i) Thioridazine
      (ii) Chlorpromazine
      (iii) Diazepam (4x2)

6. (a) Discuss different physiological properties in relation to biological activity. (8)
   (b) Write a note on tricyclic antidepressants with example. (8)

7. Write short note on the following (any two):
   (a) Expectorants & antitussives
   (b) Uricosuric agents
   (c) General anaesthetics (8x2)
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. What are reducing sugars? How it is differ from non-reducing sugars? Give an account of the chief methods employed for determining constitution of glucose. (2+2+12)

2. What are terpenes? Classify it with appropriate examples. How has the structure of citral been established by degradative, chemical and synthetic means? (4+8+4)

3. Classify alkaloids on the basis of heterocyclic ring. Explain Hoffman’s exhaustive methylation of degradation of alkaloids. Give an account of the method employed for determining the structure of quinine or papaverine? (3+3+10)

4. Explain various methods used for determining the sequence of amino acids in proteins. Give the different methods used for the synthesis of amino acids? (8+8)

5. What are xanthine bases? Give an account of the methods employed for determining the structure of Caffeine? (4+12)

P.T.O.
6. What are oils and fats? Write the procedure for determination of iodine value and acid value of oil.  

7. Write a short notes on any two of the following:

(a) Nucleic acid

(b) Diosgenin

(c) Bile acids

(100)
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. Describe the following:  
   (a) Factors affecting the velocity of enzymatic reactions.  
   (b) Applications of metabolic antagonism.  

2. (a) Describe oxidation-reduction chains in nature.  
   (b) How ATP is synthesized and regulated?  

3. Explain:  
   (a) HMP pathway is a secondary pathway of glucose oxidation.  
   (b) Anaerobic glycolysis leads to lactate formation.  
   (c) Covalent modification of glycogen phosphorylase regulates glycogen metabolism.  

4. Write down the catabolism of Adenine and discuss its different excretory products in different organisms.  

P.T.O.
5. Differentiate between the following:
   (i) Carnitine acyl transferase-I & II.
   (ii) $\alpha$- & $\beta$-Glycogen particles.
   (iii) Relative specificity & Absolute specificity
   (iv) Amylo $\alpha$ 1-6 glucosidase & $\alpha$ 1-4 $\rightarrow$ $\alpha$ 1-4 glucan transferase

6. Explain the following:
   (i) Transketolase & transaldolase
   (ii) Kinds of DNA
   (iii) Protein synthesis

7. Write down the catabolism of Tyrosine and discuss the related metabolic disorders.

8. Write down the short notes on any four of the following:
   (i) Ketosis
   (ii) Gene-protein relationship
   (iii) Free radical scavengers
   (iv) Calcium
   (v) Wobbling Hypothesis
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt all questions.
3. All questions carry equal marks.

1. Give detailed pharmacological account of any one of the following:
   (a) Peptic ulcer
   (b) Bronchial asthma  \( (16) \)

2. Comment on any two of the following:
   (a) Antiparkinsonian agents
   (b) Haematinics
   (c) Coronary vasodilators  \( (8+8) \)

3. Write short notes on any two of the following:
   (a) Neuroleptic anaesthesia
   (b) Antitussive and expectorants
   (c) Plasma expanders  \( (8+8) \)

P.T.O.
4. Classify non-steroidal anti-inflammatory drugs (NSAIDs). Discuss the mechanism of action, pharmacological effects, adverse effects and therapeutic uses of Aspirin.

5. Write short notes on any two of the following:
   (a) Angiotensin converting enzyme (ACE) inhibitors
   (b) Purgatives
   (c) CNS Stimulants
   (d) Antidiarrhoeal agents

\[8+8\]
Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

1. (a) Discuss in detail about chemistry of volatile oils. \(\text{(8)}\)
   (b) Write biogenesis and Pharmacognosy of dill or coriander oil constituents. \(\text{(8)}\)

2. Write chemistry and characters of any two volatile oils:
   (a) Lemon grass oil
   (b) Turpentine oil
   (c) Eucalyptus oil \(\text{(16)}\)

3. Write Pharmacognosy, collection and preparation of following two resin drugs:
   (a) Cannabis
   (b) Colocynth
   (c) Podophyllum \(\text{(16)}\)

4. What are enzymes and co-enzymes? Write biological source, preparation and uses of papain and maltase. \(\text{(16)}\)

P.T.O.
5. What is quantitative microscopy? Discuss in detail about any method of quantitative microscopy. (16)

6. Discuss in detail about factors affecting drug constituents with examples. (16)

7. Explain in detail about standardization of crude drugs. (16)

8. Write a brief note on:

   (a) Drug adulteration

   (b) Pharmacognosy of fennel (16)