

14/12/2011. F.N - O/C

Code No.: 6509

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

PHARMACEUTICAL ANALYSIS-I

(Chemical Analysis)

Time : 3 Hours]

[Max. Marks : 70

Answer all questions.

All questions carry equal marks.

1. (a) (i) Discuss about significant figures and rules for computation of analytical results. 4+4

(ii) Explain about methods of expressing concentration. 6

Or

(b) (i) What is primary standard and secondary standard?
Write the idea requirements for a primary standard. 2+4

(ii) Define the terms accuracy and precision. Explain the difference between them with the help of suitable example. 8

2. (a) (i) Discuss the theories of neutralization indicators. 7

(ii) Explain about neutralization curve for a titration between strong acid and strong base. 7

Or

(b) (i) Define buffer solution, buffer action and buffer capacity. Explain the role of buffers in pharmaceutical analysis. (3+5)

(ii) Discuss Law of mass action and its significance. 6

3. (a) (i) Discuss the principles of oxidation-reduction titration and write a note on redox indicators. 4+4

(ii) Explain the terms co-precipitation and post precipitation. Write the difference between them. 6

Or

(b) (i) Explain Mohr's method for determination of chlorides and write the precautions to be taken in the above method. 8

(ii) Discuss the various filtering media and devices and in gravimetric analysis. 6

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4. (a) (i) Discuss the principle involved in complexometric titration. Explain about masking and demasking agents. 4+6
(ii) Write a note on solvents used in non-aqueous titration. 4

Or

- (b) (i) Explain the principle of non-aqueous titration. How do you estimate a weakly basic substance by non-aqueous method. 4+4
(ii) Write a note on pM indicators. 6
5. (a) (i) Define the terms empirical and molecular formula. Write the molecular formulae for potassium permanganate, potassium dichromate and write the redox reaction equations of the above two compounds with balancing the equations. 2+2+6
(ii) Calculate the molarity of sulphuric acid when 25ml of 1m sulphuric acid neutralized with 50ml of decinormal sodium hydroxide. 4

Or

- (b) (i) Calculate number of moles of sodium carbonate in 500ml of 0.2m sodium carbonate. 4
(ii) Define the terms with equations : $2\frac{1}{2} \times 4 = 10$
(A) Normality
(B) Molarity
(C) Molality
(D) Theoretical yield.

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Code No.: 6508

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

PHARMACEUTICAL ENGINEERING-I

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

1. (a) (i) List various types of corrosion, explain graphite corrosion, dezincification and biological corrosion. 10
(ii) Describe two methods to combat corrosion. 4
Or
(b) (i) Explain the properties, composition, merits and demerits of stainless steel and its alloys. 7
(ii) Describe various types of glasses. Give their composition along with merits and demerits. 7
2. (a) (i) Derive an equation for velocity of flow of fluids by venturi meter. 8
(ii) Derive an equation for Logarithmic mean temperature difference. 6
Or
(b) (i) Derive an equation for pressure difference for fluids in static. 9
(ii) State Fourier's law and define thermal conductivity and its applications. 5
3. (a) (i) Describe the principle, construction and working of a reciprocating pump. 7
(ii) Describe the construction and working of pneumatic conveyor with a labelled diagram. 7
Or
(b) (i) Describe the functioning of a diaphragm valve with labelled diagram. 4
(ii) Explain the construction and working of a centrifugal pump. 7
(iii) List the differences between compressors and blowers. 3
4. (a) (i) Describe the refrigeration cycle functioning on compression-absorption cycle with labelled diagram. 10
(ii) Describe secondary refrigerants and their utility. 4
Or

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- (b) (i) Describe the functioning of air conditioning with labelled diagram. 10
(ii) Describe any two methods of determination of humidity. 4
5. (a) (i) Explain the principle, construction, working of rotary continuous filter with labelled diagram. 8
(ii) Define filter media and filter aids along with examples. 6

Or

- (b) (i) Explain the construction and working of perforated basket centrifuge with labelled diagram. 8
(ii) Give any two equations to explain the rate of filtration. 6
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Code No.: 6511

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

COMMUNICATIVE ENGLISH

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

Part A – (Marks : 4 × 5 = 20)

1. (a) Role and importance of communication.
Or
(b) Interpersonal communication is an important area of Communication. Explain.
2. (a) Write about Presentation skills.
Or
(b) Write about Group Discussion.
3. (a) Write about body language for interviews.
Or
(b) What are the polite expressions of agreeing and disagreeing.
4. (a) How to use Thesaurus?
Or
(b) Role of Wit and Humour in Communication.

Part B – (Marks : 4 × 5 = 20)

1. Give the antonyms for the following :
(a) Cool (b) Healthy (c) Rough
(d) Construction (e) unrest
2. Give the synonyms for the following :
(a) overflow (b) probability (c) futile
(d) bravery (e) retreat
3. Explain the following one word *substitutes* in one or two sentences.
(a) Oases (b) Burglar (c) Attic
(d) Counteract (e) Subconscious

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4. Rewrite the following sentences as directed:

- (a) Wisdom is _____ gift of god (A, An and The)
(Use appropriate article)
- (b) Ravi said, "The horse died in the night".
(Change into indirect speech)
- (c) By the time I reached the station, the train _____ (leave)
(Use the correct form of verb)
- (d) A wall is being constructed by my uncle.
(Change into active voice)
- (e) My uncle lived in America _____ ten years.
(Use appropriate preposition)

Part C - (Marks : $5 \times 6 = 30$)

1. (a) Discuss C.E.M. Joad's Our Own Civilization in terms of application today.
Or
(b) Is there any cut off point for word civilization in view of C.E.M. Joad?
2. (a) What made Carnegie's life always full and interesting?
Or
(b) How did Carnegie's 'Gospel of Wealth' influence the modern world?
3. (a) Write Swami Vivekananda's philosophy in 'The Secret of work'.
Or
(b) Will misery come to an end in Swami Vivekananda's 'The Secret of work'.
4. (a) Why does School failure occur? In the opinion of Benjamin Spock?
Or
(b) Why do some boys turn their irritation towards their mother? In 'The Generation Gap'.
5. (a) Write a Business letter for the placement of an order for the articles, items etc., required.
Or
(b) Write a letter to your friend describing Osmania University and its academic atmosphere.
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Code No.: 6510

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

PHARMACEUTICAL MICROBIOLOGY

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

1. (a) (i) Describe the different techniques used for isolation of pure cultures. 10
(ii) Define and classify microbes with suitable examples. 4
- Or
- (b) (i) Explain the principle and application of electron Microscopy. 8
(ii) Write about morphological features of fungi. 6
2. (a) (i) Discuss the morphology and reproduction in bacteria. 10
(ii) Write about 'fermentation of carbohydrates'. 4
- Or
- (b) (i) Define staining and discuss about differential staining technique. 6
(ii) Write about 'starch hydrolysis test'. 4
(iii) Discuss about pasteurization methods. 4
3. (a) (i) Define sterilization, enlist different methods of sterilization and describe the construction and operation of a 'horizontal autoclave'. 10
(ii) Write about importance of sterilization indicators. 4
- Or
- (b) (i) Define disinfection and discuss the following factors that influence disinfection process. 10
(A) Concentration of disinfectant
(B) Time of exposure
(C) Temperature.
- (ii) Write about evaluation of disinfectants by Rideal Walker coefficient test. 4

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FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

PHARMACEUTICAL MICROBIOLOGY

Time : 3 Hours]

[Max. Marks : 70

Answer **all** questions.
All questions carry equal marks.

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(ii) Define and classify microbes with suitable examples. 4
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[P.T.O.]

4. (a) (i) Discuss about different antigen-antibody reactions and their applications. 10
(ii) Write a note on 'phagocytosis'. 4
Or
- (b) (i) Define immunity and describe various types of immunity with suitable examples. 10
(ii) Write a note on 'Hypersensitivity'. 4
5. (a) (i) Write about source, mode of transmission, diagnosis and treatment of the following:
(A) Diphtheria (B) Filariasis 8
(ii) Write about detection of coliform bacteria in water sample. 6
Or
- (b) (i) Write about source, mode of transmission, diagnosis and treatment of the following:
(A) Influenza (B) Poliomyelitis 8
(ii) Describe the systematic study of streptomyces species. 6
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Code No.: 6507

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Main) Examination, December 2011

PHARMACEUTICAL ORGANIC CHEMISTRY-I

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

1. (a) (i) Write about the hybrid orbitals. 4
(ii) Give a note on activation energy. 5
(iii) Discuss the effect of inter molecular forces. 5
- Or
- (b) (i) Explain the energy diagrams of reactants and products. 9
(ii) Explain :
(i) Inductive effect (ii) Resonances (iii) Isomerism with examples.
2. (a) (i) Write the mechanism of free radical reactions. 7
(ii) Write the synthesis of the following compounds.
(A) n-Hexane (B) Propene (C) Acetylene 6
- Or
- (b) Write the reaction and mechanisms for following reactions : 4×3.5=14
(i) Halogenation of alkanes (ii) Catalytic cracking
(iii) Anti-Markovnikov's addition (iv) Allylic substitution
3. (a) (i) Explain in detail of SN¹ reaction. 7
(ii) Write a note on Williamson's synthesis and Ziesel's method. 7
- Or
- (b) (i) Write any three methods to prepare alcohols. 5
(ii) Give the reasons for following statements. 3×3=9
(A) Allyl chloride is more reactive than vinyl chloride.
(B) Alcohols have higher boiling points than alkanes.
(C) Lower alcohols are soluble in water.

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4. (a) (i) How will you distinguish between acetaldehyde and acetone (with chemical reactions) 6
(ii) Write a note on effect of electron with-drawing groups on acidity of carboxylic acids. 8

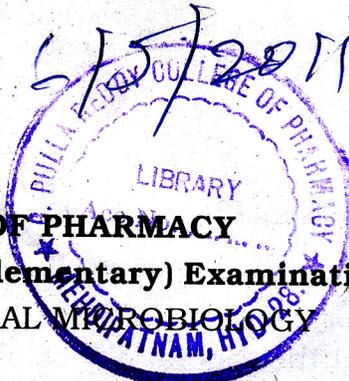
Or

- (b) Write the reaction and mechanism for following: 4×3.5=14
(i) Aldol condensation
(ii) Cannizzaro reaction
(iii) Reformatsky reaction
(iv) Wittig reaction

5. (a) (i) How do you differentiate between primary, secondary and tertiary amines with chemical reactions. 8
(ii) Write a note on basicity of amines. 6

Or

- (b) (i) Write any four methods for synthesis of nitro alkanes. 6
(ii) Give the synthesis and applications of aryl diazonium salts. 8
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Code No.: 4410

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Supplementary) Examination, April/May 2011

PHARMACEUTICAL MICROBIOLOGY

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

1. (a) (i) Write a note on bacterial taxonomy. 5
(ii) Classify viruses. Explain the methods of viral replication. 9
Or
(b) (i) Classify Bacteria based on their nutritional requirements. 7
(ii) Explain in detail about the cultivation of anaerobic bacteria. 7
2. (a) (i) Describe the structure of bacteria with necessary diagrams. 6
(ii) Explain the identification of bacteria by staining. 8
Or
(b) (i) Define mutation and variation with examples. Write a detailed note on different types of mutation. 7
(ii) Explain the various methods of gene transfer in bacteria. 7
3. (a) (i) Write about the factors influencing disinfectants. 7
(ii) Write the mode of action for various groups of disinfectants. 7
Or
(b) (i) Classify sterilization. Explain mechanical sterilization and its types. 6
(ii) What are sterilization indicators? Explain the types of sterilization indicators. 8
4. (a) (i) What is immune response . Explain primary and secondary immune response. 6
(ii) Write the different antigen – antibody reactions. Explain the applications of antigen – antibody reactions. 8

Or

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- (b) (i) Define hypersensitivity. Detail the types of hypersensitivity reactions. 8
- (ii) Compare and contrast between endotoxins and exotoxins. 6
5. (a) (i) Write about the general modes of transmission of diseases. Write the causative organism, mode of transmission, and symptoms of the following diseases. 7
- (A) Tuberculosis (B) Poliomyelitis
- (ii) Write a detailed account on the pharmaceutical importance of Penicillium and Streptomyces species. 7
- Or
- (b) (i) Explain the steps involved in the waste water (sewage) treatment. 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
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Code No.: 4411

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Supplementary) Examination, April/May 2011

COMMUNICATIVE ENGLISH

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

Part A - (Marks : $4 \times 5 = 20$)

1. (a) What are the patterns in verbal and non-verbal communication?
Or
(b) Explain the problems you face in communicating your ideas in English?
2. (a) Language and personality go together. Discuss?
Or
(b) Explain Master Tips for attending interviews and use of the Body language for Interviews?
3. (a) Explain the importance of listening skills?
Or
(b) Ways to improve vocabulary?
4. (a) What are the uses of a dictionary?
Or
(b) What is the group communication? And illustrate with the programmes of Seminars, Conferences etc.

Part B - (Marks : $4 \times 5 = 20$)

1. Rewrite the correct answers of the following:
 - (1) Osmania is an university.
 - (2) He is our cheap guest.
 - (3) Man is superior than animals.
 - (4) Birds cannot fly high.
 - (5) He is superior than me.

[P.T.O.]

2. Give the antonyms for the following:

- (1) Impossible
- (2) Advance
- (3) Unfair
- (4) Civilized
- (5) Appear.

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

- (1) anaesthetics
- (2) grocer
- (3) Order
- (4) Endow
- (5) Charitable.

4. Rewrite the following sentences as directed.

- (1) _____ glass is broken (A, An and The)
(Use appropriate article)
- (2) He said, "I am ill".
(Change into indirect speech)
- (3) By the time I reached the station, the train _____ (leave)
(Use the correct form of verb)
- (4) Sita loves Savitri
(Change into passive voice)
- (5) Rama Rao is involved of difficulties
(Use appropriate preposition)

**Part C – (Marks : 5 × 6 = 30)**

1. (a) How important are order and safety? Explain with examples in Our Own Civilization?

Or

- (b) What are the defects of Our Own Civilization?

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

Or

- (b) How do you analyse Andrew Carnegie's personality?

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

Or

- (b) How can one not be touched by sin in 'The Secrete Of Work'?

4. (a) What are the aspects of the rebelliousness of adolescence in Benjamin Spock's 'The Generation Gap'.?

Or

- (b) Why does the 'School failure' occur in 'The Generation Gap'?

5. (a) Write a letter to your friend describing your college natural beauty and academic atmosphere.

Or

- (b) How do you conduct a meeting? Write down a model agenda and minutes.
-



Code No.: 4408

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Supplementary) Examination, April/May 2011

PHARMACEUTICAL ENGINEERING-I

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

1. (a) (i) Discuss in detail the factors affecting the material selection for pharmaceutical industries? (10)
(ii) Write a note on unit operations? (4)

Or

- (b) (i) Discuss in detail about factors influencing corrosion? (10)
(ii) Write a note on dimensionless equations? (4)

2. (a) (i) Enumerate the differences between orifice meter and venturimeter? (4)
(ii) Explain the principle, construction and working of multipass heat exchanger? (10)

Or

- (b) (i) Define Fouriers law? Derive an equation for compound resistance in series? (6)
(ii) Derive an equation for inclined manometer? (4)
(iii) Write a note on fin tubes? (4)

3. (a) (i) Discuss the principle, construction and working of any one reciprocating pump with neat diagram? (10)
(ii) Write the principle and working of screw conveyor? (4)

Or

- (b) (i) Suggest a conveyor which can be used for hazardous chemicals? Write the principle, construction, working, advantages and disadvantages of that conveyor? (10)
(ii) Write a note on blowers? (4)

4. (a) (i) Discuss the principle, construction and working of Air conditioner? (10)
(ii) Write the applications of Refrigeration in Pharmacy? (4)

Or

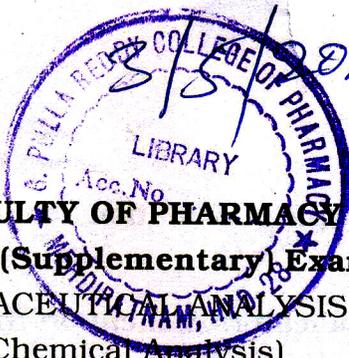
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- (b) (i) Write a note on adiabatic saturation temperature and wet bulb temperature? (7)
 - (ii) Write a short note on humidity chart? (7)
5. (a) (i) Suggest a filtration equipment for separation of 5-10 % solids? Write the principle, construction, working and advantages of that equipment? (10)
- (ii) Write a note on perforated basket centrifuge? (4)

Or

(b) Write short notes on :

- (i) Kozeny equation (4)
- (ii) Mechanisms of filtration (4)
- (iii) Vertical solid bowl centrifuge (6)



Code No.: 4409

FACULTY OF PHARMACY

B.Pharmacy II Year I Semester (Supplementary) Examination, April/May 2011

PHARMACEUTICAL ANALYSIS - I

(Chemical Analysis)

Time : 3 Hours]

[Max. Marks : 70

*Answer all questions.
All questions carry equal marks.*

- 1. (a) (i) Briefly explain systemic errors? How to reduce it? (6)
- (ii) How do you calibrate the apparatus useful in volumetric analysis. (8)

Or

- (b) (i) Define & Explain :
 - (a) Linerity (b) Significant figures (4)
 - (ii) Explain the concept of error, precision & accuracy in pharmaceutical analysis with examples. (10)

- 2. (a) (i) Calculate the pH of A 0.01m solution of ethanolic acid in which the degree of dissociation is 12.5%. (4)

- (ii) Write a note on the following :
 - (A) Law of mass action (B) Salt Hydrolysis (6)

- (iii) Solubility of AgCl is 0.0015 gldm³. Calculate the solubility product. (4)

Or

- (b) (i) Define a Buffer. Give two examples for buffers. How does a buffer resist change in pH. (6)

- (ii) What is Solubility product? What is its significance & uses? (4)

- (iii) Write briefly how 0.1N H₂SO₄ is prepared & standardised. (4)

- 3. (a) (i) Explain the principles of gravimetric analysis with examples. Add a note on application of gravimetric analysis. (5)

- (ii) What are the various methods employed to minimize co-precipitation. (5)

- (iii) How do you prepare & standardise 0.1N sodium thio sulphate? (4)

Or

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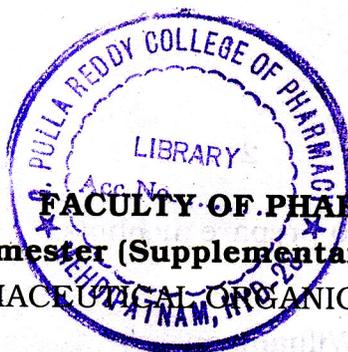
- (b) (i) Describe the principle of oxidation-reduction titration with suitable examples. (7)
- (ii) Explain the self indicators & mention their use in pharmaceutical analysis. (7)
4. (a) (i) Describe the principle & procedure involved in the assay of calcium gluconate by complexometry. (8)
- (ii) Explain the masking & demasking agents with suitable examples. (6)

Or

- (b) (i) Explain the principle, procedure & apparatus used in the assay of oxygen. (7)
- (ii) Discuss the method used for various gases in gasometry. (7)
5. (a) An aqueous solution of exsiccated ferrous sulfate was prepared by adding 41.5g of FeSO_4 to enough water to make 1000 ml of solution at 10°C . The density of the solution is 1.0375 and the molecular weight of FeSO_4 is 151.9. Calculate (a) Molarity (b) Molality (c) Mole fraction of FeSO_4 . Mole fraction of water & mole percentage of two component (d) Percentage by weight of FeSO_4 . (14)

Or

- (b) (i) Write briefly about theoretical yield and percentage yield with suitable examples. (4)
- (ii) Define the term with suitable examples:
- (A) Empirical formula (B) Molecular formula. (6)
- (iii) Calculate the no. of moles & no. of grams of KMnO_4 (molecular weight 158) in 3 litres of 0.25m solution. (4)
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27/4/2011 A.N.O.V

Code No.: 4407

B.Pharmacy II Year I Semester (Supplementary) Examination, April/May 2011
PHARMACEUTICAL ORGANIC CHEMISTRY - I

Time : 3 Hours]

[Max. Marks : 70

Answer **all** questions.

All questions carry equal marks.

1. (a) (i) Explain the determination of configuration Isomers by physical and chemical methods with suitable examples. (9)
- (ii) Give a brief note on optical isomerism. (5)
- Or
- (b) Explain the following terms with suitable examples. (4×3.5=14)
- (i) Enantiomers (ii) Dipole movement
- (iii) Metamerism (iv) Resonance
2. (a) (i) Write any three methods of preparation of cyclo alkanes. (5)
- (ii) Explain the terms with suitable examples. (3×3=9)
- (A) Pyrolysis (B) Markonikov's addition
- (C) Peroxide effect.
- Or
- (b) (i) How will you synthesize the following: (3×2=6)
- (A) Ethane from acetic acid
- (B) n-butane from ethyl bromide
- (C) Benzene from n-Hexane
- (ii) Explain the mechanism of nitration of alkanes. (4)
- (iii) Write a note on Baeyer strain theory. (4)
3. (a) (i) Discuss the mechanism of E_1 reaction of alkyl halides. (4)
- (ii) Write a note on Saytzeff rule. (4)
- (iii) Give the reasons for following statements : (3×2=6)
- (A) Allyl chloride is less reactive than ethyl chloride.
- (B) Lower alcohols are soluble in water.
- (C) Methyl alcohol boils at lower temperature than water.

Or

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- (b) (i) Write any four methods to prepare alcohols. (6)
(ii) Explain Zeisels method. (4)
(iii) Give the mechanism for Williamson's synthesis to synthesize ethers. (4)
4. (a) (i) Explain the acidity of carboxylic acid with examples. (6)
(ii) How will you synthesize the following compounds from the indicated materials. (4×2=8)
(A) Propanone from 2-propanol
(B) Acetaldehyde from formic acid
(C) Propionic acid from ethene
(D) Ethyl acetate from acetic anhydride.

Or

- (b) (i) Write the reactivity and synthetic uses of ethyl acetoacetate. (5)
(ii) Give the reasons for following statements. (3×3=9)
(A) Esters are less reactive than acid halides.
(B) Acetic acid is stronger than propionic acid.
(C) Trichloroacetic acid is stronger than formic acid.
5. (a) (i) Write any three methods to synthesize nitroalkanes. (6)
(ii) How do you differentiate between primary, secondary and tertiary amines with chemical reactions. (8)

Or

- (b) (i) Write the preparation and synthetic applications of benzene diazonium chloride. (5)
(ii) Give the reasons for following statements. (3×3=9)
(A) Methyl amine is a stronger base than ammonia.
(B) Dimethylamine has a higher boiling point than trimethylamine.
(C) Secondary amines are more basic than primary amines.