

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015

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 error. Classify and explain different types of errors. (8)
 (ii) Explain about various methods of expressing concentration. (6)
- OR**
- (b) (i) Define : (4x2)
 (A) Accuracy (B) Standard deviation (C) Indicator (D) End point
 (ii) What is meant by calibration? How to calibrate volumetric flask? (6)
- 2 (a) (i) Write a note on : (2x5)
 (A) Common ion effect
 (B) Salt Hydrolysis
 (ii) How to prepare and standardize 0.1 N H₂SO₄? (4)
- OR**
- (b) (i) Discuss the theories of neutralization indicators. (10)
 (ii) Solubility product of Mg(OH)₂ is 3.4x10⁻¹¹ mol³/L³. Calculate solubility in g/L. (4)
- 3 (a) (i) Explain the steps involved in gravimetric analysis. (10)
 (ii) How to prepare and standardize 0.1 N K MnO₄? (4)
- OR**
- (b) (i) Discuss the principle of redox titration and write a note on redox indicators. (4+4)
 (ii) Write notes on co-precipitation and coagulation used in gravimetric analysis. (6)
- 4 (a) (i) Explain the principle involved in complexometric titrations. (5)
 (ii) Write notes on solvents used in non-aqueous titrations. (5)
 (iii) How to prepare and standardize 0.01M EDTA solution? (4)
- OR**
- (b) (i) Write notes on Argentometric titrations. (5)
 (ii) Write short notes on masking and demasking agents. (5)
 (iii) How to prepare and standardize 0.1 N H ClO₄. (4)
- 5 (a) (i) Define the terms with suitable examples. (3x2)
 (A) Empirical formula
 (B) Molecular weight
 (C) Theoretical yield
 (ii) Calculate the number of moles of sodium hydroxide in 500 ml. of 1M sodium hydroxide solution. (4)
 (iii) Calculate the percentage composition of elements in Na₂CO₃. (4)
- OR**
- (b) (i) How many moles of Na₂CO₃ are present in 53 gm of sodium carbonate? (4)
 (ii) Calculate the percentage composition of elements in K₂Cr₂O₇. [Atomic weight of K = 39 ; Cr = 52 O = 16]. (4)
 (iii) Write the mass balanced equation for the following: (3x2)
 (A) Ba(OH)₂ + NaCl → BaCl₂ + NaOH
 (B) C₆H₁₂O₆ → C₂H₅OH + CO₂
 (C) NH₄OH + H₂SO₄ → (NH₄)₂SO₄ + H₂O

FACULTY OF PHARMACY**B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015****Subject : Pharmaceutical Microbiology****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) (i) Write in detail about Isolation of aerobic and anaerobic bacteria. (7)
(ii) Write about enumeration of bacteria. (7)
- OR**
- (b) (i) Explain cultivation of bacteriophage and animal viruses. (9)
(ii) Discuss Nutrition requirements of bacteria. (5)
- 2 (a) (i) What is growth? Explain growth phases of bacteria. (10)
(ii) Define stain. Explain types of stains. (4)
- OR**
- (b) (i) Discuss morphology of bacterial and animal viruses. (8)
(ii) Explain indole production test and Urease test. (6)
- 3 (a) (i) What is sterilization? Explain in detail about Pasteurization and Tyndalization techniques. (8)
(ii) Write about sterilization indicators. (6)
- OR**
- (b) (i) What are the factors influencing Disinfectants? (4)
(ii) Explain about Redial-Walker and Chick-Martin tests. (10)
- 4 (a) (i) Write in detail Humoral and Cell mediated immunity. (12)
(ii) Write about toxoids. (2)
- OR**
- (b) Explain in detail about serological reactions. (14)
- 5 (a) Write organism, mode of transmission, pathogenesis, symptoms, treatment, prevention and control of Poliomyelitis and Influenza. (14)
- OR**
- (b) (i) Write about detection of Coliform bacteria in water. (8)
(ii) Describe the systematic study of Pencillium species. (6)

FACULTY OF PHARMACY**B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015****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) What are the various types of business of communication? How to overcome those barriers ?

OR

- (b) What are the various barriers in listening? How can they be overcome?

- 2 (a) What are the do's and don'ts in group discussion?

OR

- (b) What is the role of body language in oral communication?

- 3 (a) What is the use of Thesaurus?

OR

- (b) "Preparation and presentation are the two essential ingredients of making a speech". Explain.

- 4 (a) Draft a letter of application with a copy of your resume for the post of marketing executive in a pharmaceutical company.

OR

- (b) Write a paragraph of 150 words on the topic "Necessity is the mother of Invention".

PART – B (4x5=20 Marks)

- 1 Give the synonym for the following:

(a) grumbling (b) eloquence (c) ingenious (d) savage (e) Benevolent

- 2 Give the antonym for the following:

(a) Astute (b) Barbarian (c) Colossal (d) Dispute (e) Hasty

- 3 Explain the following one word substitutes in one or two sentences.

(a) Theist (b) Hypothesis (c) Refrain (d) Obliterate (e) Drudge

- 4 Rewrite the sentences as directed:

(a) My friend _____ (write) a letter when I went to visit her.

(Use the correct form of verb)

(b) The machine wraps the bread automatically. (Change into passive voice)

(c) She said, "Is it your final decision"? (Change into indirect speech)

(d) Maldives is _____ group of Islands. (Insert appropriate article)

(e) He congratulated me _____ my success. (Insert appropriate preposition)

PART – C (5x6=30 Marks)

- 1 (a) What is the meaning of 'Civilised' according to C.E.M. Joad in 'our own civilization'?

OR

- (b) What are Joad's views on Democracy and world civilization?

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- 2 (a) Why was Carnegie a huge success as steel king?
OR
(b) What made Carnegie's life always full and interesting?
- 3 (a) What was the teaching of Swami Vivekananda regarding 'Work'?
OR
(b) 'The secret of work is a remarkable exposition of non-attachment to action'. Explain.
- 4 (a) What does the author Benjamin Spock think about rebelliousness in adolescents?
OR
(b) What are the three principal elements that go to make up the identity, an individual finally achieves, according to Benjamin Spock?
- 5 (a) Write a letter of complaint to the inspector of police about the theft of your wallet in a busy shopping mall.
OR
(b) "Drafting a report is a scientific and systematic procedure". Explain.

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FACULTY OF PHARMACY**B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015****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 plant construction. (5)
- (b) Write a note on Dimensional Analysis. (4)
- (c) Classify and enumerate the different types of corrosion. (5)
- OR**
- (d) Write about copper and aluminium as material of plant construction. (5)
- (e) Explain steady state and unsteady state. (4)
- (f) What is Galvanic corrosion and explain how it can be prevented? (5)
- 2 (a) Write a note on : (8)
- (i) Bernouli's theorem and applications (8)
- (ii) Stefan Boltzman law (6)
- OR**
- (b) Derive an equation for heat transfer by conduction. (8)
- (c) Discuss the problem of foam and its prevention. (6)
- 3 (a) Explain the construction, working and applications of belt conveyor. (8)
- (b) Write a note on : (3)
- (i) Jet pumps (3)
- (ii) Peristaltic pumps (3)
- OR**
- (c) Write a note in equipment available for transportation of gases. (7)
- (d) Explain the construction, working and uses of centrifugal pumps. (7)
- 4 (a) Define the following : (4)
- (i) Absolute Humidity (ii) Wet bulb temperature
- (iii) Dew point (iv) Humid Heat
- (b) Discuss in detail about absorption refrigeration cycle with a neat sketch. (10)
- OR**
- (c) Explain the methods available for humidification and Dehumidification. (7)
- (d) Discuss the factors that determine the refrigeration load in pharmaceutical plant. (7)
- 5 (a) Compare plate and frame filter press with chamber press. (7)
- (b) Describe the construction, working and applications of Edge filters. (7)
- OR**
- (c) Write a note on : (7)
- (i) Leaf filters
- (ii) Disc centrifuge bowls
- (d) Give an account of the different filter media used in small scale and large scale filtration operations. (7)

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B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015

Subject : Pharmaceutical Organic Chemistry - I

Time : 3 Hours

Max. Marks: 70

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

- 1 (a) (i) What is hybridization? Discuss Sp^1 , Sp^2 and Sp^3 hybridizations with suitable examples. (8)
- (ii) Discuss the following with suitable examples. (6)
- (A) Molecular orbitals (B) Polarity of molecules (C) Covalent bond
- OR**
- (b) (i) Explain the following with suitable examples (6)
- (A) Resonance (B) Mesomeric effect (C) Inductive effect
- (ii) What is activation energy? Discuss the energy diagrams of reactants and products during the course of the reaction. (8)
- 2 (a) (i) Write any three general methods to prepare alkenes. (6)
- (ii) Explain Markovnikov's and anti- Markovnikov's addition of alkenes. (6)
- (iii) Write a note on acidity of alkynes. (2)
- OR**
- (b) Discuss the following:
- (i) Bayer's strain theory (5)
- (ii) Cis-trans isomerism (5)
- (iii) Configuration and conformations (4)
- 3 (a) (i) Discuss SN^1 and SN^2 reactions with mechanism and stereochemistry. (8)
- (ii) How do you distinguish primary, secondary and tertiary alcohols? (4)
- (iii) Write about Walden inversion. (2)
- OR**
- (b) (i) Explain E^1 and E^2 elimination reactions with mechanism and stereochemistry. (7)
- (ii) Explain Saytzeff's rule. (3)
- (iii) Write any two methods for synthesis of ethers. (4)
- 4 (a) (i) Write any three nucleophilic addition reactions of carbonyl compounds with mechanism. (8)
- (ii) Write two methods each to prepare aldehydes and ketones. (6)
- OR**
- (b) (i) Write synthetic applications of Diethyl malonate and Ethyl acetoacetate. (8)
- (ii) Explain acidity of Carboxylic acids. (2)
- (iii) Write any two methods to prepare carboxylic acids. (4)
- 5 (a) (i) Write any three methods of synthesis of nitroalkanes. (6)
- (ii) Write about basicity of amines. (4)
- (iii) Explain Hinsberg's method of separation of amines. (4)
- OR**
- (b) (i) Write synthesis and applications of aryldiazonium salts. (6)
- (ii) Give reaction of amines with Nitrous acid, alkylation and acylation. (5)
- (iii) How do you differentiate primary, secondary and tertiary amines? (3)

B. Pharmacy 2/4 I-Semester (Supplementary) Examination, April 2015

Subject : Pharmaceutical Organic Chemistry - I

Time : 3 Hours

Max. Marks: 70

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

- 1 (a) Explain sp , sp^2 and sp^3 hybridizations with suitable examples. (8)
(b) Define the terms : (6)
(i) Dipole moment (ii) Bond angle
(iii) Molecular orbitals and give their significance in organic chemistry
OR
(c) Explain : (i) Inductive effect (ii) Enantiomerism and diastereomerism (8)
(iii) Resonance giving suitable examples
(d) Explain energy diagrams of reactants and products during the course of the reaction. (6)
- 2 (a) Explain Markovnikov's and AntiMarkovnikov's addition with suitable examples. (7)
(b) Explain electrophilic addition in alkynes and conjugated dienes. (7)
OR
(c) Write a note on stereochemistry of cyclohexane. Write the structure of chair conformation showing axial and equatorial bonds. (7)
(d) Explain Bayer's strain theory. (7)
- 3 (a) Write any three general methods to prepare hydroxy (alcoholic) compounds. (4)
(b) Write mechanism, kinetics and stereochemistry involved in SN^1 and SN^2 reactions. (10)
OR
(c) Write mechanism involved in E^1 and E^2 eliminations. (5)
(d) explain Saytzeff rule and Hofmann rule. (5)
(e) Explain Williamson's synthesis of ethers. (4)
- 4 (a) Explain any four methods of preparation and reactivity of Carbonyl compounds. (7)
(b) Write any five important nucleophilic addition reactions which you have studied. (7)
OR
(c) Write any three general methods to prepare Carboxylic acids. (5)
(d) Explain why trichloroacetic acid is more acidic than dichloro and which in turn more acidic than monochloroacetic acid. (4)
(e) Write two applications each for Diethylmalonate and Ethylacetoacetate. (5)
- 5 (a) Explain basicity in aliphatic and aromatic amines. (5)
(b) Write any three reactions of amines. (5)
(c) Write the Hinsberg's method of separation of amines. (4)
OR
(d) Write different methods of preparation of Nitro compounds. (7)
(e) Explain the different reactions and synthetic utility of aryl diazonium salts. (7)

B. Pharmacy 2/4 I-Semester (Supplementary) Examination, April 2015

Subject : Pharmaceutical Engineering - I

Time : 3 Hours

Max. Marks: 70

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

- 1 (a) Write about copper and aluminum as material of plant construction along with their merits and demerits. (7)
- (b) What are : (7)
- (i) Fretting corrosion (ii) Galvanic corrosion explain how it can be prevented
- OR**
- (c) Describe briefly different ways of combating corrosion. (7)
- (d) Write about any two Non-Metals as materials of pharmaceutical plants construction. (7)
- 2 (a) State and explain Fourier's law of heat transmission with an equation. (4)
- (b) Derive an equation for differential manometer. (5)
- (c) Write a note on condensers. (5)
- OR**
- (d) Explain the principle, construction, working of multi-pass heat exchanger. (10)
- (e) Compare orifice meter with venture meter. (4)
- 3 (a) Enlist the equipments used for transportation of solids. Describe in detail about pneumatic conveyors. (7)
- (b) Write a note on : (7)
- (i) Valves (ii) Ejectors
- OR**
- (c) Describe the construction and working of rotary positive displacement pump for liquid transport. (7)
- (d) Write a note on : (7)
- (i) Air lift pumps (ii) Fans and Blowers
- 4 (a) Explain the principle, working and operation of absorption refrigeration system with a neat sketch. (7)
- (b) How do you use the Humidity chart? (7)
- OR**
- (c) Write a note on : (7)
- (i) Brine systems (ii) Cooling towers
- (d) Discuss the principle, constructions and working of Air conditioner (7)
- 5 (a) Describe the effect of pressure and filter aids on the filtration operation. (7)
- (b) Discuss the theoretical principles involved in the design of centrifuge. (7)
- OR**
- (c) Describe the construction and working of De Laval classifier with a neat diagram with its applications. (7)
- (d) Write a note on Edge filters. (7)

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B. Pharmacy II Year I – Semester (Suppl.) Examination, April 2015

Subject: Pharmaceutical Analysis – I (Chemical Analysis)

Time: 3 Hours

Max.Marks: 70

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

- 1 (a) i) What is a primary standard? Explain briefly giving examples. (6)
ii) Explain accuracy, precision, error and linearity with examples. (8)
- OR**
- (b) i) What is calibration? Why calibration of glassware is necessary? How do you calibrate a burette? (7)
ii) Explain about methods of expressing concentration. (7)
- 2 (a) i) Explain about different theories of acid and base. (6)
ii) Write a note on common ion effect. (4)
iii) Calculate the pH of 0.05 M solution of sodium acetate. (4)
(The dissociation constant of acetic acid is 1.8×10^{-5}).
- OR**
- (b) i) Discuss the theory of neutralization indicators. (7)
ii) Define a buffer by giving examples. How does a buffer resist change in pH? (7)
- 3 (a) i) Describe the various steps involved in gravimetric analysis. (10)
ii) How do you prepare and standardize 0.1 N KMnO_4 solution. (4)
- OR**
- (b) i) Explain Mohr's method for determination of chlorides. (7)
ii) What is oxidation – reduction potential? How it is determined in a redox system? (7)
- 4 (a) i) Write the principle and procedure involved in assay of calcium gluconate. (6)
ii) Explain the principle, procedure in iodometric titrations. (8)
- OR**
- (b) i) Explain theory and applications of non-aqueous titrations. (7)
ii) Write a note on masking and demasking agents. (7)
- 5 (a) i) Define the terms:
(A) Mole (B) Empirical formula (C) Molecular formula (D) Theoretical yield (6)
ii) Calculate the percentage composition of elements in $\text{K}_2\text{Cr}_2\text{O}_7$ [K=39, Cr=52, O=16]. (8)
- OR**
- (b) i) How many moles are present in 53 gm of sodium carbonate and 60 grams of sodium hydroxide. (6)
ii) Calculate the percentage composition of the elements in $\text{Na}_2\text{S}_2\text{O}_3$ [Na=23, S=32, O=16]. (8)

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B. Pharmacy II-Year I-Semester (Suppl.) Examination, April 2015

Subject : Pharmaceutical Microbiology

Time : 3 Hours

Max. Marks: 70

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

- 1 (a) (i) Explain in detail about parts external to cell wall of bacteria. (8)
(ii) Explain about Bright field microscopy. (6)
OR
(b) (i) Write the methods of preservation of pure cultures. (7)
(ii) Write about cultivation and isolation of anaerobic bacteria. (7)
- 2 (a) (i) Explain replication of animal viruses. (10)
(ii) Write about morphology of animal viruses. (4)
OR
(b) What are mutations? Explain in detail about Mutagenesis. (14)
- 3 (a) What is sterilization? Explain in detail about Heat Sterilization. (14)
OR
(b) Explain Evaluation methods of Disinfectants.
- 4 (a) What is Virulence and Pathogenesis? Explain in detail about Phagocytosis. (4+10)
OR
(b) (i) Write about Hypersensitivity reactions. (10)
(ii) Differences between Exotoxins and Endotoxins. (4)
- 5 (a) Write organism, mode of transmission, pathogenesis, symptoms, treatment, prevention and control of Tuberculosis and Typhoid. (14)
OR
(b) (i) Explain types of microorganisms present in Milk and their characteristics. (9)
(ii) Describe the systematic study of Streptomyces species. (6)

B. Pharmacy 2/4 I-Semester (Suppl.) Examination, April 2015

Subject: Communication 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 importance of Non-verbal communication.
OR
(b) Discuss in detail the saying "Two heads are better than one".
- 2 (a) Explain the process of communication.
OR
(b) What is the use of interacting with learners and teachers?
- 3 (a) How to use a dictionary?
OR
(b) How to thank people in different way?
- 4 (a) What are the methods to improve vocabulary?
OR
(b) What are the various barriers in effective listening? How can they be overcome.

PART- B (4x5=20 Marks)

- 1 Give the synonym for the following:
(a) fictitious (b) cogent (c) renowned (d) accomplish (e) elicited
- 2 Give the antonym for the following:
(a) pragmatic (b) remitter (c) haughty (d) reluctant (e) exonerate
- 3 Explain the following one word substitutes in one or two sentences:
(a) demeanour (b) egotist (c) progeny (d) vacillate (d) unabashed
- 4 Rewrite the sentences as directed:
(a) She _____ (complete) her work before everyone else did.
(Use the correct form of verb)
(b) They paid him handsome salary. (Change into Passive voice)
(c) Ganges is considered sacred river by many (insert article)
(d) I was amazed _____ his dance performance (insert preposition)
(e) My trousers needs mending (correct the error and rewrite the sentence).

PART- C (5x6=30 Marks)

- 1 (a) Why does the author think that the world is becoming a single place, instead of a lot of separate places sheet off from one another?
OR
(b) Write a summary of our own civilization in your own words.

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2 (a) How did Carnegie's 'Gospel of wealth' influence the modern world?

OR

(b) Explain Carnegie's reign as steel king.

3 (a) When will misery come to an end?

OR

(b) Explain the statement. "This world is not our habitation; it is only one of the many stages through which we are passing".

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

OR

(b) What are the aspects of the rebelliousness of adolescence?

5 (a) Write a report on the existing communication system in your organization. Include any suggestions for improving it.

OR

(b) What is memorandum? How is it different from a letter?
