EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

QUESTION BANK

Pharm D

Ist Year

EAST POINT COLLEGE OF PHARMACY
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Human Anatomy and Physiology

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LONG ESSAYS 10 MARKS

1. Describe the constituents of blood and their functions.
2. Mention coagulation factors and write the mechanism of blood coagulation
3. Describe the process of Erythropoiesis and factors required or influencing erythropoiesis.
4. Describe the internal anatomy of heart with a neat labeled diagram.
5. Define blood pressure and discuss various factors regulating the blood pressure in human being.
6. What is cardiac cycle? Describe various events of cardiac cycle.
7. What is external respiration? Explain the regulation of respiration.
8. Discuss gross anatomy of respiratory system with suitable diagram.
9. Give an account of transport of oxygen and carbon dioxide in the blood.
10. Explain the mechanism of respiration.
11. Draw a neat diagram of GI tract. Explain how fats are digested and absorbed.
12. Describe the gross anatomy of stomach. Explain its physiological functions.
13. Write the anatomy of pancreas. Discuss the endocrine and exocrine secretions of pancreas.
14. Describe the anatomy, histology and functions of small intestine and stomach.
15. Explain how digestion of carbohydrates, proteins and fats takes place.
16. Describe the anatomy of liver and mention its functions.
17. Describe the structure and functional areas of cerebrum.
18. Describe the origination and functions of autonomic nervous system.
19. Define Sympathetic and Parasympathetic system and discuss their anatomical and physiological differences.
20. Explain the functions of different cranial nerves.
21. Name the divisions of CNS and explain the functions of hypothalamus and cerebrum.
22. Draw a neat, labeled diagram of nephron and describe how urine is formed?
23. Describe the structure of kidney and explain its functions
24. Describe the different phases of female reproductive cycle
25. Explain the steps involved in the process of spermatogenesis and oogenesis.
26. Write a neat, labeled diagram of eye and explain the physiology of vision

27. Write a neat, labeled diagram of ear and explain the physiology of hearing
28. Mention the hormones of pituitary gland and write the functions of each.
29. Write the synthesis, storage, release and functions of thyroid hormones.
30. Explain the physiological role of adrenal cortical hormones.
31. What are the hormones secreted by the pituitary gland? Discuss the regulation of their secretion and physiological function.
32. Define hormone. Discuss various feedback mechanisms involved in the secretion of hormones

SHORT ESSAYS 05 MARKS

1. Explain the structure and functions of cell membrane.
2. Describe the functions of Golgi complex and mitochondria.
3. Mention different cell organelles with their functions.
4. Distinguish between rough and smooth endoplasmic reticulum (ER). What are the functions of ER?
5. Discuss the structure and functions ribosomes and lysosomes.
6. Draw a neat labeled diagram of cell and write the functions of nucleus.
7. Classify tissues with examples.
8. Explain the differences among skeletal, smooth and cardiac muscles.
9. Define cartilage, mention its type. Give the description, function and examples of each of them.
10. Differentiate between loose and dense connective tissues.
11. Describe the difference types of epithelial tissues with examples.
12. Explain the structure and functions of neuron

a. Classify joints with examples

13. Explain the Haversian canal system of bone.
14. Write the composition and functions of bone.
15. Describe angular and special movements of joints
16. What is synovial joint? Explain its types with examples.
17. Classify axial skeletal system with examples.

18. Classify appendicular skeletal system with examples.
19. Classify bones on the basis of shape along with examples.
20. Describe the ABO system of blood grouping.
21. Describe the structure and functions of platelets.
22. Write any eight functions of blood.
23. What is anemia? Explain its types
24. Classify leucocytes. Mention its functions.
25. Explain the factors influencing the blood coagulation.
26. What is basis for the Rh system? Write a note on hemolytic disease of the newborn (erythroblastosis foetalis).
27. Describe the constituents of plasma and their functions.
28. Describe the anatomy and functions of spleen.
29. Write a note on lymph and its functions.
30. Identify the components and functions of lymphatic system.
31. Describe the structure of a lymph node. Write its functions.
32. Write a note on disorders of lymph and lymphatic system.
33. Explain the normal ECG with labeled diagram.
34. Explain systemic and pulmonary circulation.
35. Explain coronary and portal blood circulation.
36. Write short note on heart valves and heart sounds.
37. Explain the gross anatomy of heart
38. Discuss the factors regulating blood pressure.
39. Write a short note on artificial respiration.
40. Explain mechanism of breathing.
41. Internal and external respiration.
42. Describe the location and anatomy of lungs
43. Explain the lung volumes and capacities.
44. List out the various enzymes present in the secretions of GIT.
45. Write composition and functions of gastric juice.
46. Name salivary glands and discuss the composition and functions of saliva.
47. Discuss the digestion of carbohydrates.

48. Discuss the food absorption in small intestine.
49. Describe the functions of liver.
50. Describe the digestion in small intestine.
51. Explain how digestion takes place in stomach.
52. Write the exocrine functions of pancreas.
53. Mention the anatomical location and functions of the following structures:
54. Basal ganglia. b) Thalamus.
55. What are the functions of medulla oblongata and pons.
56. Describe the meninges and ventricles in the brain?
57. What are the functions of cerebellum?
58. Define reflex action with example.
59. Describe sympathetic outflow.
60. Write effects of parasympathetic stimulation.
61. Define limbic system. Explain several of its functions.
62. Discuss the internal structure of spinal cord
63. Write the composition and functions of cerebro spinal fluid (CSF).
64. Write a note on Renin-Angiotensin-aldosterone system.
65. Write the structure of nephron with neat labeled diagram
66. Role of kidney in maintaining acid-base balance.
67. What are functions of kidney?
68. What is micturition? Describe the micturition reflex
69. Write the functions of insulin and glucagon
70. Write the functions of glucocorticoids.
71. Write a short note on parathyroid glands.
72. Describe the anatomical location, histology and physiological role of the pancreas..
73. Mention the hormones of anterior pituitary and explain their functions.
74. Discuss the functions of thyroxin.
75. Write the functions of hormones of neurohypophysis.
76. Explain spermatogenesis
77. Describe the mechanism of action of hormonal contraceptives
78. Describe the functions of ovary

79. Write a note on IUCD.
80. Write a short note on oral contraceptives
81. Write a note on menstrual cycle.
82. Classify temporary methods of contraception for females.
83. Describe the structure of ovary and testes.
84. Write a note on the role of sex hormones in the regulation of menstrual cycle.
85. Write a note on female contraceptive devices.
86. Describe the internal structure and functions of testis.
87. Write a note on sex determination (genetic basis)
88. Draw a neat-labeled diagram of skin.
89. Describe the structure of eyeball
90. Draw a neat-labeled diagram of ear. What is the non-hearing function of ear?
91. Describe the structure of olfactory receptors.
92. Write about the physiology of skeletal muscle contraction.
93. Write a note on neuromuscular junction.
94. Describe the structure of skeletal muscle.

SHORT ANSWERS 02 MARKS

1. Define Anatomy and Physiology.
2. Define anatomical position, sagittal plane.
3. Mention the descriptive terms used in Anatomy.
4. Write the functions of mitochondria.
5. Explain the functions of plasma membrane.
6. Why are mitochondria referred to as “power house” of the cell?
7. Why the nucleus is called the control center of the cell? Write its functions.
8. Describe a mitochondria
9. Lysosomes and chromosomes
10. Mention the components of a cell.
11. Classify muscular tissue with examples.

12. Classify connective tissue with examples.
13. Draw a neat labeled diagram of neuron.
14. Classify simple epithelium with examples.
15. Classify compound epithelium with examples.
16. Write the general characteristics of epithelial tissue.
17. Write the location and functions of Transitional epithelium.
18. Name synovial joints
19. Classify bone marrow and functions.
20. Define an articulation.
21. Write the histology of bone
22. Name the bones of cranium
23. Name the bone cells
24. Name the bones of the face.
25. Mention the bones of the upper limb.
26. Mention the bones of the lower limb.
27. Name the bones of the vertebral column.
28. Write the functions of bone.
29. What is anemia.?How it is caused.
30. Write stages of formation of RBC
31. Write the normal values and life span of the following: (a) Hb; (b) WBC; (c) RBC; and (d) platelets
32. Mention different types of anemia.
33. Thrombocytopenia purpura.
34. What is polycythemia? Give its reasons.
35. Write the functions of WBC
36. Write functions of plasma proteins.
37. What is Rh factor?
38. What is the difference between plasma and serum?
39. Compare erythrocytes, leukocytes, and thrombocytes with respect to size, number per mm3, and life span.
40. What is hemophilia? Describe its signs and symptoms.
41. Write any four factors hastening the clotting.

42. What are lymph nodes?
43. Write about the functions of spleen.
44. Write the composition of lymph.
45. write the functions of lymph nodes
46. What is lymphoedema and splenomegaly?
47. Explain heart sounds
48. Define the term -angina pectoris and myocardial infarction.
49. Define cardiac arrhythmia and cardiac arrhythmia.
50. Define Atherosclerosis and Congestive cardiac failure.
51. What is cardiac output? How it is calculated.
52. Draw ECG and label deflection waves.
53. Define hypertension and hypotension.
54. Mention the factors affecting blood pressure.
55. Mention the events of cardiac cycle.
56. Mention the layers and valves of the heart.
57. Define vital capacity. Write its normal value.
58. Define hypoxia and asphyxia
59. Define oxygen therapy and resuscitation.
60. Define dysbarism and tidal volume.
61. Name the muscles of respiration.
62. Write the role of chemo receptors in respiration.
63. Name digestive enzymes.
64. Give functions of bile.
65. Write exocrine functions of pancreas
66. What do mean by peptic ulcer
67. Draw a neat labeled diagram of stomach
68. Name the salivary glands and functions of their secretions.
69. Explain peristaltic movement of small intestine.
70. Mention the functions of pancreatic enzymes.
71. Write the composition of bile.
72. Mention the functions of stomach.

73. What is liver cirrhosis?
74. Enumerate the functions of hypothalamus.
75. Draw and label schematic diagram of spinal reflex arc.
76. Write main functions of cerebrospinal fluid.
77. Give a brief account of CTZ (chemoceptor trigerzone).
78. Draw and label diagram of a neuron.
79. What is a ganglion? Give its role in nervous system.
80. What is synaptic cleft? State its function.
81. Classify nervous system.
82. Name the ventricles present in the brain.
83. What is extra pyramidal tract?
84. Write the functions of olfactory and optic nerve.
85. Write significance of insulin clearance test
86. What is renal clearance test? Mention its types.
87. Define micturition
88. Write physiological functions of vasopressin.
89. Write symptoms of Addison's disease.
90. Write outcome of hyperthyroidism.
91. What is cretinism?
92. State functions of hormones of adrenal medulla.
93. Define thyrotoxicosis and cretinism.
94. What is a pheochromocytoma and myxoedema?
95. What is goiter?
96. Functions of ADH and oxytocin
97. Define acromegaly and gigantism.
98. Define diabetes mellitus and diabetes insipidus.
99. What is positive feedback mechanism?
100. Explain corpus luteum
101. Name Gonadotrophins and give their functions.
102. Write surgical methods of family planning.
103. Name few contraceptive methods.

104. Define menstrual cycle.
105. What is vasectomy and tubectomy?
106. Name the ducts of male reproductive system in order (proximal to distal).
107. What are sex hormones?
108. Define the reproduction and list the organs of male reproductive system.
109. List the organs of male reproductive system.
110. What is parturition?
111. Define the terms- monarch and menopause
112. What are the functions of skin?
113. Functions of photoreceptors.
114. Write the non-auditory functions of ear.
115. What are olfactory receptors?
116. What are gustatory receptors?
117. What is myopia and hypermetropia?
118. What is glaucoma?
119. Mention the ear ossicles and their location.
120. Mention the papillae and taste buds.
121. Write a short note on Myasthenia gravis.
122. How do isotonic and isometric contractions differ?
123. Mention the properties of skeletal muscle
124. Draw neat labeled diagram of sarcomere
125. Mention the proteins of skeletal muscle.
126. Define the term Rigor- Mortis.
127. Enlist the drugs used by athletes.
128. Write the effect of exercises on CVS.
129. Write the effects of exercise on respiration
130. Effects of athletic training on muscles.
131. Effects of exercise on body heat.
132. Effects of exercise on body fluid and salts.

EAST POINT COLLEGE OF PHARMACY
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Pharmaceutics

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LONG ESSAYS 10 MARKS

1. Define dosage forms. Classify and explain various dosage forms.
2. Define and classify dosage forms. Write the definitions of solid dosage forms used internally and externally.
3. Define and classify dosage forms. Write the definitions of liquid dosage forms used internally and externally.
4. Define and classify dosage forms. Write the definitions of semisolid dosage forms used internally and externally.
5. Define prescription. With the help of an ideal example describe the importance of all the parts of a prescription.
6. Define prescription. Explain the handling of prescription. Write about the sources of errors in prescription.
7. Explain the factors affecting dose selection. Give any two formulae to calculate children dose.
8. Explain the factors affecting dose selection. Give any two formulae to calculate infant dose.
9. Define posology. Enumerate different factors affecting selection of dose of a drug.
10. Define and classify suspension. Write the advantages and disadvantages of suspension.
11. Define suspension. Explain the preparation of suspension containing diffusible and indiffusible solids.
12. Define and classify suspension. Differentiate flocculated and deflocculated suspension.
13. Define emulsion. Write the advantages and disadvantages of emulsion. Classify emulsifying agents.
14. Define emulsion. Explain the various methods of preparation of emulsion.
15. Explain instability of emulsion? Discuss them with their cause and precautions to avoid them.
16. Define and classify emulsion. Write the various identification tests for emulsion type.
17. Explain the formulation aspects of suspension.
18. Define extraction.With a neat labelled diagram explain the simple percolation process for extraction of drugs.
19. Define menstruum and marc. Explain various menstruum used in the extraction processes.

20. Define infusion and decoction. Explain the equipments used for infusion and decoction processes.
21. Define maceration. Explain simple maceration, maceration with adjustment and multiple maceration.
22. Define Maceration. Write the process of maceration for organized and unorganized drugs.
23. What is reserved percolation? Explain the modified percolation process.
24. With a neat labeled diagram explain soxhlet extraction process.
25. What is continuous hot percolation process? Write its advantages and disadvantages.
26. Define Galenicals. Explain multiple maceration process.
27. Define spirit. Explain the method of preparation of spirits.
28. Define tincture. Explain the method of preparation of tinctures.
29. Define galenicals. Classify their extraction process with examples.
30. Define suppositories. What are the advantages and disadvantages of suppositories? Explain any two types of suppository bases.
31. Define suppositories. Explain various types of suppository bases.
32. Define suppositories. Describe the various methods used for the preparation of suppositories.
33. Explain the various evaluation tests for suppositories.
34. Define displacement value. How will you determine displacement value? Calculate the amount of theobromo oil required to prepare six boric acid suppositories. Dose of boric acid is 120mg per suppository and displacement value is 1.5.
35. Enumerate the ideal characteristics of a suppository base. The displacement value of zinc oxide is 5.0. Calculate the amount of cocoa butter required to make five such suppositories containing 100 mg of zinc oxide per suppository.

SHORT ESSAYS 05 MARKS

1. Define dosage forms. Write the classification table for the various types of dosage forms.
2. Define and classify solid dosage forms.
3. Define and classify liquid dosage forms.
4. Define and classify semisolid dosage forms.
5. Define prescription. Explain the parts of prescription.
6. Define prescription. Explain the handling of prescription.

7. Define posology. Enumerate four factors affecting selection of dose of a drug.
8. Explain any three factors affecting dose selection. Give any two formulae to calculate child dose.
9. Explain any three factors affecting dose selection. Give any two formulae to calculate infant dose.
10. Define posology. Explain any two formula for calculating child and infant dose.
11. Explain the importance of dosage form.
12. Define and classify powders with their advantages and disadvantages.
13. Explain the simple and compound powders with examples.
14. Explain the preparation of insufflation with an example.
15. Explain the preparation of dusting powder.
16. Explain the preparation of eutectic powder.
17. Explain the preparation of explosive powder.
18. Explain the dispensing of explosive powders with examples.
19. With suitable example explain the formulation of tooth powder.
20. Explain the preparation of effervescent powder.
21. Explain the preparation of effervescent granules.
22. What are the differences between dusting powder and tooth powder?
23. What are the differences between effervescent powders and effervescent granules?
24. Define and classify monophasic liquid dosage forms.
25. Explain the theoretical aspects of formulation including adjuvant like stabilizers, colorants, flavours with examples in monophasic liquid dosage forms.
26. Define stabilizers. Explain with examples.
27. Write the difference between elixirs and syrups.
28. What are the differences between gargle and mouthwash?
29. What are the differences between mouthwash and throat paint?
30. What are the differences between liniment and lotion?
31. Define and classify suspensions.
32. Explain the preparation containing diffusible solids?
33. Explain the preparation of suspension containing indiffusible solids.
34. Differentiate flocculated and deflocculated suspension?
35. Explain the evaluation methods of suspensions.

36. Define and classify emulsion.
37. Explain the various methods of preparation of emulsion.
38. Write the various identification tests for emulsion type.
39. Explain stability of emulsion.
40. Explain the evaluation methods of emulsions.
41. Differentiate diffusible and indiffusible solids.
42. Define and classify various surgical sutures and ligatures.
43. Define surgical dressings. Explain the classification of surgical dressings.
44. What are surgical sutures and ligatures? Give their ideal characteristics.
45. Explain the different steps involved in the manufacturing of surgical catgut.
46. Explain the different methods of sterilization of surgical catgut.
47. Explain the standardization of surgical catgut.
48. What is absorbent cotton? Write its advantages and disadvantages.
49. What is absorbable gelatine sponge? Write its advantages and disadvantages.
50. What are bandages? Explain crepe bandage and calico bandage.
51. What are bandages? Explain domette bandage and triangular bandage.
52. Write the uses of zinc paste bandage, zinc paste & coal tar bandage.
53. Define incompatibility. Classify and define each type with an example.
54. Define incompatibility. Explain the therapeutic incompatibility with examples.
55. Define incompatibility. Explain the physical incompatibility with examples.
56. Define incompatibility. Explain the chemical incompatibility with examples.
57. Enumerate the type of chemical changes occur during chemical incompatibility and explain any two.
58. Define incompatibility. Explain how to overcome therapeutic incompatibility with examples.
59. Define incompatibility. Explain how to overcome physical incompatibility with examples.
60. Define incompatibility. Explain how to overcome chemical incompatibility with examples.
61. What are the ways to protect drug from oxidation?

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SHORT ANSWERS 02 MARKS

1. Define dosage forms with examples.
2. Define unit and bulk dosage forms.
3. Define solid dosage forms with examples.
4. Define liquid dosage forms with examples.
5. Define semisolid dosage forms with examples.
6. Define tablets with examples.
7. Define capsule with examples.
8. Define pills with examples.
9. Define drops with examples.
10. Define jellies with examples.
11. Define creams with examples.
12. Define pastes with examples.
13. Define prescription.
14. What is the importance of prescription?
15. What is superscription?
16. Define inscription with example.
17. Define subscription with example.
18. What is meant by renewal instructions in prescription?
19. Enumerate the steps in handling of prescription.
20. Define posology.
21. Define doses and dosages.
22. Define tolerance with example
23. Define idiosyncrasy with example.
24. Define hypersensitivity with example.
25. Define drug allergy with example.
26. Define Tachyphylaxis with example.
27. Define synergism with example.
28. Define antagonism with example.
29. What is Fried's rule?
30. What is Young's rule?
31. What is Clark's rule?

32. Define drug.
33. Define pharmaceutical formulations.
34. Define additives with examples.
35. Justify the use of latin language in the prescription.
36. What is the duty of the pharmacist in case of drug prescribed in overdose?
37. Name the drugs which are not to be prescribed at the time of lactation
38. Define Pharmacy
39. Define galenical pharmacy.
40. Define De Materia medica.
41. Define “Pharmacist” and mention any two roles of Pharmacist.
42. What is ancient era in history of pharmacy?
43. What is empirical era in history of pharmacy?
44. What is patient care era in history of pharmacy?
45. Write any four contributions of Arabians in development of pharmacy?
46. Write any four contributions of Italians in development of pharmacy?
47. What is bowl of Hygeia?
48. Mention the contributions of Galen in pharmacy.
49. Write any two objectives of R N Chopra Committee.
50. Write any two objectives of central drug laboratory.
51. When the Bengal chemical and pharmaceuticals started and by whom?
52. What are the various levels at which pharmacy education is imparted in India?
53. What is meant by Papyers ebers?
54. What is meant by apothecary shop?
55. What is Pharmacopoeia? Mention all the editions of Indian Pharmacopoeia.
56. Give the significance of Pharmacopoeias.
57. Enlist various Pharmacopoeias.
58. List the editions of Indian Pharmacopoeia chronologically.
59. Mention the contents of National Formulary of India.
60. Differentiate between Indian Pharmacopoeia and National Formulary of India.
61. Which is the latest edition and year of publication of Indian Pharmacopoeia?
62. Write the difference between Pharmacopoeia and Formulary.
63. Write any four salient features of first edition of Indian Pharmacopoeia.

64. Write any four salient features of second edition of Indian Pharmacopoeia.
65. Write any four salient features of third edition of Indian Pharmacopoeia.
66. Write any four salient features of fourth edition of Indian Pharmacopoeia.
67. What is Extra Pharmacopoeia?
68. Write any two objectives of International Pharmacopoeia
69. Define weights with examples.
70. Define measures with examples.
71. Classify weights and measures.
72. An infant, 15 months old and weighing 20 pounds, needs Streptomycin Sulfate, which is usually administered to adults as 1 gm (1000 mg), as a daily IM injection. What is the appropriate dosage for the infant as per Fried's rule?
73. A child, 24 months old, needs acetaminophen, and the normal adult dose is 650 mg. What is the appropriate dosage for the child as per Fried's rule?
74. An 18-month-old needs amikacin sulfate, and the normal adult dose is 250 mg. What is the appropriate dosage for the child as per Fried's rule?
75. A child, 30 months old, needs erythromycin, and the normal adult dose is 250 mg QID. What is the appropriate dosage for the child as per Fried's rule?
76. A 2-year-old child is prescribed amoxicillin, and the normal adult dose is 500 mg. What is the appropriate dosage for the child as per Young's rule?
77. A 7-year-old needs propylthiouracil, and the normal adult daily dose is 150 mg. What is the appropriate dosage for the child as per Young's rule?
78. A child, 10 years old, is prescribed Tavist® syrup, and the normal adult dose is 1.34 mg BID. What is the appropriate dosage for the child as per Young's rule?
79. A child, weighing 85 pounds, is prescribed hydrochlorothiazide, and the normal adult dose is 50 mg. What is the appropriate dosage for the child as per Clark's rule?
80. A child, weighing 70 pounds, is prescribed quinine sulfate, and the normal adult dose is 325 mg TID. What is the appropriate dosage for the child as per Clark's rule?
81. A child, weighing 112 pounds, is prescribed Kaletra®, a protease inhibitor combination therapy. The normal adult dose is 400 mg lopinavir/100 mg ritonavir. What is the appropriate dosage for the child as per Clark's rule?
82. What is meant by metric system? Give examples.
83. What is meant by imperial system? Give examples.

84. What is meant by avoirdupois system? Give examples.
85. What is meant by apothecaries system? Give examples.
86. Write the conversion of the following.
    a. i.One grain =
    b. ii.one lb =
    c. iii.One fl. Dram =
    d. iv.One fl. Oz =
87. Write the conversion of the following.
    a. i.One drop = ml
    b. ii.One teaspoonful = ml
    c. iii.One tablespoonful = ml
    d. iv.One tumblerful = ml
88. Give the metric equivalents for the following: (a) one grain, (b) one ounce, (c) one teaspoonful, (d) one tablespoonful.
89. Give the metric equivalents for the following: (a) one minim, (b) one fluid ounce, (c) one tumblerful, (d) one quart.
90. Give the metric equivalents for the following: (a) one cup, (b) one pound, (c) one drop, (d) one wine glassful.
91. Define percentage solution.
92. How many grams are required to make 120ml of a 25% solution?
93. How much of potassium permanganate would be required to prepare 50 ml of potassium permanganate solution of 2.8% w/v strength?
94. In what ratio should 90 % alcohol and water be mixed to give 60% alcohol?
95. How many grams of dextrose is required to prepare 900 ml of 10% w/v solution?
96. How many parts of 15%, 10% and 5% alcohols are mixed to prepare 8% alcohol?
97. How do you prepare 1 litre of 5% w/v dextrose solution from 50% w/v dextrose solution?
98. How do you prepare 500 ml of 50% alcohol from 90% alcohol?
99. How do you prepare of 50% alcohol from 80% alcohol and 30% alcohol?
100. In what proportions should 25% w/v and 5% w/v dextrose solutions be mixed to produce a 10 %w/v dextrose solution?

101. How many grams of cream base should be mixed with 10 gm of 4% w/w and 25 gm of 8% w/w cream to make 5% w/w cream?
102. Dispense 10%w/v, 10 litres glucose solution.
103. A prescription order calls for 60ml of a 2% solution, calculate amount of drug (solute).

104. A prescription order requires 450 mg of medicament be dissolved in sufficient solvent to make 90ml. What is the % strength of solution?
105. Define allegation alternate medial.
106. How much of a 3% ointment must be added to 50 gram of an 15% ointment to make 10% ointment?
107. How many parts of 80%, 32% and 20% alcohols are to be mixed together so as to give 40% alcohol?
108. Define proof spirit.
109. Define under proof and over proof in proof strength.
110. An elixir contains 42% v/v alcohol. What is the proof spirit?
111. Convert 90% v/v and 40% v/v alcohol into proof strength.
112. What will be the percentage strengths corresponding to 50 O.P and 30 U.P?
113. How many litres of 8% solution can be prepared from 500gm of a solid?
114. What are isotonic solutions?
115. Define isotonic and paratonic solutions.
116. Calculate the actual strength of 25° O.P.(over proof).
117. Calculate the actual strength of 45° U.P.(under proof).
118. What are hypertonic and hypotonic solutions?
119. Calculate the percentage of sodium chloride required to render a procaine HCl iso-osmotic with blood plasma. (1% w/v solution of procaine HCl has a freezing- point of 0.122oC and 1% w/v sodium chloride has a freezing- point of 0.576oC)
120. Calculate the percentage of sodium chloride required to render a solution of 0.5 percent boric acid isotonic with blood plasma. (ENaCl of 0.5 percent boric acid solution is 0.3).
121. Define powders with examples.
122. Classify powders based on dispensing of powders.
123. Classify powders based on composition of powders.

124. Classify powders based on comminution of powders.
125. Write any two advantages and disadvantages of powders.
126. Write any four advantages of powders as a dosage form.
127. Define simple powder with example.
128. Define compound powder with example.
129. What is the difference between simple and compound powder?
130. Define insufflations with example.
131. What is insufflator?
132. Define snuff with example.
133. Define eutectic and explosive powder.
134. Define dusting powder with example.
135. Define and classify dusting powder.
136. Write the dispensing of eutectic powder.
137. Explain the packing of eutectic powder.
138. Quote an example for explosive combination and give its remedy.
139. Why trituration has be avoided during the preparation of explosive powder?
140. Define tooth powder with example.
141. Define hygroscopic powder with example.
142. Define deliquescent substance with example.
143. What is liquefaction? How to overcome it?
144. Define monophasic liquid dosage form with examples?
145. Classify monophasic liquid dosage form?
146. Names any four monophasic dosage forms used externally.
147. Names any four monophasic dosage forms used internally.
148. Define stabilizers with examples.
149. What is the role of stabilizers in monophasic liquid dosage form?
150. Name any four stabilizers used in monophasic liquid dosage forms.
151. Name any four preservatives used in monophasic liquid dosage forms.
152. Name any four antioxidants used in monophasic liquid dosage forms.
153. Define colorants and flavours with examples.
154. Name any two colouring and flavouring agent used in monophasic liquid dosage forms.
155. Preservative is not necessary in the preparation of syrups. Justify.

156. Define gargle with examples.
157. Define mouthwash with examples.
158. Define throat paint with examples.
159. Write the formula for Mandl's throat paint.
160. Define throat paint and give the direction for application of throat paint?
161. Define mouth wash and give the direction for using mouth wash?
162. Define gargle and give the direction for using gargle?
163. Give the auxillary label for gargles and liniments.
164. Give the auxillary label for liniments and lotions.
165. Define ear drops with examples.
166. Define nasal drops with examples.
167. Define liniments with examples.
168. What are the advantages of liniments?
169. Define lotions with examples.
170. Define enemas with examples.
171. Define collodions with examples.
172. Define suspension with example.
173. Enumerate the different types of suspensions.
174. Write any two advantages and disadvantages of suspensions.
175. Name any two suspending and emulsifying agents.
176. Name any four flocculating agents used in preparation of suspension.
177. Name any two flocculating and deflocculating agents.
178. Enumerate the evaluation methods of suspension.
179. Define emulsion with example.
180. Enumerate different types of emulsions.
181. Write any two advantages and disadvantages of emulsions.
182. Classify emulsifying agents.
183. Write the primary emulsion formula for fixed oils and mineral oils.
184. Write the primary emulsion formula for fixed oils and volatile oils.
185. Write the primary emulsion formula for oleoresins and volatile oils.
186. Why emulsifying agent is required in the preparation of emulsions.
187. Define creaming and cracking?

188. What is phase inversion? How it can be prevented.
189. Enlist various identification tests for emulsion.
190. Enumerate the evaluation methods of emulsions.
191. Differentiate suspension and emulsion.
192. Give an example of suspension prepared by chemical reaction.
193. How will you dispense the suspensions containing precipitate forming liquids?
194. If 3 tablets contain 975 mg of aspirin, how many milligrams should be contained in 12 tablets?
195. How many milligrams are needed to make 5 mL of an 8% solution?
196. How many millilitres are needed to make 600 mL of a 3% solution?
197. How many milligrams are there in 100 mL of a 0.01% solution?
198. How much calamine is required to produce 250 g of a 3% ointment?
199. What volume of 17% w/v solution contains 1.5 g of ingredient?
200. What volume of 20% w/v solution contains 5 g of ingredient?
201. What volume of 15% w/v solution contains 7 g of ingredient?
202. What volume of 34% w/v solution contains 150 g of ingredient?
203. How many milligrams needed to make 200 mL of a 1 in 500 solution?
204. How many millilitres needed to produce 400 mL of a 1 in 200 solution?
205. How many grams are there in 250 mL of a 1 in 80 solution?
206. How many milligrams of aluminium acetate are required to prepare 500 mL of a 0.03% w/v solution?
207. How many grams of dextrose are required to prepare 4000ml of a 5% solution?
208. What is the concentration in milligrams per litre of a solution containing 2mEqof Nacl per mL?
209. How many milligrams would 3mmol of monobasic sodium phosphate (MW-138) weigh?
210. You have a 10-ml vial of aminophylline labeled "25 mg per ml". How many milliliters must be injected to administer a dose of 125 mg?
211. How many milliliters must be injected from an ampule of Prochlorperazine labeled "10 mg/2 ml" in order to administer a dose of 7.5 mg?
212. A formula calls for 42 capsules of 300mg of drug. How many milligrams would be required to make 24 capsules?

213. How many ml @ 25 gm/50 ml should she have received to obtain 4 gms?
214. How much Potassium Chloride in grams is needed to prepare a 1 Liter solution of 3% KCl solution?
215. A patient receives 0.75L of IV solution over a 4 hour period. Calculate the flow rate in ml/hr.
216. If an IV is run at 125ml/hr, how long will 1 L last?
217. How many ml of IV solution would be required to run an IV for 12 hours at a rate of 60 ml/hr?
218. What volume would we need to have on hand if an IV solution is to be run for 100 ml/hr for 8.3 hrs?
219. If the dose of a drug is 200 mg, how many doses are contained in 10 g?
220. If the dose of a drug is 50 g, how many doses are contained in 0.020 g?
221. How many milliliters of a liquid medicine would provide a patient with 2 tablespoonfuls twice a day for 8 days?
222. Define incompatibility with example.
223. Define the therapeutic incompatibility with examples.
224. Enumerate pharmacodynamic interactions in therapeutic incompatibility.
225. Enumerate pharmacokinetic interactions in therapeutic incompatibility.
226. Define the physical incompatibility with examples.
227. Define the chemical incompatibility with examples.
228. Define immediate and delayed chemical incompatibility.
229. Define the alkaloidal incompatibility with examples.
230. Define immiscibility with example.
231. Define insolubility with example.
232. Define precipitation with example.
233. Define liquefaction with example.
234. How to overcome incompatibility causing evolution of CO_2 gas?
235. Enlist few processes contributing towards oxidised pharmaceutical dosage forms.
236. What is herapathite reaction?
237. What is tolerated and adjusted incompatibility?

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Medicinal Biochemistry

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LONG ESSAY 10 MARKS

1. Define an enzyme. Outline the IUB classification of enzymes with examples. Explain themechanism of enzyme action.
2. Explain the factors affecting enzyme activity. Add a note on the properties of enzymes.
3. Define enzyme inhibition and discuss the different types of enzyme inhibitions.
4. Define glycolysis? Describe the biochemical pathway for the breakdown of glucose topyruvate and lactate. Write about the energetics.
5. Explain the reactions sequence, significance and energetics of TCA cycle.
6. Define Gluconeogenesis and explain the reactions involved in it with its significance.
7. Explain glycogenesis and glycogenolysis.
8. Describe the steps involved in the complete oxidation of glucose to pyruvate underaerobic condition with its energetic.
9. Describe the biosynthesis of cholesterol. Add a note on the role of cholesterol in thebody.
10. Describe the de novo synthesis of purine nucleotides.
11. Explain the metabolic pathway for the biosynthesis of the pyrimidine nucleotides.
12. Explain in detail the semiconservative mode of DNA replication.
13. Explain in detail about biosynthesis of proteins.

SHORT ESSAY 05 MARKS

1. What are isoenzymes? Describe their diagnostic applications.
2. What are coenzymes? Explain the biochemical role and deficiency symptoms of niacin.
3. Discuss the biochemical role and deficiency symptoms of vitamin B_2 and B_6.
4. Discuss the biochemical role of coenzyme forms of vitamin B_1 and folic acid.
5. Discuss the biochemical role and deficiency symptoms of vitamin B_{12}.
6. Discuss the glucose tolerance test with its significance.
7. Outline the various biochemical reactions involved in HMP shunt pathway and write itssignificance.
8. Discuss the glycogen storage diseases.
9. Explain the hormonal regulation of blood glucose level in the body.

10. Explain the β-oxidation of saturated fatty acids. Calculate the ATP generated on completeoxidation of palmitic acid.
11. Explain the reactions of palmitate synthesis, starting from acetyl CoA.
12. What are ketone bodies? Explain the formation and importance of ketone bodies.
13. Describe briefly the synthesis of bile acids. Add a note on enterohepatic circulation of bile salts.
14. What is oxidative phosphorylation? How does it differ from substrate levelphosphorylation?
15. Explain the chemiosmotic theory of oxidative phosphorylation.
16. Explain the transamination reactions involved in the catabolism of amino acids.
17. Explain the deamination reactions involved in the catabolism of amino acids.
18. Describe the reactions of urea cycle.
19. Explain phenylketonuria and alkaptonuria.
20. What are porphoria? Explain the types and clinical manifestations of porphoria.
21. Explain the production of bile pigments.
22. What is jaundice and explain the different types of jaundice.
23. Define mutation. Explain various types of the same.
24. Describe the different DNA repair mechanisms.
25. Define genetic code and describe its characteristic features.
26. List out different kidney function tests Explain any two of them.
27. Enlist the tests to assess the renal function? Explain the clearance tests for creatinine and urea.
28. Mention the different kidney function tests. Explain in detail any two.
29. Write a note on urinary tract calculi.
30. Discuss the tests for NPN constituents.
31. Add a note on role of kidneys.
32. Discuss the test to assess the metabolic and detoxification capacity of liver.
33. Explain any two liver function tests.
34. Enlist the different liver function tests. Explain the dye test for excretory function of liver.

35. Explain the tests for hepatic dysfunction.
36. Write the principle and significance of SGPT and SGOT determination.
37. Describe lipid profile tests.
38. Name the importance of phospholipids and give their physiological role.
39. How will you determine the total cholesterol in serum?
40. Add a note on HDL and LDL.
41. Write the composition and functions of lipoproteins.
42. What is radioimmuno assay? Give its principle and applications.
43. What is ELISA? Give its principle and applications.

SHORT ANSWERS 02 MARKS

1. Write the structure and significance of cyclic AMP
2. What are high energy compounds? Give two examples.
3. What are allosteric enzymes? Give two examples.
4. Give Michaelis-Menten equation with notations used.
5. Give therapeutic uses of any two enzymes.
6. What is Line-Weaver Burk plot? Give its significance.
7. Define Km and write its significance.
8. What are the two models to explain the active site of enzymes?
9. Define enzyme specificity. Give example.
10. Define holoenzyme and apoenzyme.
11. What is Diabetes mellitus? Mention its types.
12. What is the use of malate-aspartate shuttle?
13. What is the amphibolic role of TCA cycle?
14. What are anaplerotic reactions?
15. How many moles of ATPs are formed in glycolysis when the end product is a) Pyruvicacid and b) lactic acid.
16. What is galactose tolerance test? Write its significance.
17. Name the enzymes and coenzymes present in pyruvate dehydrogenase (PDH)complex.

18. Give the significance of HMP shunt.
19. What is the role carnitine in fatty acid oxidation?
20. What is the role of citrate in fatty acid synthesis?
21. What is ketosis? Name the two conditions which lead to ketosis.
22. What is ketolysis? Give its significance.
23. What is the functional significance of fatty acid synthase complex?
24. Name three unsaturated fatty acids. Write the structure of one of them.
25. Enumerate the functions of unsaturated fatty acids.
26. Write the structure of cholesterol. What is the role of cholesterol in our body?
27. What are bile salts? Give their importance.
28. Name three biologically important compounds derived from the catabolism of cholesterol.
29. What is hypercholesterolemia? Name two disorders that result in hypercholesterolemia.
30. What are the two measures that can be used to control hypercholesterolemia?
31. What is fatty liver? Name the two causes responsible for fatty liver?
32. What is atherosclerosis?
33. Enumerate uncouplers of oxidative phosphorylation, write their mechanism of action.
34. Name two inhibitors of ETC and their sites of action.
35. What is substrate level phosphorylation and oxidative phosphorylation.
36. What are transaminases? Write the diagnostic importance of two transaminases.
37. What is the normal blood urea level? Name two conditions in which blood urea level is elevated.
38. Name four metabolic disorders of urea cycle with enzyme defect.
39. What is maple syrup urine disease? What are its characteristics?
40. What is albinism? What are its characteristics?
41. What is homocystinuria? What are its characteristics?
42. What is jaundice?
43. What are bile pigments, name the disease associated with their metabolism.

44. What are porphoria?
45. Define nitrogen balance and protein turnover.
46. What are Okazaki fragments?
47. What is Gout?
48. What are leading and lagging strands?
49. What are nucleotides? Name four nucleotides.
50. Enumerate the purine and pyrimidine bases present in DNA and RNA.
51. What is onion peel model of DNA replication?
52. Name two inhibitors of protein synthesis and their site of action.
53. What is semi quantitative urine analysis?
54. What is urine concentration test? Give its significance.
55. What is creatinine clearance test? Give its significance
56. What are urinary tract calculi?
57. What is urea clearance test? Give its significance.
58. Name any four abnormal urine constituents.
59. Give the dye test for excretory function of liver.
60. Name the tests to assess hepatic function.
61. Give the importance of SGPT and SGOT.
62. What is normal serum bilirubin level? Give its significance.
63. Give example for bile salt and bile pigments.
64. What is dye test for excretory function of liver?
65. Differentiate between good and bad cholesterol.
66. Differentiate between triglyceride and lipoproteins.
67. Write the principle involved in the estimation of cholesterol in serum.
68. Write about HDL and LDL
69. What is the significance of lipid profiling?
70. What is ELISA? Give its significance.
71. How is the level of sodium determined in the body fluids?
72. Enumerate the functions of water.
73. How is the level of calcium determined in the body fluids?
74. How is the level of chloride determined in the body fluids?
75. Define hypokalemia and hyponatremia.

76. Write the composition of ORS.
77. Name the different fluid compartments in the body.
78. What is the role of kidney in water balance?
79. What is the role of aldosterone in the regulation of osmolarity?
80. What are the causes of water depletion in the body?
81. What are the causes of water excess in the body?
82. Name the clinical disorders associated with water depletion and water excess?
83. Define acidosis and alkalosis.

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PHARMACEUTICAL ORGANIC CHEMISTRY

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LONG ESSAY 10 MARKS

1. What are nucleophilic aliphatic substitution reactions? Explain the mechanism, kinetics, factors affecting, stereochemistry for these reactions with example.
2. Explain Nucleophilic aliphatic substitution unimolecular reaction with a) Mechanism b) Kinetics c) Stereochemistry d) Substrate
3. Explain the alkaline hydrolysis of tertiary butyl chloride with mechanism, kinetics and stereochemistry.
4. What do you mean by S_N1 and S_N2 reactions? Explain the mechanism, kinetics and steriochemistry of S_N1 reaction.
5. Discuss SN2 Versus SN1 reactions with examples and mechanisms, kinetics, factors affecting.
6. What do you mean by SN1 and SN2 reactions? Explain the mechanism, kinetics and steriochemistry of SN1 reaction. (jan14)
7. Explain the alkaline hydrolysis of teritiary butyl chloride with mechanism with mechanism, kinetics and stereochemistry. (Sep12)
8. Explain the mechanism and stereochemistry of SN2 reactions. (feb/mar12)
9. What are SN1 and SN2 reactions? Explain their mechanism. Give an account on the various factors that influence by SN1 and SN2 reactions. (Aug/sep 12)
10. Discuss SN1 versus SN2 reactions with examples and mechanisms, kinetics, factors affecting. (Jun/jul14)
11. Discuss on reaction mechanism and kinetics of both the SN reaction. Elaborate the different factors on which SN reactions depend upon. (Jan 14)
12. Discuss the mechanism, kinetics and stereochemistry of SN2 reaction with suitable example. (Aug13)
13. Explain the mechanism, kinetics and stereochemistry of SN2 reaction. (feb/mar12)
14. Explain the mechanism, orientation and reactivity for the addition of hydrogen halides to alkenes.
15. Explain markonikov's and anti markonikov's addition with examples.
16. Discuss the following a) Markovnikov's rule.(jun/jul14)

17. Give structure of all alkenes expected from dehydrohalogenation by strong base of 2-chloropentane, 1-chloro-2-methylbutance, 2-chloro-2-methylbutane, 1-chloro-2-methylbutane
18. Discuss the mechanism involved in addition of HBr to propene in presence if peroxides.
19. Explain electrophillic addition reactions to alkenes, giving examples. Write the general mechanism involved.
20. What is markonikov's rule? Give an account on the different reactions involving Markonikov's addition. Explain the mechanism, orientation and reactivity for the addition of hydrogen halides to alkenes.
21. State Markovnikov's Rule. Give the mechanism involved in addition of HBr to an unsymmetrical alkene in presence and absence of peroxide.
22. a. Give an account on Markonikoy's and Anti Markonikoy's additions to alkenes, giving examples. (Aug13)

    b. Explain the mechanism and orientation involved in the hydration of alkenes.
23. Explain the mechanism of peroxide initiated addition of hydrogen bromide. Discuss cycloaddition reactions. (feb/mar11)
24. Explain 1,2 and 1,4 additions in conjugated dienes with mechanism. Add a note on effect of temperature.
25. Explain why 1, 3 – pentadiene is more stable than 1, 4-pentadiene.
26. What are electrophilic aromatic substitution reactions? Explain the effect of substituents on orientation and reactivity on these reactions.
27. Why –NH2 group is activating and ortho para directing while –NO2 group is deactivating and meta directing? Explain.
28. Why chloro group is deactivating yet ortho para directing? Explain.
29. Discuss the following a) Mechanism of nitration. (jun/jul14)
30. Discuss the reaction and mechanism involved in following reactions; (Mar13)Nitration, Sulphonation
31. What is electorphillic aromatic substitution reaction? Explain the effect of substituents with example. (Mar13)
32. Discuss the mechanism involved in Chlorination of methane.

33. Discuss the effect of substituents on acidity of carboxylic acids. Write a note on how carboxylic acids are converted into their derivatives.
34. Discuss the mechanism of the following reactions A) RiemerTiemannReaction.B) Beckmann Rearrangement.
35. Discuss Friedel Craft's alkylations with examples and mechanism. Mention any two of its limitations. (feb/mar12). Discuss the mechanism of nitration. (Jun/jul14)
36. Discuss in electrophillic aromatic substitution in benzene with respect to activating and side chain haloganation of alkyl benzene.
37. Classify the substituents in electrophillic aromatic substitution reactions. Discuss the orientation and reactivity of :Hyroxyl group In Benzene
38. Nitro group in benzene, in electrophillic aromatic substitution reaction.(Aug-13)
39. Write the mechanism involved in nitration of benzene. (Aug13)
40. State and explain Friedel Crafts alkylation with its limitations. Write a note on Friedel Crafts alkylation.
41. Classify the substituent groups based on orientation and reactivities
42. What is meant by orientation in aromatic nucleus? Using resonance theory explain the orientation on nitrobenzene. (Aug/sep 11

SHORT ESSAYS 05 MARKS

1. Describe chlorination of methane with mechanism and energy graph
2. What is free radical? Classify and give the order of stability.
3. Define and classify free radicals. Describe orientation and stability of free radicals.
4. Discuss free radicals chain reactions of alkanes with mechanism in detail. Add a note on stability of free radicals.
5. Explain the mechanism of free radical addition reaction with suitable example.
6. Discuss the mechanism involved in chlorination of methane.
7. Define free radicals. Classify free radicals. Explain the stability and reactivity of freeradicals.
8. Explain the free radical substitution of alkanes with the mechanism and reactivity of various alkanes towards this reaction.

9. Discuss free radicals chain reactions of alkanes with mechanism in detail. Add a note on stability of free radicals.
10. Discuss the orientation and reactivity of free radical additions to conjugated dienes.
11. Describe any five methods of preparation of cycloalkanes.
12. Explain Bayer's theory for stability of cycloalkanes.
13. Discuss the orbital picture of angle strain.
14. Write different methods of preparation of cycloalkanes.
15. What are cycloalkanes? Write any three methods of preparation.
16. Explain Bayer's strain theory. Write its limitations.
17. Write any four method of preparation of Cycloalkanes.
18. Discuss the stability of cycloalkanes.
19. Discuss the mechanism, kinetics and stereochemistry of SN_1 reaction.
20. Explain the mechanism and stereochemistry of SN_2 reaction.
21. Explain kinetics and mechanism of SN_1 reaction by selecting an appropriate example.
22. Explain SN^2 reaction with emphasis on its mechanism and stereochemistry
23. Explain the effect of nucleophile in SN reactions.
24. Explain the effect of solvents in SN reactions.
25. Explain SN2 reaction with emphasis on its mechanism and stereochemistry. (Aug13)
26. Discuss the role of solvents in SN1 reaction. (Aug13)
27. Discuss the conditions that favor uni-molecular substitution over bimolecular substation in Alkyl halides. (mar13)
28. Write a note on elimination Vs substitution. (mar13)
29. Discuss the role of solvent in Sn1 and Sn2 reaction. (Sep12)
30. Compare SN1 and SN2 reactions. (feb/mar11)
31. Explain the mechanism, orientation, stereochemistry and reactivity of E1 and E2 reaction with appropriate examples
32. Write the kinetics, orientation and mechanism involved in E_1 and E_2 reactions.
33. Explain mechanisms, kinetics and stereochemistry involved in the dehydrohalogenation of alkyl halides by a base.
34. Write the kinetics, orientation and mechanism involved in E1 and E2 reactions.
35. Explain the mechanism and orientations in E2 reactions. (feb/mar11)

36. Describe the mechanism of dehydration of alcohols.
37. Write the mechanism of E2-reaction and E1-reaction. (aug13)
38. Explain the mechanism of dehydrohalogenation of alkyl halide. (Mar13)
39. Write a note on dehydration of alcohols. (Sep12)
40. Explain: Saytzeff's eliminations
41. Mechanism of nitration of benzene.
42. Explain the mechanism of dehydrohalogenation of alkyl halides.
43. Give the evidence for E2 mechanism. (Aug13)
44. Write a note on elimination Vs substitution. (mar13)
45. Explain the orientation and rearrangements involved in E1 reactions. (mar13)
46. Write a note on dehydration of alcohols. (Sep12)
47. Give the mechanism of dehydrohalogenationfo alkyl halides. (feb/mar12)
48. Explain dehydration of alcohol with examples. (feb/mar11)
49. Write a note on dehydration of alcohols. (feb/mar11)
50. Write a short note on dehydrohalogenation of alkyl halides. (feb/mar12)
51. What happens when propene is treated with HBr in the presence and in the absence of peroxide? Give the mechanisms.
52. What are cycloaddition reactions? Explain in detail.
53. Explain Diel's Alder reaction with example.
54. What is peroxide effect? Explain its mechanism.
55. What is peroxide effect? Explain its mechanism.
56. Discuss the stability of allylcation or allyl radical.
57. Explain side chain halogenation in alkyl benzene. Add a note on benzyl radical.
58. What is hyperconjugation? Discuss with example.
59. Discuss 1,2 and 1,4 additions with examples. (JUN/JUL14)
60. Define and give the mechanism of 1,2-addition and 1,4-addition reaction. (jan14)
61. Explain the stability of conjugated dienes. (mar13)
62. Explain why 1,3-pentadiene is more stable than 1,4-pentadiene.
63. Explain 1,2 and 1,4-addition reactions. (Sep12)
64. Write a short note on hyperconjugation. (Sep12)
65. Write one example of 1.4 addition.

66. 1,2 addition and compare the formation rate and equilibrium.
67. Explain the concept of aromaticity and Huckel's rule. (Aug/sep 12)
68. What is meant by orientation in aromatic nucleus? Using resonance theory explain the orientation on nitrobenzene. (Aug/sep 11)
69. With the help of suitable examples explain the term hyperconjugation. (Aug/sep 11)
70. Discuss 1,2 and 1,4 additions with examples. (Jun/jul14)(aug13)
71. Explain the concept of aromaticefy and Huckel's rule with examples. (mar13)
72. Explain the stability of conjugated dienes. (Sep12)
73. Give the mechanism of 1,2-and 1,4-addition reaction. (Sep12
74. Write a short note on dehydrohalogenation of alkyl halides. (feb/mar12)
75. Explain the stability and resonance hybride of allyl radical. (feb/mar12)
76. Explain the term Hybridization and Hyperconjugation with examples. (feb/mar11)
77. Why carboxylic acid are acidic in nature? Write the effect of electron withdrawing groupson acidity.
78. Describe acidity of carboxylic acids. Chloro acetic acid is more acidic than acetic acid.Give reason.
79. Explain ionisation of carboxylic acid and write the structure of carboxylate anion
80. Write the conversion of acid to acid chloride, amide and ester.
81. Compare the acidity among formic acid, acetic acid and trichloroacetic acid.
82. Discuss Conversion of acidity to its various derivatives.(JUN/JUL14) Write a note on effect of substituents on acidity of carboxylic acids.
83. Discuss the structure of carboxylate ion and acid acidity of carboxylic acids. (feb/mar12)
84. Write the preparation of various acid derivatives with examples. (Jan 14)
85. Write a note on effect of substituents on the acidity of carboxylic acids. (Aug13)
86. Write a note on the acidity of carboxylic acids. (mar13)
87. Explain the acidity of acids. (feb/mar12)
88. Explain esterification reaction with mechanism. (feb/mar12)
89. Explain the acidity of carboxylic acid and add a note on effect of substiuents. (feb/mar11
90. Discuss the mechanism involved in Perkin condensation
91. Explain the reaction mechanism of Aldol condensation.

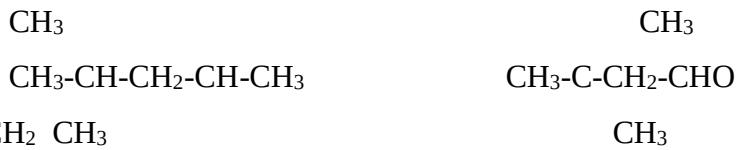
92. Name the products of the reaction of methyl magnesium bromide with formaldehyde and acetaldehyde.
93. Discuss the mechanisms involved in Benzoin condensation
94. Discuss the nucleophilic addition reaction and write a note on reactivity of aldehydes & ketones towards this reaction
95. What is aldol condensation? Explain with examples. (JUN/JUL14)
96. Explain Claisen condensation with example. (aug13)
97. Explain Aldol condensation with example and mechanism. (mar13)
98. Explain Aldol and crossed Aldol condensation atoms with the mechanism. (Sep12)
99. Give the mechanism involved in the following reactions. (feb/mar12)
    Cannizaro's reaction Reformatsky's reaction.
100. Explain benzoin condensation giving its mechanism and applications. (feb/mar12)
101. Give the mechanism involved in :Benzoincondensation.CrossedCannizzaro's reaction.
102. What is aldol condensation? Explain with examples. (Jun/jul14)
103. Discuss the mechanism involved in Aldol and crossed Aldol condensation. (Jan 14)
104. Explain Perkin condensation mechanism. (Aug13)
105. Explain the mechanism of Cannizzaro and crossed Cannizzaro reaction with appropriate examples. (feb/mar12)
106. Explain Cannizzaro reaction with mechanism.

SHORT ANSWERS 02 MARKS

1. Role of nucleophiles on SN^1 & SN^2 reactions
2. Walden inversion
3. Write any two similarities and any two differences between SN1 and E1 reactions.
4. Which is stable, methyl carbocation or Tertiary butyl carbocation? Give reasons
5. Define nucleophile. Classify with examples
6. Discuss the mechanism involved in sulphonation of benzene. Write mechanism of Friedel Craft's alkylation.
7. Explain the orientation in disubstituted benzenes.
8. Describe nitration of benzene with mechanism.

9. What is the effect of substituent groups on electrophillic aromatic substitution? (JUN/JUL14)
10. Write the mechanism for Friedal craft alkylation. Write its limitations. (jan14)
11. Write the mechanism of Friedal craft alkylation with example. (aug-13)
12. Write the mechanism of Friedal craft alkylation with mechanism. (mar13)
13. Discuss the mechanism of chlorination of methane. (Jun/jul14)
14. Discuss the mechanism involved in theory of nitration and sulphonation.
15. Discuss Friedel Craft's alkylation with its limitations. (Aug13)
16. Discuss the mechanism of Friedel-Craft's alkylations in benzene. What are their limitations? (mar13)
17. Discuss the stability of benzyl radical. (feb/mar12)
18. What activating and deactivating groups? Discuss the theory of reactivity in aromatic rings. (feb/mar12)
19. Explain the effect of substituents on electrophillic aromatic. (feb/mar12)
20. Give the mechanism of sulphonation and chlorination of benzene. (feb/mar11)
21. Explain the Friedal Craft's reaction with its limitations.
22. Describe the mechanism and conditions for the following reactions.
23. Describe Nitration of benzene
24. Describe Sulphonation of benzene
25. Define polarity and dipole moment with examples.
26. What are protic and aprotic solvents? Give examples.
27. Explain Lewis theory of acids and bases.
28. Short note on intermolecular forces
29. Which is having more boiling point; Dimethyl ether or ethanol? Give reasons.
30. Why Carbon tetrachloride and methane have zero dipole moment?
31. Which molecule is polar and why? CH_3C1 and CH_4
32. Describe ketoenoltautomerism with example
33. Which of the following compounds would you predict to be able to form hydrogen bonding a) Ethanol b) Diethyl ether?
34. Define and classify hydrogen bond with example.

35. Define metamerism with example.
36. Define ionic and non ionic solutes giving examples.
37. Give example for structural isomer.
38. Define polarity with examples.
39. Explain why boiling point of water is more than ethanol and ethanol B.P is more than acetone.
40. Write stability of carbanion
41. Write the structure of Vinyl Bromide and Allyl iodide.(jan14)
42. Give the structures of (a) 2-Iodo 2-Propanol (b) Ethyl ethanoate.(sep12)
43. Write the IUPAC name of isobutene and neopentane.(feb/mar12)
44. Give the structures of i) 3-oxo 2-methyl pentanoic acid ii) 4-methyl but-2-en 6-yne.
45. Give the IUPAC names for following



46. Give the common name and IUPAC name of (i) HCOOH (ii) HCHO.
47. Write the IUPAC names of acetic acid and acetone.
48. Name the following compounds (IUPAC): (i)(CH3)4C (ii)CH2=CH-CH2-CH
49. Give the structural formulae for a) 3-Methyl-1-penten-4-yen b) 5-Hydroxy-3-hexenal
50. Give the IUPAC names for a) H2N-CH2-CH2-C-CH2-OHb) CH3-C-CH2-CH-COOH

51. Explain the conditions which favor elimination over substitution.
52. State Saytzeff rule.
53. What are the products obtained on dehydrohalogenation of 2-chloro-2-methyl-butane?
54. Give four differences between E1 and E2 reaction. (Aug/sep 11)
55. Mechanism of E1 reaction. (feb/mar11)
56. Write the dehydro halogenations products of 1-bromo-2-methyl pentane and 2-bromohexane. (feb/mar11)

57. What is Diel's Alder reaction?
58. Define Markonikov's rule and give examples. (aug13)
59. Explain Markowniff's rule taking a suitable example. (Sep12)
60. Define and classify electrophiles with examples. (feb/mar12)
61. Define and classify electrophiles, give examples. (Aug/sep 11)
62. Discuss the mechanism involved in anti-Markownikoff's rule.
63. Explain Peroxide effect with examples and mechanism. (Aug13)
64. Which is more stable; trans-2-butene or cis-2-butene? Why? (Sep12)
65. Write a note on addition of carbenes to alkenes. (feb/mar12)
66. Write Diel's Alder reaction. (feb/mar11)
67. Explain allylicrearangement with example.
68. Give one example of free radical halogenation of alkenes.
69. Convert benzoic acid to methyl benzoate.
70. Write the resonance structures of carbonium ion. (mar13)
71. Addition of Grinard reagents to carbonyl compounds.
72. Esterification . (Sep12)
73. Conversion of acids to amides and anhydrides. (Jan 14)
74. How will you convert a carboxylic acid to an amide? (Aug13)
75. Give the characteristics of esterification reaction. Give an example.
76. Compare the acidity and acetic acid and chloroacetic acid. (feb/mar12)
77. Synthesize amides from acyl chlorides.
78. Name the products of the reaction of ethyl magnesium bromide with propanaldehyde and acetaldehyde.
79. Reformatsky reaction.
80. Grignard reagents
81. Write the reaction involved in Cannixzzaro reaction. (JUN/JUL14)
82. Reformatsky reaction. (mar13)
83. What is crossed –Aldol condensation? Give one example. (feb/mar12)
84. What is the action of Grignard's reagent on acetone? Give the reaction. (feb/mar12)
85. Write the reaction involved in Cannizzaro reaction. (Jun/jul14)
86. Nomenclature of aldehydes. (Jan 14)
87. What is crossed Aldol condensation? Give the equation. (mar13)
88. How will you convert acetaldehyde to acetic acid. (feb/mar11)

89. Give one example for each: (feb/mar11)
90. Crossed cannizzaro's reaction
91. Crossed Aldol condensation.
92. How will you convert phenol to salicylic acid? Write reactions.
93. Discuss acidity of phenols.
94. Explain the effect of substituents on acidity of phenols.
95. Ortho nitrophenol is more acidic than phenol. Comment.
96. Compare the acidity among formic acid, acetic acid and trichloroacetic acid.
97. Compare the basicity among ammonia, ethylamine, tertiary butylamine
98. Write the conversion of acid to ester. (aug13)
99. Explain acidity of phenols. (Aug13)
100. Write Williamson synthesis. (Aug13)
101. Explain Kolbe's reaction. (Aug13)
102. What are primary and secondary amines? Give examples. (mar13)
103. Fries rearrangement.
104. Outline Sandmeyer's reaction. (mar13)
105. Diazocoupling reaction. (Sep12)
106. Write an note on Riemer- Tiemann's reaction. (feb/mar12)
107. Arrange the order of acid strength : phenol, o-cresol , o- Nitrophenol, 2,4dinitro phenol. (feb/mar12)
108. Give one example of nucleophilic aromatic substitution.
109. Write comparison of aliphatic nucleophilic substitution with that of aromatic.
110. Write an example for displacement reaction.
111. Give one example of oxidation and reduction reaction.
112. Give one examples for oxidizing and reducing agents.
113. Define redox reaction. Give example.
114. Write the structure and uses of a) vanillin b) nitroglycerin
115. Give the structure and uses of a) Tartaric acid b) glyceryltrinitrate
116. Write the structure, uses of a) Lactic acid b) Dimercaprol
117. Structure and uses of a) SLS b) Mephenesin.
118. Preparation and uses of aspirin.

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Pharmaceutical Inorganic Chemistry

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LONG ESSAY 10 MARKS

1. What are redox titrations? Explain the preparation, assay and uses of copper sulphate.
2. What is iodometry and iodimetry? Taking a suitable example explain the concept of redox titration by iodimetry and iodometry.
3. Explain the theory of redox titrations. Add a note on iodimetry and iodometry.
4. Give the Nernst equation. Explain the terms. Explain the importance of Nernst equation in redox titrations.
5. Highlight the importance of iodimetry and iodometry with appropriate official compounds
6. Define iodometry and iodimetry? Taking a suitable example explain the concept of redox titration by iodimetry and iodometry.
7. What are non-aqueous titrations? Explain in detail the types of solvents used in NAT. Write a note on application in pharmacy.
8. Define and classify precipitation titration and the principle and reaction involved in assay of NaCl.
9. Explain Volhard's method of estimation of halides. Write the mechanism of action of indicator in Fajan's method.
10. Write in detail the principle and procedure involved in Mohr's, Volhard's and Fajan's methods.
11. Explain Volhard's method of estimation of halides. Write the theory of adsorption indicator in Fajan's method.
12. What are Complexometric titrations? List out different types of complexometric titrations with examples. How do you estimate calcium gluconate?
13. Describe the various sources of impurities present in pharmaceutical substances.
14. Write briefly the different sources of impurities present in pharmaceutical substances.
15. Write the principle, reactions and procedure involved in the limit test of arsenic. Draw neat labelled diagram of Gutziet's apparatus.
16. Explain the principle and procedure involved in the limit test of arsenic with a neat labelled diagram of Gutziet's apparatus.

17. Give principle, procedure, reactions and role of reagents involved in the limit test foe a) Iron b) Lead based on IP 1996 method.
18. Explain the various sources of impurities in pharmaceuticals. Discuss the importance of limit tests in quality control of pharmaceuticals.
19. Write briefly the different sources of impurities present in pharmacopoeial substances.
20. What are impurities? Explain different sources of impurities with examples.
21. Write the procedure and principles for the limit tests for a) Sulphate b) Iron Describe the principle, apparatus and procedure for the limit test of arsenic.
22. Define limit test? List out different limit test you have studied. Discuss in detail the limit test for sulphate and iron.
23. What are limit tests? Explain the procedure and principle involved in the limit test of arsenic with a neat labelled diagram of Gutziet's apparatus.
24. What is limit test? Write in detail the principle, procedure and Gutzeit's apparatus used for limit test for arsenic.
25. Explain in detail the various sources of impurities present in pharmaceutical substances.
26. Define limit test? Explain the various sources of impurities. Describe the principle involved in the limit test for iron.
27. What are Antacids? Give the idea properties of antaids. Discuss the preparation, assay and uses of Sodium bicarbonate.
28. What are GIT agents? Add a note on antacid combination therapy and assay of sodium bicarbonate.
29. Explain the mechanism of maintenance of physiological acid base balance. Write a note on biochemical and biological role of Na^+ and HCO_3^- ions in the body.
30. List out major intra and extracellular electrolytes. Explain the preparation and uses of dextrose and sodium chloride injection.
31. Explain major physiological ions with their role. Explain the preparation and assay of sodium chloride injection.
32. Discuss briefly about major physiological ions and physiological acid base balance. Write the method of preparation and principle involved in the assay of calcium gluconate physiological ions.

33. Name major and write their role in the body. Add a note on physiological acid-base balance.
34. Name the major physiological ions and write their role in the body. Add a note on physiological acid-base balance.
35. What are antimicrobials? Give their mode on action. Enumerate the official anti-microbials and give the method of preparation and assay principle of Boric acid.

SHORT ESSAY 05 MARKS

1. How do you prepare and standardize 0.1N sodium hydroxide solution? What are primary, secondary standard substances? Give example. Give standardisation of 0.1N Perchloric acid.
2. How do you prepare and standardize 500ml of N/10 Sodium hydroxide solution.
3. What is a primary standard? Give example. What are the properties of a primary standard?
4. Write the methods of preparation and standardisation of 250ml of 0.1M Sodium hydroxide
5. Explain various methods of minimization of errors.
6. Explain different sources of errors. Write the methods to minimize them.
7. Define 1. Accuracy 2. Precision 3. Significant figures 4. Quality control
8. Explain the different types of errors in volumetric analysis and ways to minimize them.
9. Classify determinate errors. Explain the steps to minimize the errors.
10. Discuss the different methods to minimize errors
11. Explain briefly theories of neutralization indicators.
12. Explain ostwalds theory for acid base indicators.
13. Write briefly the various theories of neutralization indicators.
14. Classify and explain different types of neutralization indicators.
15. Explain iodometry and iodimetry with examples.
16. Explain the principle and reactions involved in iodometry titrations.
17. Explain different types of redox titrations with examples.
18. Explain Iodometry and Iodimetry with examples.
19. How is potassium permanganate standardized?
20. Write the preparation and standardisation of 0.1N Potassium permanganate.

21. Define permanganometry titrations and explain with one example.
22. What are non-aqueous titrations? Explain the assay of sodium benzoate.
23. What are non-aqueous titrations? Write the different solvents used in these titrations.
24. Give the principle and reaction for the assay of sodium benzoate.
25. How do you prepare and standardize 0.1N $HClO_4$.
26. Write the principle of non-aqueous titration.
27. Write the preparation and assay of sodium benzoate.
28. Define non aqueous titrations. Explain about the important conditions of non-aqueous titrations.
29. Write the principle involved in the Volhard's method of determination of halide?
30. What is Volhard's method and modified Volhard's method? Explain taking suitable examples.
31. What is Fajan's method? Explain by taking suitable example.
32. Explain different methods of estimation of halides.
33. What is Volhard's and Modified Volhard's method of estimation? Explain taking a suitable example.
34. What are argentometric titrations? Explain different methods of estimation of halides.
35. How is silver nitrate standardized?
36. Write the Mohr's method for the estimation of halides.
37. What is the principle involved in precipitation method of titration. Briefly explain it with one example.
38. What are argentometric titrations? Explain Mohr's methods of estimation of halides.
39. Explain modified Volhard's method for the estimation of halides.
40. Write in detail the theory of complexometric titrations with suitable examples. What are ligands? Explain the types of ligands with examples.
41. List out different methods in complexometry. Add a note on masking and demasking agents.
42. How do you prepare and standardize 0.05M disodium EDTA?
43. Write in detail the principle for complexometric titrations with suitable examples.
44. Write the general principle involved in the complexometric titration. What are ligands and their types.

45. What are the different types of EDTA titrations.
46. Write the principle, reactions and procedure involved in the limit test for iron.
47. Write the principle and reactions involved in the limit test for Arsenic.
48. Write the principle involved in the limit test for Sulphate.
49. Write the principle and reactions involved in the limit test for sulphate.
50. How do you carry out the limit test for chlorides in the given sample of sodium bicarbonate and sodium benzoate?
51. Explain the principle and procedure for the limit test for sulphates.
52. Write in detail the principle and reactions involved in the limit test for Arsenic.
53. Give the principle and reactions involved in the limit test for sulphates.
54. Give the principle and procedure involved in sulphate limit test.
55. Write the principle involved in the limit test for Arsenic.
56. Write the principle of limit test for lead.
57. Write the procedure and principle with reactions for limit test for lead.
58. Write the principle and reaction involved in heavy metals (IP) limit test.
59. Give the principle, reactions involved in the limit test for Iron and Lead.
60. Write in detail the principle, reactions and procedure for the limit test for Iron.
61. Give the method of preparation and uses of Aluminium hydroxide gel.
62. Define and classify antacids with examples. Add a note on combination antacid preparations (Therapy).
63. Define cathartics. Give the preparation, assay and used of Magnesium sulphate.
64. Write the method of preparation and assay of Aluminium hydroxide gel.
65. What are GIT agents? Classify them with examples. Write a note on acidifiers.
66. Give the method of preparation. Assay principle, medicinal use of magnesium
67. sulphate with its chemical formula and synonym if any.
68. Give the preparation and assay of Magnesium sulphate.
69. Write the principle for the assay of magnesium sulphate.
70. What are cathartics? Explain the assay of magnesium sulphate.
71. Give a method of preparation of Magnesium sulphate.
72. What are antacids? Classify them with examples. State requirements for an ideal antacid.

73. Define and classify antacids? Discuss the preparation, assay principle and medicinal uses of Baking soda.
74. Give the preparation and assay of Magnesium sulphate.
75. Write the principle for the assay of magnesium sulphate.
76. What are cathartics? Explain the assay of magnesium sulphate.
77. Give a method of preparation of Magnesium sulphate.
78. What are saline cathartics? What is their mechanism of action?
79. What are cathartics? Explain the assay of Magnesium sulphate.
80. Enlist different antacids. Write the preparation and uses of aluminium hydroxide gel.
81. Write the method of preparation and assay of Aluminium hydroxide gel.
82. Enlist different antacids. Write the preparation and uses of aluminium hydroxide gel.
83. What are antacids? Write the characteristics of an ideal antacid. Write the preparation of magnesium hydroxide mixture.
84. What are antacids? Write the method of preparation of aluminium hydroxide gel.
85. What are local antacids? Add a note on antacid combination therapy.
86. Write the composition and uses of talc and kaolin.
87. Write the methods of preparation and assay principle of magnesium hydroxide mixture.
88. What are antacids? Classify them with examples. Give the method of preparation and assay principle of Sodium bicarbonate.
89. What are antacids? Give examples.
90. Write the method for preparation and uses of Milk of Magnesia.
91. Discuss the physiological acid base balance in the body.
92. Write a note on electrolytes used in replacement therapy.
93. Describe the important functions of bicarbonate and Sodium ions in the body.
94. Explain the preparation, assay principle, storage conditions and medical uses of calcium gluconate.
95. Describe the physiological mechanism of acid base balance in the body.
96. What is electrolyte combination therapy? Explain ORS.
97. Explain the physiological role of sodium, calcium, chloride and bicarbonate ions.
98. Write a note on buffer systems of the body.
99. Name the natural buffer systems present in human body.
100. Discuss the importance of sodium and calcium ions in the human body.

101. Give the principle and method of assay of Calcium gluconate.
102. Write a note on physiological acid base balance.
103. Write the principle involved in the preparation and assay of Hydrogen peroxide.
104. Describe the various mechanism of action of inorganic anti-microbial agents.
105. What are anti-microbials? Give the method of preparation and principle in the assay of boric acid.
106. Explain the mechanism of action of antimicrobial agents.
107. Give the preparation, assay and uses of boric acid.
108. What are antimicrobials? Write the preparation and uses of Iodine.
109. Write the preparation and uses of Chlorinated lime
110. Explain the principle and reactions in assay of Chlorinated lime.
111. Write the preparation, uses and principle involved in the assay of Chlorinated lime.
112. Describe the principle and procedure of assay of chlorinated lime.
113. Discuss the role of fluorides in dental caries.
114. What are dentifrices? Classify them with example. Write a note on role of fluoride as anticaries agent.
115. Enlist the official zinc compounds along with formula and use. Explain the preparation, assay principle and uses of any one of them.
116. Preparation and medicinal uses of calcium carbonate.
117. What are dental products? Discuss the role of fluorides in dental caries.
118. Describe the method of preparation of any two dental products.

SHORT ANSWERS 02MARKS

1. Define acidimetric and alkalimetric titrations.
2. Explain the term “mEq”. Calculate the number of mEq of NaCl in one litre of 0.76% solution.
3. What are primary standards? Give examples.
4. Uses of dilute HCl and oxalic acid.
5. Indicators used in acid base titration
6. Define normality and molarity.
7. How do you prepare 100ml of 0.1 N oxalic acid solution?
8. Methods to express concentration of solutions.

9. Primary and Secondary standards.
10. What are primary standard substances? Give examples.
11. How do you prepare 100ml of 0.1N Oxalic acid solution?
12. Methods for expressing concentration of solutions.
13. How many ml of 0.2N hydrochloric acid is required for the complete neutralization of 25ml of 0.5N sodium hydroxide solution?
14. Define the terms molality and mole fraction.
15. Give the pH range of phenolphthalein and methyl orange indicators.
16. 25ml of 0.2N sodium hydroxide consumed 50ml of Hydrochloric acid for complete neutralization. What is the normality of hydrochloric acid?
17. Write a note on back titration.
18. 10ml of HCl is required for 20ml of 0.2N NaOH for complete neutralization.
19. Calculate the exact normality of HCl.
20. Complete the following reactions.
    KMnO4 + H2SO4 + H2C2O4. 2H2ONH4Cl + HCHO
21. Explain the importance of significant figures.
22. Define accuracy and precision.
23. What are errors? Classify them with examples. Precision and accuracy Sources of errors.
24. Types of errors with examples.
25. What are universal indicators give examples.
26. What is Iodimetry? Explain with an example.
27. Write the reactions involved in the standardization of 0.1N sodium thiosulphate.
28. Equivalent weight of potassium permanganate.
29. Explain the role of starch as indicator. Iodimetry Oxidizing and reducing agent.
30. Differentiate Iodimetry and Iodometry.
31. Indicators used in Iodine titrations.
32. Write a note on preparation and storage of volumetric solution of iodine.
33. List the 4 advantages of ceric sulphate over potassium permanganate.
34. Classify and give examples of redox indicators.
35. Name four primary standards for redox titrations.
36. Write the reaction between potassium bromate and potassium bromide with hydrochloric acid.

37. Give the brief classification of solvents used in non-aqueous titration.
38. What are non-aqueous titrations? Write the different solvents used in these titrations.
39. Explain the types of solvents used in non-aqueous titrations.
40. Classify solvents used in non-aqueous titrations.
41. Precautions to be taken while preparing perchloric acid titrant.
42. Name four solvents used in non-aqueous titrations.
43. Write a note on adsorption indicators.
44. Define co-precipitation and post precipitation.
45. Write the reactions involved in Mohr's method.
46. What are adsorption indicators? Give example.
47. What is the solubility product of silver chloride if its solubility at 25 ℃ is 1.86*10-4
48. Define gravimetric analysis. Write the importance of it
49. Explain the principle involved in the gravimetric analysis with one example.
50. Enumerate the different steps involved in gravimetric analysis.
51. What are the limitations of gravimetric analysis.
52. What is Co-pricipitation.
53. What is digestion? What is its effect?
54. What is post-pricipitation.
55. Define gravimetry and mention various steps.
56. Explain the principle and procedure for the limit test for Iron.
57. Define limit test. Give examples.
58. Write the use of alcohol in the limit test for chlorides in KMnO
59. Write the principle and reactions involved in the limit test for sulphate.
60. Write the use of citric acid and ammonia in Iron limit test.
61. Role of acetic acid and ammonia in the limit test for heavy metals.
62. What is the role of thioglycolic acid in iron limit test.
63. Give reason: Nitric acid used in limit test for chloride.
64. Role of lead acetate cotton wool in arsenic limit test.
65. What is a limit test? Why it is carried out?
66. Reagents used in arsenic limit test.
67. Discuss the limit test for chloride.
68. Why alcohol is used in the limit test for chloride in KMnO4.

69. Ethanolic sulphate standard solution is used in limit test for sulphates. Give reason.
70. How do you carry out the limit test for chloride in KMnO4?
71. Why citric acid is used in the limit test for iron?
72. Preparation and use of Barium Sulphate reagent.
73. What is the basis for fixing the limits for impurities?
74. Why dilute nitric acid is used in the limit test for chloride?
75. Differentiate between limit test and test for purity.
76. Why ammonia is used in the limit test for iron?
77. State the meaning of the term opalescence
78. Write the use of citric acid, thioglycolic acid and ammonia in Iron limit test.
79. Give the medicinal uses for Nitrous oxide and Carbon dioxide.
80. What are acidifiers? Give example.
81. Name two medicinal gases with their uses.
82. Inhalants.
83. Give the uses of Oxygen and Carbon dioxide.
84. What are inhalants?
85. Write the labelling and storage conditions for Oxygen.
86. Write the methods of preparation and uses of Nitrous oxide gas
87. What are inhalants? Give the method of preparation, labelling, storage condition
88. and medicinal uses of Nitrous oxide.
89. Give the preparation, storage uses and labelling condition of carbon dioxide.
90. Discuss the role of Oxygen and Carbon dioxide in biological system.
91. Give a brief note on Talc.
92. What are antacids? Give examples.
93. Examples for protective.
94. Give the method of preparation of Milk of magnesia.
95. Composition and medicinal uses of talc.
96. What is achlorhydria?
97. Define 1. Cathartic 2. Emetic 3. Accuracy 4. Antioxidant.
98. Define: a) Saline cathartics b) Achlorhydria c) Limit test d) Antiseptic.
99. Write the molecular formula and uses of Milk of Magnesia.
100. What are protective and absorbents? Give example.

101. Write the composition and uses of kaolin.
102. Explain the chemical nature and uses of Talc.
103. Non-systemic antacids.
104. Define Acidifiers.
105. Chemical composition and uses of magnesium trisilicate.
106. What are cathartics? Give example.
107. Physiological role of copper
108. Define saline cathertics give example.
109. Write the different types of cathertics.
110. Give the composition of Hartman's solution for injection.
111. What is the source and biological importance of iron?
112. Write a note on ORS.
113. Write the formula and uses of ORS.
114. Classify extra and intra cellular electrolytes with examples
115. Give the method of preparation and uses of calcium gluconate injection
116. Physiological role of Zinc.
117. Physiological role of Iodine.
118. Biological role and deficiency of zinc in the body.
119. Write the composition and uses of ORS.
120. What are antimicrobial agents? Give examples.
121. Why sulphuric acid is added in the assay of Hydrogen peroxide.
122. Role of chloroform in the assay of potassium iodide.
123. What is the use of glycerine in boric acid assay?
124. Give reason for the use of glycerine in the assay of boric acid.
125. Define antimicrobial agent. List out the antimicrobial agents with formula.
126. Preparation of boric acid?
127. Give reasons: Dilute sulphuric acid used in the assay of hydrogen peroxide.
128. Explain the mechanism of action of anti-microbial agents.
129. What are antimicrobial agents? Give examples.
130. Name two antimicrobials with their molecular formula.
131. Write the molecular formula of boric acid.
132. Write the molecular formula of boric acid and its uses.

133. Write about zinc eugenol cement.
134. What are anticaries agents? Give examples.
135. Define Desensitizing agents.
136. Give a brief account of fluorides used in dental products.
137. What are expectorants? Give examples.
138. What is dental caries? Name two anticaries agents. .
139. Explain desensitizing agents.
140. Define dentifrices.
141. What are dental products? Classify them with examples.
142. Write the composition and application of zinc eugenol cement
143. Write about desensitizing agents.
144. What are desensitizing agents? Give example.

Vision and Mission of the Institution

Vision

The East Point College of Pharmacy aspires to be a globally acclaimed institution, **recognized** for **excellence in** pharmaceutical education, research and nurturing students for **holistic development.**

Mission

M1 Create pharmacy graduates through **quality education**

M2 Promote innovation, **creativity**, and excellence **in teaching**, learning, and **research**

M3 **Inspire** integrity, teamwork, critical thinking**, personal** development, and ethics in **students** and lay **the** foundation for lifelong learning

M4 **Serve** the **healthcare, technological, scientific**, and **economic** needs of then **society**.