FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject : Pharmaceuticals Organic Chemistry - I

Time : 3 Hours   Max. Marks: 70

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

1 (a) Explain the following terms with examples.   (4x3.5)
    (i) Hydrogenbonding   (ii) Electromeric effect
    (iii) Chirality   (iv) Hybridization

<div align="center">OR</div>

  (b) What is activation energy? Discuss the energy diagrams of reactants and
     products during the course of reaction.   (8)
  (c) What is isomerism? Explain structural and spatial isomerism with example. (6)

2 (a) Explain Mrkonikov's and Antimarkonikovs addition with examples.   (8)
  (b) Write any two methods of preparation of alkanes.   (7)

<div align="center">OR</div>

  (c) Explain the stability of cycloalkanes by different theories.   (10)
  (d) Write any two chemical reactions of alkanes.   (4)

3 (a) Discuss in detail the mechanism and stereochemistry involved in SN^1 and
     SN^2 reactions.   (10)
  (b) Write a note on hydrogen bonding in alcohols.   (4)

<div align="center">OR</div>

  (c) How will you distinguish between primary, secondary and tertiary alcohols with
     different chemical reagents?   (8)
  (d) Write a note on Sayetzaffs rule.   (6)

4 (a) Write any three methods to synthesize carboxylic acids.   (6)
  (b) Discuss the reactivity and applications of malomic acid ester.   (8)

<div align="center">OR</div>

  (c) How do you synthesize schiffs bases?   (4)
  (d) Write any two methods each to prepare aldehydes and ketones.   (10)

5 (a) Write a note on basicity of amines.   (5)
  (b) Give the mechanism for following reactions   (3x3.5)
    (i) Sand Neyer reaction
    (ii) Coupling reaction
    (iii) Gattermann reaction

<div align="center">OR</div>

  (c) Explain separation of amines by Hinsberg's method.   (4)
  (d) Write a note on Aryldiazonium sats   (5)
  (e) Write any two methods to prepare Nitroalkanes.   (5)

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject : Pharmaceuticals Microbiology

Time : 3 Hours   Max. Marks: 70

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

1   (a) Write different methods of enumeration of bacteria.
    (b) Explain in detail preservation of pure cultures.
                                    OR
    (c) Explain different parts of a typical bacteria with neat labeled diagram.

2   (a) Explain the replication of bacteriophage and animal viruses.
                                    OR
    (b) Write the types of reproduction in bacteria and growth phases of bacteria.

3   (a) Explain in detail about different groups of disinfectants with their mechanism of action.
                                    OR
    (b) Explain the factors influencing disinfectants.
    (c) Sterilization indicators and their importance.

4   (a) Write about primary and specific defense mechanism of human body.
                                    OR
    (b) What are toxins? Explain the types of toxins. Explain the mechanisms of toxins.

5   (a) Write in detail about Causative organism, Mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of Tuberculosis and influenza.
                                    OR
    (b) Write in detail about Causative organism, Mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of malaria and whooping cough.

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject : Pharmaceuticals Analysis – I (Chemical Analysis)

Time : 3 Hours   Max. Marks: 70

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

1   (a) (i) Define the following:
         (A) Accuracy   (B) Precisions   (C) standard deviation   (6)
      (ii) What are significant figures? Write the rules for computation.   (8)

<center>OR</center>

    (b) (i) Define the following: (4)
         (A) Normality   (B) Molarity   (C) Molality   (D) Detection limit
      (ii) Describe the procedure for calibration of pipettes and burettes   (10)

2   (a) (i) Explain the neutralization titration curve for the reaction between strong
          acid and strong base. Comment on the indicators used.   (10)
      (ii) Write the derivation of Handerson-Hesselbach equation used for the
          determination of pH.   (4)

<center>OR</center>

    (b) (i) Explain the following: (6)
         (A) Law of mass action   (B) Ionic product of water
      (ii) Write a brief note on hydrolysis of salts.   (8)

3   (a) (i) Discuss the various methods used in determination of end point in
          precipitation titration.   (8)
      (ii) Write a note on organic precipitants.   (6)

<center>OR</center>

    (b) (i) Discuss the various types of redox titrations giving suitable examples. Write
          reaction equations wherever necessary.   (10)
      (ii) Write the factors affecting the precipitation titrations.   (4)

4   (a) (i) Discuss the principle and theory of complexotmetric titration. Write a note on
          metal ion indicators.   (4+4)
      (ii) Write the procedure for the preparation and standardization of 0.1 N
          perchloric acid.   (6)

<center>OR</center>

    (b) (i) Discuss the principle and procedure involved in argentometry.   (10)
      (ii) Explain the principle of non-aqueous titrations.   (4)

5   (a) (i) Define the terms limiting reactant, theoretical yield and percentage yield. (6)
      (ii) Balance the following equations.   (4)
         (A) $BaCl_2 + NaOH \rightarrow Ba(OH)_2 + NaCl$
         (B) $H_2SO_4 + FeCl_3 \rightarrow Fe(SO_4)_3 + HCl$
     (iii) Calculate the number of moles in each of the following: (4)
         (A) 7.9 gm of calcium   (B) 65.5 gm of carbon

<center>OR</center>

    (b) (i) Write mass balance expressions for the system formed when a 0.010 M
          NH_3 solution is saturated with slightly soluble AgBr.   (8)
      (ii) Find the percent composition of element calcium in calcium hydroxide. (6)

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FACULTY OF PHARMACY
B. Pharmacy 2/4 I-Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject : Pharmaceuticals 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) What is galvanic corrosion and explain how it can be prevented.   (7)
                                           OR
   (c) Describe the terms steady and unsteady state with suitable example.   (7)
   (d) Discuss the important properties, sues of Aluminium and its alloys in
       pharmaceutical industry.   (7)

2 (a) What is a manometer? Derive an equation applicable for differential
       manometer.   (7)
   (b) Describe the construction, advantages, and disadvantages of any one heat
       exchanger.   (7)
                                           OR
   (c) Compare orifice meter with a venture meter.   (7)
   (d) Write a note on (i) Steam trap   (ii) condensers   (7)

3 (a) With a neat sketch, describe the design and operation of any one type of
       reciprocating pump.   (7)
   (b) Name the different devices used for the transportation of solids. Describe
       pneumatic conveyor.   (7)
                                           OR
   (c) Explain about the centrifugal pump theory.   (7)
   (d) Describe the design and working of different types of fans used for the
       transportation of gases.   (7)

4 (a) Explain the various methods used for the determination of humidity.   (7)
   (b) With a neat sketch explain the refrigeration system using compressor.   (7)
                                           OR
   (c) Discuss the factors that determine the refrigeration load in pharmaceutical
       plant.   (7)
   (d) Describe the construction and working of Air condition with neat labelled
       diagram.   (7)

5 (a) Write Kozeny equation for filtration explaining the symbols used. What are
       the limitations of Kozeny's equation.   (7)
   (b) Give the construction, working and uses of horizontal centrifuge.   (7)
                                           OR
   (c) Describe the construction, working and uses of streamline filters.   (7)
   (d) Discuss the construction and working of a perforated basket centrifuge.   (7)

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Non-CBCS) (Backlog) Examination, November 2018

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) Discuss the different types of Non-Verbal communications.

2. (a) Explain the types of communication barriers.

   OR

   (b) Explain the way to use the dictionary.

3. (a) How to tender apology in different ways?

   OR

   (b) Discuss the importance of listening in oral communication.

4. (a) Discuss drafting and delivering a Speech.

   OR

   (b) Draft a notification to all the colleges of OU giving the final examination schedule & last date of fee payment.

PART- B (4x5=20 Marks)

1. Give the synonym for the following:
   (a) Ignorance b) Misery (c) Elicited (d) Adore (e) Hamper
2. Give the antonym for the following:
   (a) Enormous (b) Rational (c) Acquit (d) Barbarous (e) Timid
3. Explain the following one word substitute in one or two sentences.
   (a) Scorn (b) Resentful (c) Envision (d) Sojourner (e) Attic
4. Rewrite the sentences as directed:
   (a) We have invited all the participants to this programme. (Convert into passive Voice)
   (b) They told him that they would hand over their work the following day. (Convert into direct speech)
   (c) My mother's teachings helped me to venture _____ many new worlds. (Insert appropriate preposition)
   (d) He not only …………. (build) up the great business enterprise but became the world's richest man.(use appropriate form of the verb)

PART- C (5x6 =30 Marks)

1. (a) Why is it important to set up some form of world government, according to the author?

   OR

   (b) According to C.E.M. Joad, What does being civilised mean?

..2

2. (a) What did Carnegie learn from his parents?

OR

   (b) How did Carnegie's 'Gospel of Wealth' influence the modern World?

3. (a) What was the teaching of Swami Vivekananda regarding 'work'?

OR

   (b) According to Swami Vivekananda, how is each man's character determined?

4. (a) Why do some boys turn their irritation towards their mothers?

OR

   (b) What does the author think about rebelliousness in adolescents?

5. (a) Draft a covering letter with resume enclosed for the post of marketing manager in a reputed pharmaceutical company.

OR

   (b) Draft a letter of response to an enquiry by your college librarian for the availability &prize list of the pharmacy books.
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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl) Examination, April / May 2018
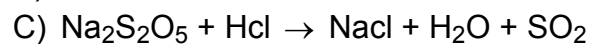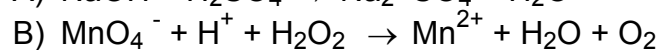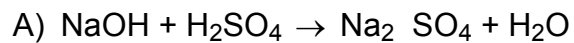
Subject: Pharmaceutical Analysis – I (Chemical Analysis)

Time: 3 Hours   **Max. Marks: 70**

Note: Answer All Questions. All Questions carry Equal Marks.

1. a) What is error? Discuss the sources of errors and suggest the remedial measures for their control.   14

   OR

   b) i) Define the following.
   A) Titration   B) Titrant   C) Analant   D) Equivalence Point   4

   ii) What is Primary Standard and secondary standard?
   Give examples. Write the ideal requirements of Primary Standard   10

2) a) i) Explain the following:
   A) Common ion effect   B) Solubility Product   8

   ii) Write a note on theories of indicators used in neutralization titration.   6

   OR

   b) i) Discuss the modern theories of acids and bases   8

   ii) Explain the pharmaceutical importance of buffer solutions   6

3) a) i) Explain the principle and various steps involved in gravimetric analysis   8

   ii) How do you prepare and standardize 0.1N NaoH   6

   OR

   b) i) Write the Principle and Procedure of red ox titration involving use of $K_2Cr_2O_7$ as titrant.   8

   ii) Explain the following:
   A) Co- Precipitation   B) Post – Precipitation   6

4) a) i) Discuss the masking and demarking agents with their applications in complexometry.   8

   ii) Write a note on solvents used in non- aqueous titration.   6

   OR

   b) i) Explain the basic principles of complex metric analysis Write the procedure for preparation and standardization of 0.1M EDTA   3+6

   ii) Write the applications of non – aqueous titrations in pharmaceutical analysis   5

5) a) i) Define the terms :   4
   A) Molecular formula   B) Empirical formula

   ii) Balance the following equations   6

A) $NaOH + H_2SO_4 \rightarrow Na_2\ SO_4 + H_2O$

B) $MnO_4^- + H^+ + H_2O_2 \rightarrow Mn^{2+} + H_2O + O_2$

C) $Na_2S_2O_5 + Hcl \rightarrow Nacl + H_2O + SO_2$

iii) Calculate the number of moles in each of the following: 4

A) 392 gm of Sulphuric acid.

B) 9.0 gm of Aluminium

OR

b) i) Write mass balance expressions for a 0.0100M Solution of Hcl that is in
equilibrium with an excess of solid $BaSO_4$ 8

ii) Find the percent composition of each element in water. 6

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl) Examination, April 2018

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 Hours **Max. Marks: 70**

Note: Answer All Questions. All Questions carry Equal Marks.

1. a) What is Hybridization? Discuss SP^1, SP^2 and SP^3 Hybridization with suitable examples 8
   b) Write a note on Electrometaric effect and polarity of molecules 3+3

OR

   c) What is activation energy. Explain the energy diagram of reactants and products during reaction 1+7
   d) Explain the terms with examples chirality and Hydrogen bonding

2) a) Define the terms configuration and conformation. Write the various conformations of cyclohexane and discuss their stability. 10
   b) Add a note on peroxide effect. 4

OR

   c) Explain the markonikovs and antimarkonikovs addition with examples 7
   d) Write the general methods to prepare the alkenes.

3) a) Discuss in detail the mechanism and stereo chemistry involved in SN^1 and SN^2 reaction 14

OR

   b) Add a note on Ziesel method or Williamson synthesis 6
   c) How do you distinguish between primary, secondary and tertiary alcohols with different chemical reagents. 8

4) a) Explain in detail the acidity of carboxylic acids with examples. 7
   b) Write any two method for preparation of aldehydes and Ketones. 7

OR

   c) How do you synthesize the Schiffs bases 6
   d) Discuss any two Hydrophillic addition reactions of carbonyl compounds with mechanisms 8

5) a) Write any two methods to synthesize secondary amines 6
   b) Give the mechanism for any two of the following reactions 8
      1) Sandmayer reaction
      2) Coupling reaction
      3) Gattermann reaction

OR

   c) Give reactions of amines. 7

   d) Write the synthesis and applications of aryl diazonium salts. 7

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (supply) Examination, May 2018

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 various barriers of communication.

   OR

   (b) Discuss the different types of Non-Verbal communications.

2. (a) What are the do's and don'ts of Group discussions?

   OR

   (b) How do you conduct Seminars/ Conferences?

3. (a) How to greet and introduce oneself & others?

   OR

   (b) Discuss the types & methods of learning & listening.

4. (a) Draft a Scientific /technical report.

   OR

   (b) Draft a letter to a publisher enquiring the availability of Pharmacy books & the price list as required by your library.

PART- B (4x5=20 Marks)

1. Give the synonym for the following:
   (a) Benevolent b) Vigilant (c) Solace (d) Anguish (e) Humble

2. Give the antonym for the following:
   (a) Civilized (b) Elegant (c) Attached (d) Prudent (e) Patience

3. Explain the following one word substitute in one or two sentences.
   (a) Saint (b) Ripple (c) Entail (d) Sojourner (e) Atheist

4. Rewrite the sentences as directed:
   (a) Students are bought millions of books each year. (Convert to active voice)

   (b) "I got the message while I was waiting at the bus stop." (Change into indirect Speech)

   (c). If you buy a slave and tie him down in chains and make him work……. you, he will work like a drudge. (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) Why is it important to set up some form of world government, according to the author?

OR

   (b) According to C.E.M. Joad, What are the defects of our civilization?

2. (a) Why was Carnegie a huge success as Steel King?

OR

   (b) According to the author, did Carnegie become a wiser and more useful man?

3. (a) According to Swami Vivekananda, When will misery come to an end?

OR

   (b) According to Swami Vivekananda, how can one not be touched by sin?

4. (a) Why do some boys turn their irritation towards their mothers?

OR

   (b) Why does 'school failure' occur?

5. (a) Draft a letter of application with an enclosed resume for the post of chemist in a reputed Pharmaceutical Company.

OR

   (b) Draft a letter of complaint to the Commissioner GHMC about the condition of roads in your locality.

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl) Examination, May 2018

Subject: Pharmaceutical Microbiology

Time: 3 Hours   **Max. Marks: 70**

Note: Answer All Questions. All Questions carry Equal Marks.

1. a) Explain in detail about classification of microbes and their general morphology   14

   OR

   b) Explain in detail about identification of bacteria with emphasis to staining techniques.   14

2) a) What are mutations? Explain about the Types of mutations? Explain in detail about chemical mutagenesis.   14

   OR

   b) Write the differences between simple staining and negative staining. Explain in detail about gram staining technique.   14

3) a) Explain in detail about sterilization methods.   14

   OR

   b) Explain in detail about Tyndalization. Pasteurization, and Incineration   14

4) a) What are serological reactions? Explain in detail about radioimmunoassay and agglutination reactions.   14

   OR

   b) Explain about Phagocytosis and hypersensitivity reactions   14

5) a) Write in detail about Causative organism, Mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of Poliomyelitis or cholera.   14

   OR

   b) Write in detail Causative organism, Mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of Diphtheria or infective hepatitis.   14

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl) Examination, April 2018

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.   14

   OR

   b) Give an account of the role of ferrous metals and their alloys as materials of plant
   construction.   14

2) a) What are manometers? Derive an equation used to measure pressure difference
   using differential manometers.   7

   b) Write a note on
   Shell and tube Heat exchanger.

   OR

   c) Describe the construction and working of Disc meter and current meter.   7
   d) What are steam traps? Describe any one in detail.   7

3) a) What is the principle of pneumatic conveying? Describe the construction and
   working of it.   14

   OR

   b) Classify centrifugal pumps and explain their characteristic features. Write
   applications advantage and limitations of centrifugal pumps.   14

4) a) Define the following
   i) Absolute Humidity   ii) Relative Humidity   iii) Dew Point   6
   b) Describe a refrigeration system using compressor with a neat labeled diagram   8

   OR

   c) Write a note on   7
   i) Brine system   ii) Refrigeration load.
   d) Describe the methods employed for Dehumidification of air. Explain the significance
   of dehumidification in pharmacy.   7

5) a) What are edge filters? Describe any one in detail.   3+4
   b) Write a note on   7
   i) Laboratory centrifuges
   ii) Vertical Solid bowl centrifuge.

   OR

   c) Describe the design, working and applications of horizontal centrifuge.   7

   d) Write a note on membrane filters.   7

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