Code No. 4040

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Main) Examination, November 2016

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 terms accuracy and precision. Explain the difference between them with suitable examples. (8)

(ii) Describe different methods of expressing concentration of solutions. (6)

OR

(b) (i) Discuss about the statistical treatment of analytical data. Write notes on rejection of doubtful value. (8)

(ii) Define the following terms and give examples with required properties (6)
(A) Primary standard (B) Secondary standard

2 (a) (i) Define the terms buffer, buffer action and buffer capacity. Discuss the role of buffers in pharmaceutical analysis. (3+5)

(ii) Write Arhenious theory of acids and bases. (6)

OR

(b) (i) Explain the terms acidimetry and alkalimetry with suitable examples. (8)

(ii) Discuss the theories of neutralization indicators. (6)

3 (a) (i) Discuss the principles involved in gravimetry. Explain about co-precipitation and post precipitation with suitable examples. (3+6)

(ii) How do you prepare and standardize 0.1 $K_2Cr_2O_7$. (5)

OR

(b) (i) Explain Iodimetry and Iodometry with suitable examples. Discuss the use of starch as indicator in redox titration and its limitations. (10)

(ii) Write a note on drying procedures followed in gravimentry. (4)

4 (a) (i) Discuss the principle involved in complexometric titration. Write short notes on PM indicators. (8)

(ii) Write the principle and procedure involved in estimation of magnesium sulphate. (6)

OR

(b) (i) Write brief account on principles of gas analysis. (6)

(ii) Discuss about the solvents and indicators used in non-aqueous titration. (8)

5 (a) (i) Define the terms: (8)
(A) Normality (B) Molarity
(C) Theoretical yield (D) Percentage yield

(ii) Write the mass balance equation for the following: (6)
(A) $KBr + KBrO_3 \rightarrow KCl + Br_2 + H_2O$
(B) $CaCO_3 + HCl \rightarrow CaCl_2 + H_2O + CO_2$

OR

(b) (i) What is avagadro's number? Write an account on determining moles of elements in compounds. (8)

(ii) Find the pH of a solution in which $[H^+] = 4.0 \times 10^{-5}$ mol /dm^3 (6)

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Code No. 6041

FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, April 2016

Subject: Pharmaceutical Microbiology

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

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

1 a) Distinguish between autotrophs and heterotrophs.
b) Describe nutritional requirements of bacteria.

OR

c) Write about the identification and preservation of pure culture.

2 a) Write in detail about recombination in bacteria.

OR

b) Explain in detail about replication of bacterial viruses.

3 a) What is phenol coefficient test? Explain in detail about suspension tests.

OR

b) What are sterilization indicators? Explain in detail.

4 a) Discuss the chemical nature of antigens and antibodies. Explain different types of antibodies.

OR

b) Write about phagocytosis and complement system.

5 a) Write in detail about causative organism, mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of poliomyelitis and influenza.

OR

b) Write in detail about microbiology of milk.

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Code No. 4042

FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, November 2016

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 ways of making an effective communication?

OR

b) Discuss non-verbal communication.

2 a) How to use a dictionary?

OR

b) How do you conduct Seminars / Conferences?

3 a) How to introduce oneself and thank in different ways.

OR

b) What are the types and methods of learning and listening?

4 a) What to avoid while writing a paragraph.

OR

b) Draft a notice by the controller of examinations to all the affiliated pharmacy colleges indicating the last date of payment of fee for final exams.

PARTY – B (4x5 = 20 Marks)

1 Give the synonym for the following:

a) Ignorance b) Bravery c) Confessed d) Hamper e) Aversion

2 Give the antonym for the following:

a) Industrious b) Timid c) Enormous d) Rational e) Destruction

3 Explain the following one word substitute in one or two sentences.

a) Arbitrarily b) Solourner c) Attic d) Indelible e) Enigma

4 Rewrite the sentences as directed:

a) We have sent these reports to all our customers. (Change into passive voice)

b) The manager said, “Where is your application?” (Change into indirect speech)

c) My mother has been a great influence …… my life. (Insert appropriate preposition).

d) He never forgot the ideal he ….. (set) before him. (Use the correct form of verb).

…2.

PART – C (5x6 = 30 Marks)

1 a) What does being civilized mean according to the author?

OR

b) What are the defects of our civilization in the view of C.E.M. Joad?

2 a) What did Andrew Carnegie learn from his parents?

OR

b) Did Carnegie become a wiser and more useful man?

3 a) How is each man's character determined in the view of Swami Vivekananda?

OR

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

4 a) What are the aspects of the rebelliousness of adolescence according to Benjamin Spock.

OR

b) What according to you are the ways in which the generation gap can be bridged?

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

OR

b) Draft a scientific / technical report.

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Code No. 4039

FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, November 2016

Subject: Pharmaceutical Engineering – I

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

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

1 a) Discuss the applications, advantages and limitations of any two types of plastics used in the pharmaceutical industry. 7

b) What is corrosion? List out the various types of corrosion. How can corrosion be prevented. 7

OR

c) Define the following with suitable examples:
i) Unit operations ii) Unit processes iii) Steady state iv) Unsteady state 8

d) Mention two ferrous and non-ferrous allays used in pharmaceutical industry. Write the composition, advantages, disadvantages and uses of non-ferrous alloys. 6

2 a) Derive and explain Bernoulli's theorem. Explain its importance in flow of fluids. 7

b) Describe the construction, operations, advantages and disadvantages of a multipass heater. 7

OR

c) Differentiate between Venturi meter and Rota meter. 7

d) Write a note on entrainment separators, 7

3 a) Enlist the equipment used for transportation of gases. Describe any one equipment in detail. 7

b) Write a note on:
i) Air lift pump ii) Ejectors 3.5x2=7

OR

c) With a neat sketch explain the design and operation of centrifugal pump. 7

d) Describe the construction, working and pharmaceutical applications of belt conveyor. 7

4 a) Describe the methods used for dehumidification of air. Explain its significance in pharmacy. 7

b) List out the different refrigerants. What are the desirable properties of refrigerants? 4

c) Write a note on "spray ponds". 3

OR

d) With a neat sketch, explain the principle, working of an absorption refrigeration cycle. 7

e) Write a note on "Natural draft cooling towers". 7

5 a) Explain the various theories of filtration giving the principle, mechanism and factors affecting the process. 10

b) Write a note on "De Laval clarifier". 4

OR

c) Describe the construction, working and uses of Meta filter. 7

d) Explain the construction, working of bottom driven centrifuge. Compare it with top driven centrifuge. 7

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Code No. 4038

FACULTY OF PHARMACY

B. Pharmacy 2/4 I – Semester (Main) Examination, October 2016

Subject: Pharmaceutical Organic Chemistry – I

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

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

1 a) Explain the energy diagrams of reactants and products during the course of reaction. 5
b) Write a note on following:
i) Hybridization ii) Melting point iii) Boiling point 9

OR

c) Add a note on polarity of molecules. 5
d) Define the terms with examples
i) Inductive effect ii) Cis-trans isomerism iii) Resonance 9

2 a) Discuss the free radical mechanism for the chlorination of methane. 7
b) Write any four methods of preparation of alkanes. 7

OR

c) Discuss the importance of Bayer's strain theory. 7
d) Explain the reactions of alkenes. 7

3 a) How do you prepare ethers by Williamsons synthesis? 7
b) Write a note on Sayetzaff's rule. 7

OR

c) Discuss about mechanism of nucleophillic substitution reactions. 7
d) Write any two methods for synthesis of alcohols. 7

4 a) Write the general reactions of carbonyl compounds. 7
b) Write any two methods of preparation of aldehydes. 7

OR

c) Discuss the reactivity and applications of malonic acid ester. 7
d) Write any two methods of synthesis of carboxylic acids. 7

5 a) Write any two methods for synthesis of nitroalkanes. 7
b) Write a note on aryldiazonium salts. 7

OR

c) Write a note on basicity of amines. 6
d) How do you differentiate between primary, secondary and tertiary amines with chemical reactions? 8

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Code No. 6038 / S

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl.) Examination, April 2016

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 isomerism? Explain structural and spatial isomerism with examples. (7)
(ii) Explain : (7)
(A) Inductive effect, (B) Mesomeric effect (C) Resonance with suitable examples.

OR

(b) (i) Explain SP^1, SP^2 and SP^3 hybridization. (7)
(ii) Discuss the following with suitable examples
(A) Polarity (B) Solubility (C) Inter molecular forces (7)

2 (a) (i) Write the general methods of preparation of alkynes. (7)
(ii) Explain peroxide effect (or) Kharasch effect in electrophilic addition reactions. (3)
(iii) Write a note on the free radical reactions of alkanes. (4)

OR

(b) Explain the following: (4+5+4)
(i) Sachse – Mohr theory
(ii) Baeyer's strain theory
(iii) Cis-trans isomerism

3 (a) (i) Give any three methods to synthesize alkyl halides. (6)
(ii) Explain E^1 and E^2 elimination reactions with mechanism. (4)
(iii) Write the differences between Nucleophilic substitution Vs Elimination. (4)

OR

(b) (i) Discuss SN^1 and SN^2 reactions with mechanism and stereochemistry. (8)
(ii) Write about oxidation of alcohols. (3)
(iii) Write Williamson's synthesis of ethers. (3)

4 (a) (i) Write any three methods each to prepare Ketones and aldehydes. (7)
(ii) Discuss any two named nucleophilic addition reactions of carbonyl compounds with mechanism. (7)

OR

(b) (i) Write any three general methods of preparation of carboxylic acids. (6)
(ii) Write synthetic applications of any acetoacetic ester. (6)
(iii) Explain mechanism involved in the hydrolysis of acid derivatives. (2)

5 (a) (i) Write any three important reactions of amines. (6)
(ii) Explain separation of amines by Hinsberg's method. (4)
(iii) Write the significance of Sand Meyer's reaction. (4)

OR

(b) (i) Write synthesis and applications of aryldiazonium salts. (6)
(ii) Give any three methods to prepare nitroalkanes. (6)
(iii) How do you differentiate primary, secondary and tertiary amines by chemical reactions? (2)

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Code No. 6041 / S

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl.) Examination, April 2016

Subject : Pharmaceutical Microbiology

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

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

1 (a) Write in detail about cultivation of aerobic and anaerobic bacteria.
(b) Explain in detail about Bright field and Dark field microscopy.

OR

(b) Explain in detail about isolation and enumeration of bacteria.

2 (a) What are mutations? Type of mutations. Explain different repair mechanism in bacteria.

OR

(b) Write the differences between simple staining and negative staining. Explain in detail about Acid fast staining.

3 (a) Define Disinfectant, Antiseptic, Inhibitors, Bacteriostat. Explain about control of microorganism by chemical methods.

OR

(b) What is sterilization? Explain in detail about Tyndalization, Pasteurization, and Incineration.

4 (a) What are serological reactions? Explain in detail about precipitation and agglutination reactions.

OR

(b) Explain about Humoral and cell mediated immunity.

5 (a) Write in detail about Causative organism, Mode of transmission, pathogenesis, symptoms, diagnosis, treatment, prevention and control of Tuberculosis and Pertusis.

OR

(b) Write the systematic study of E.Coli.

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Code No. 6040 / S

FACULTY OF PHARMACY

B. Pharmacy II Year I – Semester (Suppl.) Examination, April 2016

Subject: Pharmaceutical Analysis – I (Chemical Analysis)

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

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

1 a) Explain about the calibration and its importance in analysis. 8
b) Write a note on rejection of doubtful value. 6

OR

c) Write a note on significant figures and rules for computation. 8
d) Describe different methods of expressing concentration of standard solution. 6

2 a) Define the term pH. Explain about the hydrolysis of salts. 8
b) Explain law of mass action and its significance. 6

OR

c) Explain the neutralization curves for a titration between strong aid and strong base. Comment upon the indicators used. 10
d) Describe the principle and procedure involved in standardization of 0.1 N HCl. 4

3 a) Discuss the general principles of gravimetric analysis. 8
b) Write an account on the Oxidation – Reduction titrations and their applications in analysis. 6

OR

c) Discuss about various types of redox indicators with examples. 8
d) Write a note on organic precipitants used in gravimetry. 6

4 a) Discuss the principles of gas analysis. 6
b) Write the principle of complexometric titration. Describe the principle and procedure involved in assay of magnesium sulphate. 8

OR

c) Explain the preparation and standardization of 0.1 M EDTA solution. 6
d) Write the principle involved in non-aqueous titration. Explain with examples, what type of pharmaceutical compounds are assayed by non-aqueous titration. 8

5 a) What is avagadro's number and write an account of measuring of moles of elements and compounds. 5
b) Explain the terms theoretical yield, percentage yield and limiting reactant. 9

OR

c) Define the terms empirical formula, molecular formula and percentage composition. 8
d) Find the pH of a solution in which $[H^+] = 4.0 \times 10^{-5}$ mol / dm^3. 6

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Code No. 6039 / S

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Suppl.) Examination, April 2016

Subject : Pharmaceutical Engineering - I

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

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

1 (a) Discuss the applications, advantages and disadvantages of any two ferrous metals used in pharmaceutical industry. (7)
(b) Explain briefly the theories of corrosion. (7)

OR

(c) Explain the terms "Dimensional formula" and "Dimensional equations" with suitable examples. (7)
(d) Compare plastics with metals as materials of plant construction. (7)

2 (a) Derive an equation for the overall heat transfer coefficient. Write its significance. (7)
(b) Compare orifice meter with a venturi meter. (7)

OR

(c) Describe the construction, working, advantages and disadvantages of a double pipe heat exchanger with a neat diagram. (7)
(d) Write a note on various types of condensers. (7)

3 (a) With a neat sketch explain the construction, working and applications of reciprocating pump. (7)
(b) Write a note on : (7)
(i) Pneumatic conveyor
(ii) Jet pumps

OR

(c) Compare reciprocating pumps with centrifugal pumps. (7)
(d) Describe the construction, working and uses of (3½ x 2)
(i) diaphragm valve (ii) Globe valve

4 (a) Explain the air-conditioner with a neat labeled diagram. (7)
(b) Describe a refrigeration system using a compressor. (7)

OR

(c) Write a note on : (3½ x 2)
(i) Cooling towers (ii) Brine systems
(d) Describe the humidity chart. Explain how to use humidity chart. (7)

5 (a) Explain the principle, construction and working of chamber press. (9)
(b) Describe the theory of centrifugation. (5)

OR

(c) Describe any two filters used for air filtration. (7)
(d) Suggest and describe a suitable centrifuge for the separation of slurry containing high percentage of solids. (7)

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Code No. 6042 / S

FACULTY OF PHARMACY

B. Pharmacy 2/4 I-Semester (Supplementary) Examination, April 2016

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) How to overcome the Barriers of communication?

2 (a) Write a short note on American English.

OR

(b) What are the ways to introduce oneself and others?

3 (a) As the Librarian of your organization write a letter to claim compensation for 39 books which arrived in damaged condition from a publisher.

OR

(b) As a Principal, explain how to draft a letter of Notice to the students regarding prevention of ragging in the college.

4 (a) Write short notes on “Listening as a communication tool”.

OR

(b) Explain how to make an effective speech.

PART – B (4x5=20 Marks)

1 Give the synonym for the following:
(a) Resentful (b) incessantly (c) Sulky (d) astounding (e) vanish

2 Give the antonym for the following:
(a) decisive (b) conceivable (c) induce (d) robust (e) enormous

3 Explain the following one word substitutes in one or two sentences.
(a) sojourner (b) drudge (c) eloquence (d) envision (e) truant

4 Rewrite the sentences as directed.
(a) Andrew Carnegie’s _____ (struggle) to earn a living.
(use the correct form of verb)
(b) The captain said to the crew, “clear the deck”. (Change into indirect speech)
(c) We must work to save tigers from becoming extinct. (insert article)
(d) He will buy the farmland. (Change into passive voice).

PART – C (5x6=30 Marks)

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

OR

(b) Why does ‘School failure’ occur according to Benjamin Spock?

2 (a) How important are order and safety? Explain with examples.

OR

(b) What does being civilized mean, according to C.E.M. Joad?

3 (a) What did Andrew Carnegie learn from his parents?

OR

(b) What made Carnegie's life always full and interesting?

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

OR

(b) What was the teaching of Swami Vivekananda regarding 'work'?

5 (a) Discuss the different types of reports in detail.

OR

(b) Draft a letter of application for the post of pharmacist in a reputed organization.

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