

## FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Supplementary) Examination, November 2017

Subject : Pharmaceutical Analysis - I (Chemical Analysis)

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Explain the concept of error, write the sources of errors and their rectification in pharmaceutical analysis. 12  
 b) Define Molarity and Molality. 2  
**OR**  
 c) Discuss the significant figures and rules for computation. 8  
 d) Define primary standard. Write the ideal requirements of primary standard. 6
- 2 a) Write a note on the following : 4+4  
 i) Solubility Product ii) Common-ion effect  
 b) Write an account on neutralization indicators. 6  
**OR**  
 c) Define buffer solution, buffer action and buffer capacity. Discuss the role of buffers in pharmaceutical analysis. 3+5  
 d) Discuss the theories of acids and bases. 6
- 3 a) Write a note on redox indicators. 7  
 b) Explain the co-precipitation and post precipitation. 7  
**OR**  
 c) Write the principle and procedure of iodometric assay of any one official compound. 8  
 d) Explain the terms precipitation coagulation and digestion. 6
- 4 a) Write the procedure for preparation and standardization of 0.01 M EDTA solution. 8  
 b) Write a note on argentometric titrations. 6  
**OR**  
 c) Describe the method of preparation and standardization of 0.1 N HClO<sub>4</sub>. 8  
 d) Write note on PM indicators. 6
- 5 a) What is avogadro's number? How the moles of elements and compounds are calculated? 6  
 b) Balance the following equations. 8  
 i)  $\text{CuSO}_4 + \text{KI} \rightarrow \text{CuI}_2 + \text{K}_2\text{SO}_4$   
 ii)  $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$   
 iii)  $\text{Na}_2\text{SO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{SO}_3$   
 iv)  $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{CO}_2$   
**OR**  
 c) Define empirical formula, molecular formula, theoretical yield and percentage yield. 8  
 d) What is PH? Calculate the pH of 0.1N solution of ammonia ( $\text{P}K_b = 4.75$ ). 7

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**FACULTY OF PHARMACY****B. Pharmacy 2/4 I – Semester (Supplementary) Examination,****November 2017****Subject : Pharmaceutical Microbiology****Time : 3 hours****Max. Marks : 70****Note : Answer all questions. All questions carry equal marks.**

- 1 a) What is Microscopy? Explain in detail about types of Microscopes. 14  
OR  
b) Describe different methods of enumeration of bacteria and preservation of pure cultures. 14
- 2 a) What are Mutations and Types of Mutations. Explain different methods of inducing mutations. 14  
OR  
b) Explain in detail about replication of animal viruses. 14
- 3 a) What is sterilization? Describe heat sterilization in detail. 14  
OR  
b) What is phenol coefficient test? Explain in detail about suspension tests. 14
- 4 a) Describe Immune response and Humoral Immunity. 14  
OR  
b) What are serological reactions? Explain complement fixation tests and enzyme immuno assays. 14
- 5 a) Write in detail about causative organism, mode of transmission pathogenesis, symptoms, diagnosis, treatment, prevention and control of Tuberculosis and typhoid. 7+7  
OR  
b) Write about the microbiology of milk. 14

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**FACULTY OF PHARMACY**

**B. Pharmacy 2/4 I-Semester (Suppl.) Examination, November 2017**

**Subject: Communicative English**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions. All questions carry equal marks.**

**PART – A (4x5=20 Marks)**

- 1 (a) Explain the role of Wit and Humor in communication.  
**OR**  
(b) What is the importance of body language in oral communication.
- 2 (a) Discuss 'Making presentations through collection, evaluation and organizing the information.'  
**OR**  
(b) How to thank in different ways?
- 3 (a) Elaborate the importance of Group communication.  
**OR**  
(c) Write a note on Spoken English Vs. Written English.
- 4 (a) Draft a memorandum as a principal, addressing the Librarian for the absence from duty without intimation.  
**OR**  
(c) Write a paragraph of 150 words on "Clean India – Green India:."

**PART – B (4x5=20 Marks)**

- 1 Give the synonym for the following:  
(a) Futile (b) retreat (c) potential (d) renowned (e) anguish
- 2 Give the antonym for the following:  
(a) Dynamic (b) reluctant (c) fragile (d) remitter (e) enormous
- 3 Explain the following one word substitute in one or two sentences.  
(a) Ensue (b) entail (c) simile (d) drudge (c) seamstress
- 4 Rewrite the sentences as directed:  
(a) He is doing too many things at the same time. (Change into passive voice)  
(b) The players said, "Wow ! We have won the match". (Change into indirect speech)  
(c) Have you ever travelled \_\_\_\_\_ air? (Insert appropriate preposition)  
(d) While still on the railways, Carnegie \_\_\_\_\_ (begin) to make money. (Use the correct form of verb).

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**PART – C (5x6=30 Marks)**

- 1 a) How important are order and safety in the view of the author? Elaborate with examples.

**OR**

- b) Why does the author think that the world is becoming a single place?

- 2 a) Write your thoughts on achieving success in life.

**OR**

- b) “It is a disgrace to die rich”, why did Andrew Carnegie say these words? Explain.

- 3 a) Explain the statement of Swami Vivekananda, “This world is not our habitation; it is only one of the many stages through which we are passing”.

**OR**

- b) According to Swami Vivekananda, how is each man’s character determined?

- 4 a) According to Benjamin Spock, what are the aspects of rebelliousness of adolescence.

**OR**

- b) What are the three principal elements that go to make up the identity an individual finally achieves?

- 5 a) Draft a letter of application with an enclosed resumé for the post of an analyst in a pharmaceutical company.

**OR**

- b) Draft a letter of complaint to the inspector of Police for the theft of your vehicle.

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**FACULTY OF PHARMACY****B. Pharmacy 2/4 I – Semester (Supplementary) Examination, Nov 2017****Subject : Pharmaceutical Engineering - I****Time : 3 hours****Max. Marks : 70****Note : Answer all questions. All questions carry equal marks.**

- 1 a) Write the important properties, uses and composition of any two non-ferrous metals used in pharmaceutical industry. 7  
 b) Enlist the various types of corrosion. Discuss the factors that influence the rate of corrosion. 7
- OR**
- c) Explain dimensional formulas and dimensionless equations with suitable examples. 7  
 d) Write a note on theories of corrosion. 7
- 2 a) Derive an equation for heat transmission through a circular pipe from Fourier's law. 7  
 b) Write a note on :  
 i) Vacuum pumps                      ii) Orifice meter 7
- OR**
- c) Explain Stefan-Boltzman law of thermal radiation. 7  
 d) Explain the concept of scraped surface heat exchangers. 7
- 3 a) Compare reciprocating pumps with centrifugal pump. 7  
 b) Write a note on  
 i) Peristaltic pump                      ii) Pneumatic conveyor 7
- OR**
- c) With neat sketches, describe the construction and working of  
 i) Diaphragm valve                      ii) Globe valve 7  
 d) Describe the design and working of different types of blowers used for the transportation of gases. 7
- 4 a) Write a note on  
 i) Humidity chart                      ii) Wet bulb theory 7  
 b) What is coefficient of performance of a refrigeration system? Add a note on refrigeration load. 7
- OR**
- c) What are cooling towers? Explain their design and working. 7  
 d) Explain the importance of refrigeration in pharmacy with suitable examples. What is ton of refrigeration? 4+3
- 5 a) Compare plate and frame filter press with chamber press. 7  
 b) Discuss the construction and working of in rotary continuous filter. 7
- OR**
- c) Give the construction, working and uses of vertical solid bowl centrifuge. 7  
 d) With a neat sketch describe the construction, working and uses of rotary continuous filter. 7

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## FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Supplementary) Examination, November 2017

Subject : Pharmaceutical Organic Chemistry-I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Explain the following terms  
 1) Inductive effect      2) Mesomeric effect      3) Resonance  
 with suitable examples 2+3+3
- b) How do you differentiate between enantiomers and diastereomers? Explain  
 with suitable examples. 6
- OR**
- c) Discuss the following with suitable examples.  
 1) Polarity      2) Solubility      3) Inter molecular forces 2+2+2
- d) Explain  $sp^1$ ,  $sp^2$  and  $sp^3$  hybridization. 8
- 2 a) Discuss the importance of Bayer's strain theory. 7
- b) Write general methods of preparation of alkynes. 7
- OR**
- c) Explain the reactions of alkenes. 7
- d) Discuss the free radical mechanism for the chlorination of methane. 7
- 3 a) Explain  $E^1$  and  $E^2$  elimination reactions with mechanism. 5
- b) Give any three methods to synthesize alkyl halides. 9
- OR**
- c) Discuss the Williamson's synthesis of ethers. 7
- d) Explain Walden inversion and Ziesel's method. 7
- 4 a) Write synthetic applications of Diethyl Malonate and Ethyl aceto acetate. 7
- b) Discuss any three nucleophilic addition reactions of carbonyl compounds with  
 mechanism. 7
- OR**
- c) Write any three methods of preparation of aldehydes and ketones. 9
- d) Give the reasons for following statements  
 1) Bromo acetic acid is weaker than chloro acetic acid 2 ½  
 2) Formic acid is stronger than acetic acid 2 ½
- 5 a) How to separate mixtures of amines by different methods? 10
- b) Write any two methods to prepare Nitro alkanes. 4
- OR**
- c) Give the synthetic applications of aryl diazotium salts. 8
- d) Write any three important reactions of amines. 6

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**FACULTY OF PHARMACY**  
**B. Pharmacy 2/4 I-Semester (Suppl.) Examination, May 2017**

**Subject : Communicative English**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions. All questions carry equal marks.**

**PART – A (4x5=20 Marks)**

- 1 (a) Explain the role and importance of communication.  

**OR**

 (b) What are the various mediums of communication?
- 2 (a) Emphasise the importance of evaluating and organizing the collected information for presentations.  

**OR**

 (b) Explain the use of Thesaurus.
- 3 (a) Elaborate the importance of interaction with learners and teachers.  

**OR**

 (b) Write a note on formal and informal English.
- 4 (a) Draft a memorandum addressing the stores-in-charge for the absence from duty without intimation.  

**OR**

 (b) Write a paragraph of 150 words on "The most unforgettable moment in my life".

**PART – B (4x5=20 Marks)**

- 1 Give the synonym for the following:  
 (a) Fabricate (b) acclaimed (c) vigilant (d) enormous (e) robust  

**OR**
- 2 Give the antonym for the following:  
 (a) Decisive (b) resistible (c) ignorance (d) acquit (e) abstract
- 3 Explain the following one word substitute in one or two sentences.  
 (a) Pacifist (b) cacophony (c) scorn (d) bondage (e) seamstress
- 4 Rewrite the sentences as directed:  
 (a) They are watching a movie at the moment. (Change into passive voice)  
 (b) Anita said, "How beautiful the place is !" (Change into indirect speech)  
 (c) I prefer oranges \_\_\_\_\_ apples. (Insert appropriate preposition)  
 (d) He \_\_\_\_\_ (fight) against ignorance, which he believed to be the root of all evil. (Use the correct form of verb)

**PART – C (5x6=30 Marks)**

- 1 (a) How important are order and safety in the view of the author? Elaborate with examples.  

**OR**

 (b) Why is it important to set up some form of world government?

...2..

2 (a) Write your thoughts on achieving success in life.

**OR**

(b) "It is a disgrace to die rich", why did Andrew Carnegie say these words? Explain.

3 (a) Explain the statement of Swami Vivekananda, "This world is not our habitation, it is only one of the many stages through which we are passing".

**OR**

(b) Do you find Vivekananda's plea for non-attachment convincing? Give reasons.

4 (a) According to Benjamin Spock, why does "School failure" occur.

**OR**

(b) What according to you are the dos and don'ts for parents in rearing up children?

5 (a) Draft a letter of application with an enclosed resume for the post of an analyst in a pharmaceutical company.

**OR**

(b) Draft a letter of response by the publisher to the enquiry of pharmacy books by your college librarian.

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**FACULTY OF PHARMACY**  
**B. Pharmacy 2/4 I-Year (Suppl.) Examination, April 2017**

**Subject : Pharmaceutical Microbiology**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Describe in detail about identification of Bacteria.  
**OR**  
(b) Describe morphology of a typical Bacterium.
- 2 (a) Explain in detail direct and indirect methods of isolation of mutants. Explain transduction and conjugation methods of gene transfer in bacteria.  
**OR**  
(b) What is growth? Explain the phases of growth.
- 3 (a) Define Disinfectant, Antiseptic, Inhibitor, Bacteriostat. Write about factors influencing disinfection.  
**OR**  
(b) Describe evaluation of different sterilization methods.
- 4 (a) What are serological reactions? Explain in detail about precipitation and agglutination reactions.  
**OR**  
(b) What are toxins? Write the differences between Exotoxins and Endotoxins. Explain mechanism of action of diphtheria and cholera toxins.
- 5 (a) Write in detail about causative organism, mode of transmission, pathogenesis, symptoms, diagnosis, treatment prevention and control of diphtheria and influenza.  
**OR**  
(b) Write in detail about Microbiology of Milk.

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## FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Suppl.) Examination, April 2017

Subject: Pharmaceutical Engineering – I

Time: 3 Hours

Max.Marks: 70

Note: Answer all questions. All questions carry equal marks.

- 1 a) Discuss the factors to be considered in the selection of materials for pharmaceutical plant construction. 7  
 b) Describe the different methods for prevention of corrosion. 7  
**OR**  
 c) Classify and enumerate the different types of corrosion. 7  
 d) Describe the important properties and uses of stainless steel in the pharmaceutical industry. 7
- 2 a) Derive and explain Bernoulli's theorem. 7  
 b) Describe the construction and working of any two steam traps with neat labelled diagrams. 7  
**OR**  
 c) Explain Stefan – Boltzman law of thermal radiation. Explain the concepts of emissivity and absorptivity of a black body and grey body. 7  
 d) With a neat diagram, explain the design and operation of liquid to liquid heat interchanger. 7
- 3 a) Describe the design, working and pharmaceutical applications of screw conveyor. 7  
 b) Write a note on: 7  
 i) Ejectors  
 ii) Air lift pump.  
**OR**  
 c) Describe the construction and operation of a plunger pump with a neat diagram. 7  
 d) Enlist the various equipments used for transportation of gases. Describe any one. 7
- 4 a) Define the following: 8  
 i) Absolute humidity  
 ii) Dew point  
 iii) Wet bulb temperature  
 iv) Humid heat  
 b) Explain the principle and working of absorption refrigeration cycle. 6  
**OR**  
 c) Discuss the different methods used for determination of humidity. 7  
 d) List out the various refrigerants used in industrial refrigerants. Compare their advantages, disadvantages and applications. 7
- 5 a) Explain the construction, working and applications of leaf filter. 7  
 b) Discuss the theoretical principles involved in the design of centrifuges. 7  
**OR**  
 c) Write a note on: 7  
 i) Filter aids  
 ii) Seitz filters  
 d) Compare plate and frame filter press with rotary continuous filter. 7

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## FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl.) Examination, April 2017

Subject : Pharmaceutical Analysis – I (Chemical Analysis)

Time : 3 Hours

Max. Marks: 70

**Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Define primary and secondary standards with suitable examples. (2)  
 (b) Discuss the ideal requirements of primary standard substances. (6)  
 (c) Explain the terms specificity, sensitivity and standard deviation. (6)

OR

- (d) Define Normality and molarity. (2)  
 (e) Explain the calibration of analytical equipment and its importance in pharmaceutical analysis. (12)

- 2 (a) What is Acidimetry and Alkalimetry? (2)  
 (b) Explain the neutralization curve for a titration between weak and strong base. (8)  
 (c) Define the following terms:  
 (i) pH (ii) Buffer solution (iii) Buffer action (iv) Buffer capacity (4)

OR

- (d) Discuss the theory of indicators. (6)  
 (e) Explain the hydrolysis of salts and write the equations used to calculate the pH of different salt solutions. (8)

- 3 (a) Describe the procedure for preparation and standardization of 0.02 M potassium permanganate. (8)  
 (b) What are organic precipitants? Explain the use of organic precipitation in gravimetric analysis. (6)

OR

- (c) Describe various types of indicators used in redox titrations. (6)  
 (d) Discuss the principle and different steps involved in gravimetry. (8)

- 4 (a) Explain the principle involved in non-aqueous titrations and discuss various types of solvents used in non-aqueous titrations. (7)  
 (b) Discuss the principle and procedure involved in estimation of calcium gluconate by complexometry. (7)

OR

- (c) Discuss the principles of gas analysis. (8)  
 (d) Write a note on complexometric indicators. (6)

- 5 (a) Describe the mole concept and avogadro's number. (6)  
 (b) Explain the stoichiometry of ionic equations with suitable examples. (4)  
 (c) How do you calculate theoretical yield and percentage yield? Explain with an example. (4)

OR

- (d) Balance the following chemical equations: (8)  
 (i)  $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$   
 (ii)  $\text{BaCl}_2 + \text{NaOH} \rightarrow \text{Ba}(\text{OH})_2 + \text{NaCl}$   
 (iii)  $\text{H}_2\text{SO}_4 + \text{FeCl}_3 \rightarrow \text{Fe}(\text{SO}_4)_3 + \text{HCl}$   
 (iv)  $\text{Na}_2\text{SO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{SO}_3$   
 (e) Define the terms empirical formula, molecular formula and percentage composition. (6)

## FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Suppl.) Examination, April 2017

Subject: Pharmaceutical Organic Chemistry – I

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

- 1 a) Discuss the effect of intramolecular and intermolecular forces. 8  
 b) Explain the following terms:  
 i) Inductive effect 3  
 ii) Resonance effect. 3
- OR**
- c) What is isomerism? Write about structural isomerism. 6  
 d) Add a note on activation energy. 4  
 e) Define the terms with examples: 4  
 i) Bond angle  
 ii) Heterolysis.
- 2 a) Write the reaction and mechanism of antimarkonikovs addition. 7  
 b) Give the structural formulas of the following: 3  
 i) 4-Ethyl-2,4-dimethyl heptane  
 ii) 1,2-Dibromo-2-methyl propane  
 iii) 3-Ethyl-2-methyl pentane.  
 c) Write any two methods for synthesis of alkenes. 4
- OR**
- d) Explain the stability of cycloalkanes by different theories. 10  
 e) Write any two chemical reactions of alkanes. 4
- 3 a) Give the structural formulas for the following: 4  
 i) 2-Bromo ethanol  
 ii) Tert-butyl isobutyl ether  
 iii) 2-Fluoro-3-pentanol  
 iv) n-Butyl ethyl ether  
 b) Write the mechanism of dehydration of alcohols. 6  
 c) Add a note on Walden inversion. 4
- OR**
- d) Give the reasons for following statements: 2  
 i) Alcohols have higher boiling points than alkanes  
 ii) Lower alcohols are soluble in water  
 e) How will you distinguish between primary, secondary and tertiary alcohols with examples? 7  
 f) Discuss the mechanism for SN<sup>1</sup> reactions. 5
- 4 a) Give the mechanisms for the following: 3x2=6  
 i) Aldol condensation  
 ii) Haloform reaction  
 iii) Wittig reaction

..2..

b) Write any four methods for preparation of carbonyl compounds.

**OR**

c) Write the general methods of preparation of carboxylic acids.

7

d) Discuss reactivity and applications of acetoacetic ester.

7

5 a) How will you separate a mixture of amines with different methods.

6

b) Write about the reactions of amines.

8

**OR**

c) Give the synthetic applications of aryl diazonium salt.

4

d) Write the nomenclature and acidity of nitro alkanes.

5

e) Give a note on diazotization and Sandmeyer reaction.

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