



Code No. : 4409

FACULTY OF PHARMACY

B. Pharmacy II Year I Sem. (Main) Examination, November/December 2010
PHARMACEUTICAL ANALYSIS – I (Chemical Analysis)

Time : 3 Hours]

[Max. Marks: 70

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

1. a) i) Define and explain.

6

A) Relative Error B) Indeterminate Error C) Gross Error

ii) Describe the methods of expressing concentration.

4

iii) Calculate the equivalent weight of the following :

4

A) $K_2Cr_2O_7$ B) NaOH C) H_2SO_4 D) $KMnO_4$

OR

b) i) What are Primary standard and Secondary standard substances ?
Mention few examples of each.

7

ii) The following results were obtained in the replicate analysis of a blood sample for its lead content 0.754, 0.756, 0.752, 0.751 and 0.760 PPM pb. Calculate the Mean, Standard deviation, Range and Median.

7

2. a) i) What is common Ion Effect ? Discuss its applications in pharmaceutical analysis.

8

ii) Discuss the modern concepts of acidity and basicity. Give some examples.

6

OR

b) i) How much water is to be added to a 150 ml of solution of 0.25N HCl to make it 0.1N solution ?

4

ii) Write a note on neutralization indicator.

4

iii) Derive an equation to calculate the pH value of an aqueous solution of a salt of weak acid and strong base.

6

3. a) i) Write a note on

4

A) Coagulation

B) Digestion

ii) Explain the theories involved for determination of chloride in

10

A) Mohr's method

B) Volhard's method

C) Fajan's method

OR



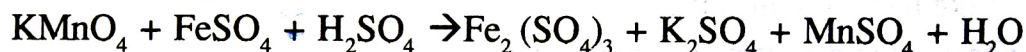
- b) i) What is oxidation-reduction potential and write how it is determined the redox system ? 6
- ii) What are Redox Indicators ? What is the chemical process causes them to change color ? 6
- iii) Calculate the normality of the following 2M $K_2Cr_2O_7$. 2
4. a) i) How do you prepare and standardise the following solutions 8
- A) 0.01M EDTA B) 0.1N $HClO_4$
- ii) How do you estimate the hardness of water using complexometry ? 6

OR

- b) i) What is the difference between Iodometry and Iodimetry ? Explain with the help of one suitable examples. Write the principle and procedure of Iodometric assay of any official compound. 10
- ii) Write a note on different solvents used in Non-aqueous titration. 4
5. a) i) How much is mass of NaOH required to convert 7.3 g of HCl to NaCl ? 4
- ii) Calculate the percentage composition of elements in $Na_2S_2O_3$ (Atomic weight Na, S, O are 23, 32, 16 respectively) 4
- iii) Define Stoichiometry, mole and percentage yield. 6

OR

- b) i) How will you balance the following equation by applying Ion-electron method ? 5



- ii) What is Avagadro's number ? Explain how the moles of elements are measured. 7
- iii) Calculate the normality of 10 milli moles of $Na_2S_2O_3$ in 200 ml of solution. 2



Code No. : **4411**

FACULTY OF PHARMACY
B. Pharm. II Year I Sem. (Main) Examination, November/December 2010
COMMUNICATIVE ENGLISH

Time : 3 Hours]

[Max. Marks : 70

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

- 1.A) i) What are the do's and don'ts in group discussion ? (2×7=14 Marks)
ii) Write a brief note on non-verbal communication.

OR

- B) i) What is the role of wit and humour in Communication ?
ii) What not to do with your hands and what to do with your hands in Communication ?

- 2.A) Write short notes on the following : (2×7=14 Marks)

- i) How to thank in different ways ?
ii) How to develop vocabulary ?

OR

- B) i) Write antonyms for the following words : (4+3+7 Marks)

a) Queer b) Pupil c) Spurious d) Chaste

- ii) Write synonyms for the following words :

a) bias b) cursory c) Morbid

- iii) Match the following by choosing the correct **one** word substitutes :

A

B

Epicure	One who shows off book-learning
Panacea	Narrow stretch of land joining two bigger land regions
Hypothesis	Just punishment
Sot	One who is fond of good food and drink
Isthmus	A medicine supposed to cure all diseases
Pedant	A habitual drunkard
Nemesis	A supposition made basis for reasoning

3. A) i) You are organizing a work shop on "soft skills". Write a letter to the Director of the Local Branch, British Council requesting him to inaugurate the workshop and to speak on the occasion. (2×7=14 Marks)

ii) Write a letter of complaint to the Inspector of police about the theft of your car.

OR

B) i) Explain the procedure for writing project reports.

ii) Write a paragraph on the topic : "Prevention is better than cure".

4. A) i) Correct the mistakes, if any, and rewrite the following sentences : (2×7=14 Marks)

- 1) She is the youngest of the two sisters.
- 2) Neeraja was always rational in her views.
- 3) Either he or his friend have to solve the problem.
- 4) She is too healthy.
- 5) Our professor congratulated us for our victory.
- 6) They discussed about the newly introduced drug.
- 7) I don't mind to wait for them.

ii) Rewrite as directed :

- 1) A deer runs faster than a horse. (Change the degree of comparison)
- 2) Please help the old man. (Change the voice)
- 3) She said, "Is it your final decision ?" (Change into Indirect)
- 4) She was generous yet she was called a miser. (Change to simple sentence)
- 5) They seldom meet me. (Insert a question tag)
- 6) Miss. Jaya is an unpaid secretary. But she receives _____ honorarium of Rs. 500/- _____ month. (Insert articles wherever necessary)
- 7) We are not expected _____ college _____ sundays. (Insert articles wherever necessary)



Code No. : 4411

OR

B) i) Choose the right alternative :

- 1) Ish waved to me as I _____ her.
a) passed away b) pass off c) passed by d) pass through
- 2) The last candidate _____ in the evening.
a) turn off b) turn over c) turn out d) turn up
- 3) Please _____ I have sent for Mr. Prakash.
a) hold off b) hold on c) hold out d) hold over
- 4) Rajiv _____ bad habits after his father's death.
a) gave in b) given to c) gave on d) gave up
- 5) The meeting was _____ as most of the members were absent.
a) carry on b) called off c) called on d) called for
- 6) Sudhir _____ the examination.
a) got over b) got on c) got through d) got to
- 7) Parents _____ their children affectionately.
a) bring out b) bring up c) bring in d) bringing

ii) Fill in the following blanks with appropriate verb forms :

- 1) The boys _____ (play) cricket for 2 days.
- 2) The patient _____ (die) before the doctor arrived.
- 3) I _____ (attend) the party if you had invited me.
- 4) How long she _____ (work) here.
- 5) I met with an accident when I _____ (cross) the road.
- 6) She _____ (be) ill since last week.
- 7) He _____ (live) in West Indies for 10 years.

5) Answer any **one** of the following in about **200** words : (1×14=14 Marks)

A) What are Joad's views on Democracy and World civilization ?

OR

B) Explain "The gift of knowledge is a far higher gift than that of food and cloths" with reference to "The secret of work".

Code No. : 4408

FACULTY OF PHARMACY
B.Pharmacy II Year I Sem. (Main) Examination, November/December 2010
PHARMACEUTICAL ENGINEERING – I

Time : 3 Hours]

[Max. Marks: 70

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

1. a) i) Write about stainless steel as a material of plant construction along with its merits and demerits. 7
ii) Write a note on unit process. 4
iii) Define corrosion. Classify corrossions. 3

OR

- b) i) Explain briefly the theories of corrosion. 5
ii) Write about copper and asbestos as material of plant construction along with their merits and demerits. 5
iii) Write a note on scaling. 4

2. a) Write a short note on :
i) Bernoulli's theorem 5
ii) Reynolds number 5
iii) Heat interchangers. 4

OR

- b) i) Derive an equation for temperature gradients in forced convection. 10
ii) Write a note on Rotameter. 4

3. a) i) Explain the principle, construction and working of belt conveyor with neat diagram. 10
ii) Write a note on Jet pump. 4



Code No. : 4408

OR

b) Write a short note on :

i) Peristaltic pump

5

ii) Vacuum pump.

5

iii) Check valves.

4

4. a) i) Discuss the various methods used to measure humidity.

10

ii) Write about the applications of Air conditioning in Pharmacy.

4

OR

b) i) Discuss in detail about Refrigeration.

8

ii) Write the methods used for increasing and decreasing humidity.

6

5. a) i) Suggest a filtration equipment for separation of fine dust particles from air. Write the principle, construction and working of that equipment.

10

ii) Write the construction of disc centrifuge bowls.

4

OR

b) i) Write the principle, construction and working of leaf filters.

8

ii) Write a note on Darcy's equation.

6

Code No. : 4410

FACULTY OF PHARMACY
B. Pharm. II Year I Semester (Main) Examination, Nov./Dec. 2010
PHARMACEUTICAL MICROBIOLOGY

Time : 3 Hours]

[Max. Marks : 70

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

1. a) i) Define the following : 6
A) Miasma theory B) Koch's Postulates
C) Germ theory of diseases D) Abiogenesis
- ii) Describe the different methods of Nutrition and cultivation of Micro organisms. 8
- OR
- b) i) Describe the organisms of pharmaceutical importance. 6
ii) What is pure culture ? Explain the methods of obtaining pure culture and its preservation. 8
2. a) i) Write the different types of identification of bacteria and explain IMViC tests. 8
ii) Explain in detail about the cultivation of anaerobic bacteria. 6
- OR
- b) i) Describe the Genetic organization, mutation and mutagens of Microbial Copulation. 9
ii) Explain the repair mechanism for chemical autogenesis. 6
3. a) i) Write about the different groups of disinfectants. 8
ii) Explain Rideal-Walker coefficient test. 6
- OR
- b) i) Classify sterilization. Explain Moist Heat sterilization. 8
ii) What are sterilization indicators ? Explain the types of sterilization indicators. 6



Code No. : 4410

4. a) i) Classify immunity. Explain Humoral and cell mediated immunity. 10

ii) Define the following :

A) Vaccine B) Toxoid C) Antiserum D) Antitoxin. 4

OR

b) i) Define hypersensitivity. Detail the types of hypersensitivity reactions. 8

ii) Explain the various types of antibodies. 6

5. a) i) Write about the general modes of transmission of diseases. Write the causative organism, mode of transmission, symptoms of the following diseases. 8

A) Tuberculosis b) Infective Hepatitis.

ii) Write a detailed account on the pharmaceutical importance of E.coli and Saccharomyces species. 6

OR

b) i) Explain the various process of making potable water. Write the microbial tests for potable water. 7

ii) Write the methods of pasteurization of milk. Write the qualitative tests and grading of milk. 7



Code No. : 4407

FACULTY OF PHARMACY

**B. Pharm. II Year I Semester Main Examination, November/December 2010
PHARMACEUTICAL ORGANIC CHEMISTRY – I**

Time : 3 Hours]

[Max. Marks : 70

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

1. a) What are the different type of bonds you have studied ? Describe in detail about covalent bond and polarity of covalent bond. 10

b) Write a note on solubility. 4

OR

c) Write in detail about acidity and basicity of organic molecules. 8

d) What is isomerism ? Explain with suitable example. 6

2. a) Define Electrophilic addition reaction of alkenes and explain with suitable examples. 14

OR

b) What are cycloalkanes ? Write any 3 methods of preparation and stability of cycloalkanes with reference to Bayer's strain theory. 14

3. a) What is the type of chemical reaction takes place when alcoholic potassium hydroxide and aqueous potassium hydroxide are reacted with alkyl halide ? 4

b) Explain the mechanism of

i) SN_1 and SN_2 reaction

ii) E_1 and E_2 reaction. 5+5=10

OR

- c) Write in brief about the preparations and reactions of Ethers. 10
d) Write a note on oxidation of alcohols. 4
4. a) Write the various Nucleophilic addition reactions of carbonyl compounds with mechanism. 8
b) Write any two methods of preparation of carbonyl compounds. 6

OR

- c) Write the synthetic applications of Acetoacetic ester and malonic ester. 8
d) Write any two methods of preparation of acid derivatives. 6
5. a) Write the Nomenclature and acidity of Nitro alkanes. 7
b) Write the methods of preparation of Nitro alkanes. 7

OR

- c) Write the synthetic applications of Diazonium salts. 7
d) Write in brief about the reactions of amines. 7



Code No. : 7009

FACULTY OF TECHNOLOGY
B. Pharmacy II Year I Semester (Suppl.)
Examination, June 2010
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. 4
- ii) Define the terms :
- i) Ruggedness
 - ii) Precision
 - iii) Linearity
 - iv) Range
 - v) Error. (2×5=10 Marks)

OR

- b) i) What is meant by calibration and how do you calibrate the pipette ? 6
- ii) Analyses of a sample of iron ore gave the following percentage values for the iron content : 7.08, 7.21, 7.12, 7.09, 7.16, 7.14, 7.07, 7.14, 7.18, 7.11. Calculate the mean and standard deviation for the values. 8
2. a) i) Write notes on the following :
- A) Different concepts of Acidity and Basicity. 6
 - B) Neutralization indicators. 4
- ii) The solubility product of silver chloride is $2.8 \times 10^{-10} \text{ mol}^2/\text{Lit}^2$. Calculate its solubility in g / Litre. 4

OR



Code No. :

- b) i) Derive an equation to calculate the pH value of an aqueous solution of a salt of weak base and strong acid. 6
- ii) What are buffers ? How they are prepared ? Explain their mechanism of action. Define buffer capacity. 8
3. a) i) Write notes on Redox indicators. 5
- ii) Discuss in detail the different steps involved in a gravimetric analytical technique with help of an example. 9

OR

- b) i) Write notes on adsorption indicators. 6
- ii) Explain Volhard's method for determination of chlorides. 8
4. a) i) Discuss the principle, procedure and apparatus used in the assay of oxygen. 7
- ii) Write about different solvents and indicators used in Non-aqueous titrations. 7

OR

- b) i) Discuss the principle and procedure for the assay of calcium gluconate. 7
- ii) Discuss the principle of following : (4+3)
- i) Potassium iodate titrations
- ii) Argentometry titrations.
5. a) i) Calculate the volume of water to be added to 100 ml 72% sulphuric acid (Specific gravity 1.63) to convert it into 26% acid. 4
- ii) Calculate the molarity of sodium carbonate when 25 ml of it neutralises 30 ml of decimolar hydrochloric acid. 4
- iii) Calculate the no. of moles of sodium hydroxide in 200 ml of 0.1 M sodium hydroxide solution. 3
- iv) 25.0 ml of Barium chloride was treated with excess of sulphuric acid. If the weight of resultant Barium sulphate is 0.3298 g, Calculate the weight of Barium chloride in the given solution (Ba = 137, Cl = 35.5, S = 32, O = 16). 3

OR

- b) i) Calculate the weight of Barium chloride required to produce 0.3 g of silver chloride ($\text{Ba} = 137$, $\text{Ag} = 108$, $\text{Cl} = 35.5$). 3
- ii) A sample containing 0.2 g of chloride gave 0.125 g precipitate of silver chloride. Calculate the percent of chlorine in the sample. 5
- iii) How many grams of sodium are contained in 25.0 g of sodium sulphate ? ($\text{Na} = 23$, $\text{S} = 32$, $\text{O} = 16$). 2
- iv) What is the empirical formula of an organic compound whose percentage composition is ? 4
- i) 29.8% C, 6.3% H, 44% Cl, 19.9% O
- ii) 48.7% C, 13.6% H, 37.8% N.
-



Code No. : 7008

FACULTY OF TECHNOLOGY
B.Pharm. II Year I Sem. (Suppl.) Examination, June 2010
PHARMACEUTICAL ENGINEERING – I

Time: 3 Hours]

[Max. Marks: 70

Instructions : Answer all questions.

All questions carry equal marks.

1. a) i) Distinguish ferrous and non ferrous metals with suitable examples. 4
ii) Discuss the various types of alloys of stainless steel along with their composition, merits and demerits. 7
iii) Distinguish between steady state and unsteady state process. 3

OR

- b) i) Define conversion and discuss the factors influencing corrosion and explain the methods to combat corrosion. 8
ii) Define unit operations and unit processes with suitable examples. 6
2. a) i) What are variable head meters and variable area meters ? Describe about any one in the first category in detail. 7
ii) Derive an equation for heat flow through a cylinder. 5
iii) Define thermal conductivity. 2

OR

- b) i) What is convection ? How is it different from conduction and radiation ? 6
ii) Write brief note on heaters and heat interchangers. 3
iii) What are the functions of steam traps condensers vacuum pumps, and entrainment separators in the heat processes ? 5



3. a) i) Classify fluid pumps with examples under each class. Describe the construction, functioning and advantages of Turbine pump. 8
ii) What is air binding and how to prevent it. 6

OR

- b) i) Describe the principle, process and applications of pneumatic conveyor. 7
ii) Write about the different types of blowers used for transportation of gases. 7
4. a) i) Define the following :
a) Humid ratio b) Dew point
c) Humid heat d) Relative humidity 6
ii) What are humidity charts and explain various methods to determine humidity of air. 8

OR

- b) i) Discuss the various parts comprised in refrigeration cycle. 8
ii) What is Air conditioning ? Explain the two approaches to achieve humidity. 6
5. a) i) Give any two equations to express rate of filtration. 4
ii) Describe with a neat sketch in detail about Rotary continuous filter along with its applications. 10

OR

- b) i) What are the properties of ideal filter medium ? Discuss various types of filter media. 7
ii) Write the theory involved in centrifugation. Give applications of centrifugation. 7



Code No. : **7010**

FACULTY OF TECHNOLOGY

B. Pharmacy – II Year (I Semester) (Suppl.) Examination, June 2010

PHARMACEUTICAL MICROBIOLOGY

Time: 3 Hours]

[Max. Marks: 70

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

1. a) i) Explain the principle and application of fluorescence microscopy. **10**
ii) Define and classify microbes with suitable examples. **4**
OR
b) i) Describe the different techniques used for the isolation of micro-organisms in pure culture. **7**
ii) Explain about the different methods of bacterial cell count. **7**
2. a) i) Describe the different types of mutations and how they affect the genetic code. **7**
ii) Explain the mode of action of UV light and nitrous acid. **7**
OR
b) i) Discuss the morphology and reproduction in molds. **8**
ii) What are point and 'frame shift' mutations ? Explain how modifications are different from mutations. **6**
3. a) i) Explain the mode of action and practical application of the following : **8**
A) Alkylating agents B) Heavy metals
ii) Write about sterilization by filtration. **6**
OR
b) i) Classify sterilization methods. What are non-thermal methods of sterilization ? **10**
ii) Write a note on sterilization by radiation. **4**

4. a) i) Describe various types of immunity with suitable examples. 10

ii) Write a note on phagocytosis. 4

OR

b) i) Explain the antigen-antibody reactions. 8

ii) Write a note on immunoglobulins. 6

5. a) i) Write a note on presumptive test and confirmed test in identification of coliform bacteria. 6

ii) Write the mode of transmission, diagnosis and treatment of the following diseases: 8

i) Influenza

ii) Filariasis

OR

b) i) Describe the systematic study of streptomyces species. 6

ii) Explain the principle, procedure and applications of pasteurization. 8



Code No. : 7007

FACULTY OF TECHNOLOGY
B.Pharmacy II Year I Semester (Suppl.) Examination, June 2010
PHARMACEUTICAL ORGANIC CHEMISTRY – I

Time: 3 Hours]

[Max. Marks: 70

Note : Answer all questions.

All questions carry equal marks.

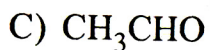
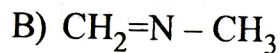
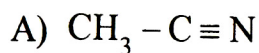
1. a) Explain the following with suitable examples :

- i) Inductive effect
- ii) Dipole moment
- iii) Tautomerism
- iv) Resonance.

(3.5×4=14)

OR

b) i) Predict the hybridization, geometry and bond angles in the following :



6

ii) What is activation energy ? Explain the energy diagram of reactants and products during a course of reaction with example.

8

2. a) i) Write any two methods of preparation of alkanes.

6

ii) Discuss the important free radical reactions of alkanes.

8

OR

b) i) Explain Markovnikov's addition and peroxide effect with suitable examples.

7

ii) What type of compounds exhibit geometrical isomerism ? Explain E-Z system of nomenclature.

7



Code No. : 7007

3. a) i) Explain the mechanism and stereochemistry of SN^1 reactions. 7
ii) Describe any four methods of preparation of alkyl halides. 7

OR

- b) i) Discuss the mechanism and stereochemistry of elimination reactions. 10
ii) Explain Ziesel's method. 4

4. a) i) Describe the preparation of benzoic acid from benzaldehyde. 3
ii) Describe the general methods of preparation of carboxylic acids. 7
iii) Write a note on reactivity and synthetic uses of ethylacetoacetate. 4

OR

- b) i) Describe the nucleophilic addition reactions of aldehydes and ketones. 10
ii) Explain the mechanism involved in the preparation of schiff bases. 4

5. a) i) Write about the reactions of primary, secondary and tertiary amines with HNO_2 . 6
ii) Write a note on basicity of amines. 3
iii) Describe the Hinsberg's method separation of amines. 5

OR

- b) i) Give the preparation and synthetic applications of aryl diazonium salts. 8
ii) Write any two general methods of preparation Nitroalkanes. 6