FACULTY OF PHARMACY

B. Pharmacy 2/4 I - Semester (Main) Examination, October / November 2014

Subject: Pharmaceutical 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 terms: (4x2)
       (A) Significant figure (B) Accuracy (C) Equivalence point (D) Indicator
    (ii) What are primary standard and secondary standard? Write ideal properties of
         a primary standard. (6)

OR

  (b) (i) Write a note on rejection of doubtful values. (6)
     (ii) How to calibrate a burette? (4)
    (iii) Calculate the weight of NaoH in 1N solution, required to neutralize 25ml of 1N
          H_2SO_4. (4)

2 (a) (i) Write notes on different theories of Acids and Bases. (8)
     (ii) Write short notes on : (2x3)
          (A) Buffers   (B) Neutralization indicators

OR

  (b) (i) How to prepare and standardize 0.1 N NaoH solution? (4)
     (ii) Discuss Law of mass action and its significance. (6)
    (iii) Solubility of AgCl is 0.0015 g/dm^3. Calculate the solubility product. (4)

3 (a) (i) Write a note on redox indicators. (5)
     (ii) Write the principle and applications of gravimetric analysis. (5)
    (iii) How to prepare and standardize 0.1N $KMnO_4$ solution? (4)

OR

  (b) (i) Write the methods of balancing of oxidation reduction reactions with examples. (6)
     (ii) Write notes on co-precipitation and coagulation methods used in gravimetric
          analysis. (8)

4 (a) (i) Write the principle involved in non-aqueous titrations and mention its applications. (6)
     (ii) Explain the masking and demasking agents with suitable examples. (8)

OR

  (b) (i) Write the principle, procedure and apparatus used in the assay of oxygen. (6)
     (ii) How to prepare and standardize 0.1 N $HClO_4$? (4)
    (iii) Write a note on Iodometry. (4)

5 (a) (i) How many moles of glucose are present in 540 gm of glucose. (4)
     (ii) Describe mole concept and avogadro's number. (6)
    (iii) 0.202 gm of a carbon compound on combustion gave 0.361 gm of CO_2 and
          0.147gm of water. Calculate the empirical formula of the compound. (4)

OR

  (b) (i) Calculated the percentage composition of elements in Na_2SO_4. (4)
     (ii) Write briefly about theoretical yield and percentage yield with suitable examples. (4)
    (iii) Write the mass balance equation for the following: (6)
          (A) $NH_4OH + H_2SO_4 \longrightarrow (NH_4)_2 SO_4 + H_2O$
          (B) $CaCl_2 + NaNO_3 \longrightarrow Ca(NO_3)_2 + NaCl$
          (C) $C_6H_{12}O_6 + H_2SO_4 \longrightarrow C_2H_5OH + CO_2$

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I - Semester (Main) Examination, October / November 2014

Subject : Pharmaceutical Engineering - I

Time : 3 Hours   Max. Marks: 70

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

1 (a) Write about glass as a material of plant construction along with its merits and demerits.   (7)
   (b) Classify and enumerate different types of corrosion.   (7)

OR

   (c) Explain about Dimensional analysis with suitable example. Add a note on advantages and disadvantages of it.   (7)
   (d) Write a note on factors affecting in the selection of materials for pharmaceutical plants.   7)

2 (a) Discuss the various methods used for the measurement of flow of fluids in brief.   (7)
   (b) Write a note on steam traps.   (7)

OR

   (c) Write a note on :   (5+5+4)
        (i) Vacuum pumps   (ii) Manometers   (iii) Fourier's law

3 (a) Describe the construction, working and pharmaceutical applications of screw conveyor.   (7)
   (b) Enlist the equipments used for transportation of solids. Describe any one equipment in detail.   (7)

OR

   (c) Describe the construction, working of plunger pump with a neat diagram.   (7)
   (d) With a neat sketch describe the construction working, uses, advantages and limitations of   (3.5x2)
        (i) plug cock   (ii) Gate valve

4 (a) Discuss the various methods used for the determination of Humidity.   (7)
   (b) Explain the principle, working and operation of compression refrigeration system with a neat labelled diagram.   (7)

OR

   (c) Discuss the factors that determine the refrigeration load in a pharmaceutical plant. (7)
   (d) Write a note on :   (3.5x2)
        (i) Adiabatic saturation temperature   (ii) Wet bulb temperature

5 (a) Explain the principle, construction, working of plate and frame filter press.   (10)
   (b) Define filter media and filter aids along with examples.   (4)

OR

   (c) Explain the working of tubular bowl centrifuge with a neat diagram.   (7)
   (d) Write a note on membrane filtration and its applications in pharmaceutical industries.   (7)

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FACULTY OF PHARMACY

B.Pharmacy 2/4 I - Semester (Main) Examination, October/November 2014

Subject : Communication English

Time : 3 Hours   Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.
PART- A (4 x 5 = 20 Marks)

1 (a) 'Interpersonal communication is an important area of communication'. Explain.
OR
 (b) Classify different media and critically examine the role of each medium in promoting communication.

2 (a) Explain the role of wit and humor in communication.
OR
 (b) Differentiate between formal and informal communication.

3 (a) Write a short note on the use of dictionary to improve vocabulary.
OR
 (b) Write a note on :
   (i) Importance of Non-verbal communication.
   (ii) Stages in preparing for a paper presentation

4 (a) What is memorandum? Explain its features and importance with the help of a model memo.
OR
 (b) Write about body language for interviews.

PART- B (4 x 5 = 20 Marks)

1 Give the synonym for the following:
 (a) indented   (b) aspiration (c) incessantly (d) perseverance   (e) futile

2 Give the antonym for the following:
 (a) Amicable   (b) confiscate (c) Ecstatic   (d) Resistible   (e) Genuine

3 Explain the following one word substitutes in one or two sentences:
 (a) Amateur   (b) Nostalgia (c) panacea   (d) seamstress   (e) simile

..2

4   Rewrite the sentences as directed:

    (a) The trial _____ (go) on for two years.
        (use the correct form of verb).
    (b) They paid him handsome salary. (Change into Passive voice)
    (c) He asked me where I had kept my bag. (Change into direct speech)
    (d) We really enjoyed playing _____ water games. (use appropriate article)
    (e) I was amazed _____ his dance performance. (Use appropriate preposition).

PART- C (5 x 6 = 30 Marks)

1   (a) How important are order and safety? Explain with examples.
                          OR
    (b) How does CEM Joad praise our civilization?

2   (a) How did Carnegie's 'Gospel of Wealth' influence the modern world.
                          OR
    (b) What did Andrew Carnegie learn from his parents?

3   (a) Do you find Vivekanda's plea for 'non-attachment' convincing. Give reasons.
                          OR
    (b) According to Swami Vivekanada, when will misery come to an end.

4   (a) Write the summary of 'The Generation gap' in your own words.
                          OR
    (b) Why does school failure occur?

5   (a) Write a letter of application for the post of computer programmer in a reputed software company.
                          OR
    (b) Explain the procedure for writing project reports.

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, October / November 2014

Subject: Pharmaceutical Organic Chemistry - I

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

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

1. (a) Discuss the following with suitable examples.   (4+4+6)
    (i) Different types of covalent bonds.   (ii) Polarity of molecules
    (iii) Solubility

    OR

    (b) (i) What is activation energy? Discuss the energy diagrams of reactants and products during the course of reaction.
    (ii) Write a note on the following:
    (A) Electromeric effect   (B) Resonance   (C) Molecular orbitals   (8+6)

2. (a) (i) Explain peroxide effect or kharasch effect with examples.   (4+7+3)
    (ii) Write the general methods for preparation of alkynes.
    (iii) Write a note on the acidity of 1-alkynes

    OR

    (b) (i) Draw the conformations of cyclohexane and label axial and equatorial bonds.   (4)
    (ii) Discuss the importance of Bayer's strain theory.   (7)
    (iii) Explain electrophilic addition reactions of alkenes and dienes.   (3)

3. (a) (i) Write any three methods to synthesize alkyl halides.   (4+3+7)
    (ii) How do you distinguish between primary, secondary and tertiary alcohols?
    (iii) Discuss mechanism and stereochemistry of SN' reactions.

    OR

    (b) Discuss the following :   (6+4+4)
    (i) Nucleophilic substitutions Vs Elimination   (ii) Sayetzeff's rule
    (iii) Properties and synthesis of ethers

4. (a) (i) Write any three methods to prepare carboxylic acids.   (7+7)
    (ii) Discuss the reactivity and synthetic applications of acetoacetic esters.

    OR

    (b) (i) Discuss any three nucleophilic addition reactions of carbonyl compounds with mechanism.   (7)
    (ii) Write any three methods each to prepare aldehydes and ketones.   (7)

5. (a) (i) Write any three methods to synthesize nitroalkanes.   (7)
    (ii) How do you differentiate primary, secondary and tertiary amines with chemical reactions?   (7)

    OR

    (b) (i) Give synthesis and applications of aryldiazonium salts.   (6+4+4)
    (ii) Explain Hinsberg's method of separation of amines.
    (iii) Write the significance of Sandmeyer's reaction.

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, October / November 2014

Subject: Pharmaceutical Microbiology

Time : 3 Hours

Max. Marks : 70

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

1. (a) Discuss the classification of micro organisms. (7)
   (b) Describe the methods of viral replication. (7)
   OR
   (c) Describe the different methods employed for bacterial count. (7)
   (d) Discuss the process of obtaining and maintaining pure cultures. (7)

2. (a) Describe the stages involved in acid fast staining. (7)
   (b) Enumerate the causes for mutagenesis and explain the types of mutation. (7)
   OR
   (c) Discuss the modes of bacterial reproduction. (6)
   (d) Explain the steps involved in the cultivation of anaerobic bacteria. (8)

3. (a) Differentiate between moist and dry heat sterilization. Write the conditions and method adopted for moist heat sterilization. (8)
   (b) Write a note on gaseous sterilization. (6)
   OR
   (c) Describe the equipment, conditions and mode of action of dry heat sterilization. Add a note on its applications. (9)
   (d) Write a note on Radiation sterilization. (5)

4. (a) Explain the types of reaction triggered by the body to foreign substances. (10)
   (b) Differentiate between humoral and cell mediated immunity. (4)
   OR
   (c) How do you differentiate between primary and specific defense mechanism? Add a note on IgG. (9)
   (d) Define the terms: (5x1)
       (i) Attenuation (ii) Epitope (iii) Alloantigen (iv) Virulence (v) Immunogens

5. (a) Describe the mode of transmission, types and symptoms of TB. (7)
   (b) What are the forms of plague? Explain the mode of transmission and symptoms. (7)

   OR
   (c) Describe the features of E.coli and its role in disease development. (7)
   (d) Discuss the causes and symptoms of infective hepatitis. (7)

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FACULTY OF PHARMACY
B. Pharmacy II – Year
I – Semester (Supplementary) Examination, March 2014

Subject : Pharmaceutical Engineering - I

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

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

1   a)   Describe the important properties and uses of glass as a material of plant construction.   7

    b)   Define corrosion. Classify corrosions.   7

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

    c)   Write about stainless steel as a material of plant construction along with its merits and demerits.   7

    d)   Define unit operations and unit processes. Give one example for each.   2

    e)   Explain any four methods to combat corrosion.   5

2   a)   Write a short note on :

      i)   Rotameter   4

      ii)   Bernoulli's theorem   5

      iii)   Steam traps   5

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

    b)   Derive an equation for the overall heat transfer coefficient.   7

    c)   Describe the construction, working and advantages of multipass tubular heater.   7

3   a)   Describe the design, working and pharmaceutical applications of screw conveyor.   7

    b)   Compare centrifugal pumps with reciprocating pumps.   7

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

    c)   With a neat sketch describe the construction and working of belt conveyor.   7

    d)   Write a note on any two equipment used to transport gases.   7

4   a)   Describe a refrigeration system using a compressor with neat labeled diagram.

7   b)   What is humidity chart? Explain its usage.   7

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

    c)   Discuss the various methods used to measure humidity.   7

    d)   Write a note on :   3+2+2

      i)   Dehumidifiers

      ii)   Brine systems

      iv)   Refrigerants

5   a)   Suggest and describe a suitable filter for filtration of a penicillin fermentation broth.   7

    b)   Describe the construction and working of DeLaval clarifier. Write its applications.   7

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

    c)   Write a detailed note on membrane filters. Give their applications and limitations   7

    d)   Write Kozeny equation for filtration explaining the symbols used.   2

    e)   Discuss the theoretical principles involved in the design of centrifuge.   5

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

FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Supplementary) Examination, March 2014

Subject: Pharmaceutical Analysis – I (Chemical Analysis)

Time : 3 Hours   Max. Marks: 70

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

1 (a) Define error. Explain the sources of error in pharmaceutical analysis. Write a note on the minimization of errors.   (2+4+4)
   (b) Define the terms: (4)
       (i) Accuracy   (B) Precision

OR

   (c) How burettes and pipettes are calibrated?   (6)
   (d) Explain about significant figures and rules for computation.   (8)

2 (a) State law of mass action and discuss its significance.   (6)
   (b) Explain about neutralization curve for a titration between strong acid and strong base. Comment upon the indicators used in the above titration.   (8)

OR

   (c) Write a note on solubility product and common ion effect.   (8)
   (d) Define the terms pH, buffer, buffer action and buffer capacity.   (6)

3 (a) Describe the principles of oxidation reduction titrations. Write the principle and procedure for assay of ascorbic acid.   (4+6)
   (b) Write a note on filtration media used in gravimetry.   (4)

OR

   (c) How do you prepare and standardize 0.1M $KMnO_4$ solution?   (5)
   (d) Discuss various steps involved in gravimetric analysis.   (9)

4 (a) Write the principle and procedure involved in estimation of calcium gluconate by complexometry.   (6)
   (b) Discuss about various methods for the determination of end point in precipitation titration.   (8)

OR

   (c) Explain the principle involved in complexometric titration. Discuss about masking and demasking agents.   (8)
   (d) Write the principle and applications of non-aqueous titration.   (6)

5 (a) Define the terms empirical formula, molecular formula, molecular weight and equivalent weight.   (8)
   (b) What is the empirical formula of a compound containing 56.4% oxygen and 43.6% phosphorus.   (6)

OR

   (c) Write the mass balance equation for the following: (6)

       (A) $Fe^{3+} + SCN^- \rightleftharpoons Fe^{3+} [Fe(SCN)_6]^{3-}$

       (B) $Na_2CO_3 + HCl \rightarrow NaCl + H_2O + CO_2$

   (d) Calculate the normality of sulphuric acid when 50ml of sulphuric acid neutralizes with 200ml of decinormal sodium hydroxide.   (3)
   (e) Write a note on mole concept and measuring of moles of elements and compounds.   (5)

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FACULTY OF PHARMACY

B. Pharmacy II Year I – Semester (Supply) Examination, March 2014
Subject: Pharmaceutical Microbiology

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

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

1	(a)	Give a detailed account of the methods employed to isolate pure cultures.	(8)
	(b)	Write a note on nutritional requirements of bacteria.	(6)
		OR	
	(c)	Classify Myceteae. Describe the importance of pencillium species.	(7)
	(d)	Describe the constitution of cell walls of gram negative, positive and acid fast bacteria.	(7)
2	(a)	Describe the quantitative methods employed to measure bacterial growth.	(9)
	(b)	Write a note on differential staining.	(5)
		OR	
	(c)	Discuss chemical mutagens and repair mechanism in mutation.	(8)
	(d)	Write a note on genetic organization of virus.	(6)
3	(a)	Explain the modes of destruction of micro organisms using high temperature.	(8)
	(b)	Write a note on gamma rays.	(6)
		OR	
	(c)	Elaborate on the types of radiations and filters utilized for sterilization.	(7)
	(d)	Write a note on laminar air flow.	(7)
4	(a)	Explain the first line defense mechanism adopted by the host.	(8)
	(b)	Briefly describe immunological memory.	(6)
		OR	
	(c)	How does an antigen differ from an antibody? Explain the source and nature of antigens.	(8)
	(d)	Explain the structure of immunoglobulin.	(6)
5	(a)	Identify the etiological agents responsible for infective hepatitis and add a comment on its clinical manifestation.	(8)
	(b)	Explain the methods of pasteurization of milk and tests employed in the gradation of milk.	(6)
		OR	
	(c)	Explain the modes of transmission and clinical signs and symptoms of (i) Typhoid, (ii) Filaria.	(8)
	(d)	Add a note on E.coli as a human pathogen.	(6)

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FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Supplementary) Examination, April 2014

Subject: Communicative English

Time : 3 Hours   Max. Marks : 70

Note: Answer ALL questions. All questions carry equal marks.
PART - A (4 x 5 = 20 Marks)

1 (a) Discuss the various concepts which make the communication effective.
                                        OR
   (b) Discuss the role of non-verbal communication.

2 (a) What are the guide-lines to conduct seminars / conferences?
                                        OR
   (b) What is the role and importance of communication?

3 (a) What is the use of dictionary?
                                        OR
   (b) What are the various ways of expressing apology?

4 (a) Discuss the types and methods of learning and listening.
                                        OR
   (b) Draft a letter of response from a publisher to your enquiry of pharmacy text books as a librarian of your college.

PART - B (4 x 5 = 20 Marks)

1 Give the antonym for the following:
   (a) affirm   (b) benevolent   (c) explicit   (d) pragmatic (e) fragile
2 Give the synonym for the following:
   (a) coherent   (b) anguish   (c) mitigate   (d) queer   (e) jeopardize
3 Explain the following one word substitutes in one or two sentences
   (a) atheist   (b) arbitrarily   (c) nostalgia   (d) obliterate (e) zealous
4 Rewrite the following sentences as directed:
   (a) It's the _____ (large) company in the country. (use the correct form of verb)
   (b) A new chance will be given to me. (change into passive voice)
   (c) She said "It is time we had an agreement". (Change into indirect speech)
   (d) Maldives is group of islands. (insert appropriate article)
   (e) I was amazed _____ his dance performance. (use appropriate preposition)

PART - C (5 x 6 = 30 Marks)

1 (a) What made Carnegie's life always full and interesting?
                                        OR
   (b) What did Andrew Carnegie learn from his parents?

2 (a) What does being civilized mean, according to C.E.M. Joad?
                                        OR
   (b) How important are order and safety? Explain with examples.

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, when will misery come to an end?

4 (a) What are the aspects of the rebelliousness of adolescence?
                                        OR
   (b) According to Benjamin spock, why does 'School failure' occur?

5 (a) Discuss the do's and don'ts of drafting and delivering a speech.
                                        OR
   (b) Draft a job application letter with a copy of your resume for the post of chemist in a reputed pharmaceutical company.

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FACULTY OF PHARMACY

B. Pharmacy II-Year I-Semester (Supplementary) Examination, March 2014

Subject : Pharmaceutical Organic Chemistry - I

Time : 3 Hours   Max. Marks: 70

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

1 (a) (i) Explain the energy diagrams of reactants and products.   (8)
       (ii) Write about covalent bond and resonances.   (3+3)
                                    OR
   (b) Explain the following terms with examples.   (4x3.5)
       (i)   Inductive effect   (ii)   Hybrid orbital
       (iii) Dipole movement   (iv)   Hydrogen bonding

2 (a) Write the reaction and mechanism of following reactions.   (4x3.5)
       (i)   Catalytic reduction   (ii)   Markonikovs addition
       (iii) Halogenation of alkanes   (iv)   Allyllic substitution

                                    OR
   (b) (i) Write any three methods of preparation of alkanes.   (7)
       (ii) Explain stability of conjugated alkadienes.   (7)

3 (a) (i) Give any three methods of preparation of alcohols.   (7)
       (ii) Explain in detail of SN^1 reaction with mechanism.   (7)
                                    OR
   (b) (i) Give a note on Sayetzeff's rule and Walden inversion.   (3+4)
       (ii) Write different methods for synthesis of ethers.   (7)

4 (a) (i) Write any three methods for synthesis of aldehydes.   (7)
       (ii) Give the synthetic applications of malomic ester.   (6)
                                    OR
   (b) (i) Explain relative acidity of different carboxylic acids.   (6)
       (ii) Write synthesis of following: (4x2)
            (A) Esters   (B) Amides   (C) Acid halides   (D) anhydrides

5 (a) (i) How to separate a mixture of amines by different methods.   (8)
       (ii) Give any three methods for synthesis of nitro alkanes.   (6)
                                    OR
   (b) (i) Write any three methods for synthesis of any diazonium salt.   (8)
       (ii) Give a note on basicity of amines by taking examples.   (6)

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