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

QUESTION BANK

B Pharmacy

Semester-VII

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
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INSTRUMENTAL METHOD OF ANALYSIS

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LONG ESSAYS 10 MARKS

1. Describe and derive the equation for Beer's – Lambert's law. Add a note on deviations and limitations of beers law.
2. Write a note on theory and applications of IR spectrophotometry. Explain different sampling techniques employed in IR spectroscopy.
3. Describe in brief the principle, instrumentation and applications of gas chromatography.
4. Explain the principle, instrumentation and applications of UV-Visible spectroscopy.
5. What are the different vibrational modes of polyatomic molecules upon IR absorption? Write in brief on the various detectors used in IR Spectroscopy.
6. Describe the principle, instrumentation and applications of HPLC.
7. What are the essential components of a UV-Visible Spectrophotometer? Draw a diagrammatic sketch and explain the functions and working of each unit.
8. Explain the theory involved in IR spectroscopy with brief outline of IR spectroscopy instrumentation.
9. Explain the instrumentation of HPLC with neat diagram with more emphasis on pumps and detectors used.
10. Explain in brief about monochromators and any two detectors used in UV spectroscopy.
11. Explain the principle, instrumentation, sampling techniques and applications of IR spectroscopy.
12. Describe Gas Chromatograph with a neat labelled diagram. Explain the type of GC columns, carrier gases and detectors used.
13. Draw and explain with a neat label diagram of double beam UV spectrophotometer. Explain various spectrophometric titrations with suitable graphs.
14. Explain the construction and working of flame emission spectrometry with neat labeled diagram and discuss the various types of interferences occurred in atomic spectroscopy.
15. Describe in brief instrumentation of gas chromatography with neat labeled block diagram.

16. State and derive the equation for Beer – Lambert's law. Give the reasons for deviation from law.
17. Discuss the principle, theory of IR spectroscopy and give its applications.
18. Write elaborately the principle, instrumentation and applications of Gas chromatography.
19. Discuss in detail about the concept of EMR, energies in organic molecule and electronic transitions in UV-Visible spectroscopy.
20. Draw a neat labelled instrumentation layout of IR spectrophotometer and explain the sample handling techniques in IR.
21. Draw a neat schematic diagram of GC. Explain about columns and detectors used in GC.
22. Draw a neat labelled diagram of double beam UV-Visible spectrophotometer and explain the working principle of monochromators and any two detectors.
23. Describes the principle, working and instrumentation of AAS.
24. Draw a neat schematic diagram of HPLC. Explain about pumps and detectors used in HPLC.
25. Define & derive Beer and Lambert's law. Add a note on its deviations and limitations.
26. Explain briefly the instrumentation of IR spectroscopy.
27. the Detectors and sample injection techniques used in Gas Chromatography & explain in detail each of two.
28. Explain the working of double beam UV-Visible spectrophotometer with the help of neat labelled diagram.
29. Discuss the different sources of radiations & detectors used in IR spectroscopy.
30. Discuss the different pumps & detectors used in HPLC.

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SHORT ESSAYS 05 MARKS

1. Define and distinguish between fluorescence and phosphorescence. Write the various factors affecting the phenomenon of fluorescence.
2. Define Wavelength, Wavenumber, Frequency, Transmittance and Absorptivity?
3. Explain the instrumentation and working of atomic absorption spectroscopy.
4. Define and classify chromatography with suitable examples.
5. Explain the practical steps involved in TLC for separation of components.
6. Describe the practical steps involved in paper electrophoresis.
5. Explain the instrumentation of HPLC with block diagram.
6. What are ion exchange resins? Classify and explain the ideal properties of ion exchange Resins.
7. Explain the principle and theory of gel chromatography.
8. Write the statement and derive the equation for Beer ‘s – Lambert’s law.
7. Explain in brief the effect of solvent on absorption UV-Visible radiation by the molecules.
8. Explain the instrumentation and working of flame emission spectrometry.
9. Explain the various methods of preparation of TLC plates.
10. Briefly explain the operational techniques of column chromatography.
11. Add a note on gel electrophoresis.
12. Explain the concept of plate theory and rate theory for increasing the efficiency of column in chromatography.
13. What are ion exchange resins and explain the operational techniques of ion exchange chromatography.
14. Write the practical steps involved in size exclusion chromatography gel chromatography.
15. Explain the phenomenon of Fluorescence and Phosphorescence. Write the requirement of molecules to exhibit fluorescence.

16. Explain in brief the various types of shifts occurs in UV-Visible spectroscopy.
17. Name the burners used in flame photometry and explain in detail any one.
18. Write the advantages of TLC over paper chromatography.
19. Explain the factors affecting efficiency of column in chromatography.
20. Define electrophoresis and explain the various factors affecting electrophoresis.
21. Explain the principle and working of thermal conductivity and flame ionization detectors.
22. Write the principle, techniques and applications of ion exchange chromatography.
23. Discuss the principle, instrumentation and applications of affinity chromatography.
24. Discuss the working principle and construction of specrtofluorimeter.
25. Explain the multiple component analysis of drugs by UV spectroscopy.
26. What are Nephelometry and turbidometry? Write principle involved for the same.
27. Enlist and explain the various development techniques in paper chromatography.
28. Explain the separation techniques involved in column chromatography.
29. Give an account of gel electrophoresis with representation of neat diagram.
30. Explain about the various detectors used in HPLC.
31. Define and classify ion exchange resins and explain the manufacture of cation exchange resin and anion exchange resin.
32. Explain the principle, theory and applications of gel chromatography.
33. What is Quenching? Enumerate the various factors which influence quenching effect.
34. Define Wavelength, Bathochromic shift, Hypsochromic shift, Hyperchromic effect and Hypochromic effect.
35. Describe the detectors of an IR spectrometer.
36. Write the practical aspects of development techniques in paper chromatography.
37. the packing method of adsorbent in column chromatography with their merits and demerits.
38. What is zone electrophoresis? Explain any one in detail.

39. Describe the pumps, sample injection techniques and applications of HPLC.
40. Principle, classification and mechanism of ion exchange process in ion exchange chromatography.
41. Principle, ligands used and applications of affinity chromatography.
42. Enumerate and discuss the different factors that affect the intensity of fluorescence.
43. Explain the single component and multi component analysis by UV spectrometry.
44. Explain the principle and applications of Flame photometry with neat labelled diagram?
45. What is electrophoresis? Describe paper electrophoresis technique.
46. Explain the experimental methodology involved in preparing TLC plates. Add a note on detection methods in TLC?
47. Discuss different methods of preparation and elution techniques of column chromatography.
48. Mention the detectors used in HPLC and explain in detail any two.
49. Explain the principle and theory of gel chromatography.
50. Explain affinity chromatography.
51. Write a note on effects of solvents (solvatochromic effect) in UV spectroscopy.
52. Discuss the factors affecting the fluorescence.
53. Write the diagram of flame and explain the different regions.
54. Define electrophoresis. Discuss the factors affecting the electrophoresis.
55. Discuss the development and visualization techniques in paper chromatography.
56. Explain the packing, elution and detection techniques involved in column chromatography.
57. Write the construction and working of any two detectors used in HPLC.
58. What is ion exchange chromatography? Give the steps involved in the mechanism of ion exchangers used.
59. Discuss the principle involved in separations by gel chromatography.

60. Draw a neat schematic diagram of fluorimeter. Why the light source and detectors are placed perpendicular to each other and two monochromator used in flourimeter.
61. Write a note on effects of solvents (solvatochromic effect) in UV spectroscopy.
62. Explain the construction and working of golay cell and bolometer detectors used in IR Spectroscopy.
63. Discuss the development and visualization techniques in paper chromatography.
64. Explain the experimental methodology involved in paper electrophoresis and its applications.
65. Discuss the preparation, activation and visualisation of TLC.
66. Draw a neat schematic diagram of GC. Explain about columns used in GC.
67. Write a note on affinity chromatography with special emphasis on ligands used.
68. Write a note on cationic and anionic exchangers.
69. Explain the construction & working of photomultiplier tube and barrier layer cell.
70. Discuss the single component & multi component analysis by UV spectroscopy.
71. Discuss the principle and various gels used in gel chromatography.
72. Discuss the principle & applications of Flame photometry.
73. What is adsorption and partition column chromatography. Give its advantages and disadvantages.
74. Discuss the applications of HPLC.
75. Define and classify Ion Exchange resins. Add a note on factors affecting Ion exchange.
76. Discuss the different development techniques used in Paper Chromatography.
77. Explain the principle and techniques involved in Paper Electrophoresis.
78. Discuss the UV method for analysis of single component and multi component formulations.
79. Discuss the principle of fluorescence using Jablonski diagram
80. Explain the principle and interferences in Atomic spectroscopy.
81. Discuss briefly rate and plate theory.

82. Write the different methods for preparations of TLC plates.
83. Define Electrophoresis & discuss the factors affecting Electrophoretic mobility.
84. Write the principle and mechanism of Ion Exchange Chromatography.
85. Write the theory & applications of Affinity Chromatography.
86. Discuss the classification of chromatographic methods based on mechanism of separation.

SHORT ANSWERS 02 MARKS

01. Mention in brief the importance of multi component analysis.
02. Define chromophore and auxochrome with suitable examples.
03. Name the fuel gases used in flame emission spectroscopy.
04. Write the vibrational frequency of alcohol, carboxyl group and amide.
05. Write the differences between nephelometry and turbidimetry.
06. hat are the elution techniques in column chromatography.
07. Define Rf and Rm value with their significances.
08. What is Guard column? Write its significance.
09. What is the role of ligand in chromatography?
10. Write the applications of affinity chromatography.
11. Define Fluorescence and Phosphorescence.
12. Write the importance of color wheel.
13. Write the vibrational frequency of alcohol, aldehyde and amide in IR spectrum
14. Write the block diagram of Nephelometry.
15. What are different interferences in flame photometry?
16. Define Rf and Rm value.
17. What is electrophoresis?
18. What is programmed temperature gas chromatography? Write its importance
19. Give the example for anion and cation exchange resins.
20. Write the principle of affinity chromatography.

21. Define and classify filters and monochromators.
22. Mention the various methods of single component analysis.
23. Write the vibrational frequency of amide, amine and ketone in IR spectrum.
24. Write the applications of Atomic Absorption spectroscopy.
25. Name the radiation sources used in IR spectroscopy.
26. What is activation of plates? Write its importance.
27. What is frontal and displacement analysis?
28. What is derivatization in GC and write its significance.
29. Mention the factors affecting ion exchange chromatography.
30. Name the natural and synthetic gels used in gel chromatography.
31. Define Absorptivity and Transmittance.
32. What is Quenching? Give example.
33. What are the events that occur when the compound of a metal to be investigated is aspirated into a flame?
34. Define a) functional group region b) finger print region.
35. Write the formula used to calculate number of fundamental vibration for Linear and Nonlinear molecules.
36. Write the difference between normal phase and reverse phase chromatography.
37. Write the difference of silica gel, Silica gel G, silica gel GF.
38. What is derivatization? Mention the various methods of derivatization in gas chromatography.
39. Write the difference between gel chromatography and affinity chromatography.
40. Importance of ligand in affinity chromatography.
41. What is molar extinction co-efficient?
42. Enlist the application of fluorimetry in quantitative analysis of drugs.
43. Write the vibrational frequency of C=O, OH, amine and amide.
44. Write the application of nephelometery and turbidometery.
45. Differences between flame emission and atomic absorption spectroscopy.
46. What is two dimensional paper chromatography?

47. Classify adsorbents and detecting reagents with examples.
48. What is programmed temperature gas chromatography.
49. What are the gels used in gel chromatography.
50. Write the difference between gel chromatography and gel electrophoresis.
51. Define chromophore and auxochrome.
52. What is absorption maxima? Write its significance?
53. Write the wavenumber of OH group and NH2 groups in IR spectrum.
54. Write the difference between nephelometery and turdidimetery.
55. How solid samples are handled into IR spectrometers.
56. What is the difference between Silica gel H, Silica Gel G and Silica gel GF?
57. Classify detecting reagents in paper chromatography with suitable examples.
58. What is Guard column? Write its significance.
59. Mention the various factors affecting ion exchange chromatography.
60. Write the applications of gel chromatography.
61. Define the term absorptivity and wave number.
62. Write the difference between fluorescence and phosphorescence.
63. What is the functional group for wavemunber 3400 cm-1 and 1715 cm-1
64. Write the difference between nephelometery and turdidimetery.
65. Define the term retention factor (Rf).
66. Differentiate between normal phase & reverse phase chromatography
67. Write the expansions of Silica gel 60 GF 254.
68. Explain any one derivatisation technique in GC.
69. Why the buffers are used in ion exchange chromatography.
70. What is the principle involved affinity chromatography?
71. Define chromophore and lamda max.
72. Define molar absorptivity.
73. Explain the various frequency regions for amides and ketones.
74. Mention the types of interferences in Atomic spectroscopy.
75. Write the applications of nepheloturbidometry.

76. What is the difference between isocratic and gradient elution in chromatography?
77. Define edge effect? Mention the method to prevent.
78. Mention the importance of guard column in GC?
79. Name the stationary phase used in gel chromatography.
80. Enumerate the applications of affinity chromatography.
81. Define chromophore and auxochrome? Give one example for each.
82. Solvent effect on UV absorption spectra.
83. Write the vibrational frequencies of alcohols and amines in IR spectroscopy.
84. Write the principle involved in nepheloturbidometry.
85. What is temperature programming in gas chromatography.
86. Define Rf value? Name the factors that affect Rf value.
87. What is regeneration of ion exchange resins.
88. What is affinity chromatography?
89. Name the molecular vibrations in IR spectroscopy.
90. What is edge effect? How to minimize it.
91. Name the spectral shifts that occur in UV region.
92. What is fingerprint region in IR spectroscopy.
93. Name the electronic transitions that occur in UV region.
94. Give any two applications of Nepheloturbidometry.
95. Name the different migration parameters used in planar Chromatography.
96. Write the principle involved in Gel Chromatography.
97. Write the properties of ideal Ion exchange resins.
98. What is derivatization in Gas Chromatography?
99. How aldehyde and ketone can be differentiated in IR spectrum.
100. What is Normal phase & Reverse phase Chromatography?

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INDUSTRIAL PHARMACY

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LONG ESSAY 10 MARKS

1. Discuss the general factors to be considered in pilot plant scale up technology?
2. Discuss pilot plant scale up consideration for solids dosage solids.
3. Discuss pilot plant scale up consideration for liquid orals.
4. Discuss pilot plant scale up consideration for semi-solids.
5. What are difference platform technology and explain in detail.
6. Discuss stage involved in TT in pharmaceutical industry?
7. Explain Regulatory Requirement Approval for obtaining NDA.
8. Discuss general consideration of Investigational New Drug Application.
9. a) Explain the principles of QbD. b) Write a note on six sigma concept.
10. Describe the quality by Design (QBD).
11. Write a note on six sigma concept.
12. Write a note on ISO 14000.
13. Explain about central drug standard control organization (CDSCO).
14. a) Explain the regulatory requirements and approval procedures for New Drugs.
    b) Write responsibilities of State Licensing authorities.
15. Discuss the NDA aaproval process in detail, Illustrate with the help of a flow diagram.
16. Explain the process of change control with the help of flow diagram.

SHORT ESSAY 05 MARKS

1. What are the objectives and significance of pilot plants?
2. Explain SUPAC guidelines?
3. Discuss the uses of platform technology?
4. Explain technology transfer sample protocol in pharmaceuticals
5. Discuss technology transfer from R & D to production as per WHO guidelines?
6. Discuss granularity of TT process (API, excipients, finished products, packaging material) as per WHO guidelines for TT ?

7. Discuss about documentation, premises, and equipment's for TT as per WHO guidelines
8. Discuss about qualification and validation for TT as per WHO guidelines?
9. How analytical methods are exchanged in a technology transfer?
10. Discuss the role and responsibilities of RA professional.
11. Write a note on Drug development team and their functions.
12. Discuss regulatory authorities and their responsibilities.
13. Write a note on Non-clinical drug development process.
14. Write a note on Investigator's Brochure (IB).
15. Discuss the different phase of clinical trial.
16. How Bioequivalence are documented.
17. Write a note on clinical Research protocol.
18. Discuss about Management of clinical studies.
19. Discuss the various Modules in CTD.
20. Explain about six sigma concept.
21. Write a note on ISO 14000.
22. Write briefly on TQM.
23. Write about QbD and its application.
24. Write about COPP.
25. Write a note on principle and process of QRM.
26. Enlist the key elements of TQM and explain any one of them.

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SHORT ANSWERS 02 MARKS

1. Describe about the responsibilities of state licensing authority.
2. Write a note on Indian regulatory. Write CDSCO function.
3. Explain about Central Drug Laboratory and its functions.
4. Write NDA review process.
5. Describe the phases of clinical trial.
6. Write briefly on Investigational New Drug application(IND).
7. Define pilot and scale up?
8. What is the difference between pilot scale and scale-up?
9. Why to conduct pilot plant studies?
10. What are the advantages of pilot studies?
11. What is SUPAC?
12. What is the purpose of SUPAC guidelines?
13. Define platform technology?
14. Define the technology transfer according to WHO and how it is classified?
15. What are the goal of technology transfer?
16. What are the advantage of technology transfer?
17. What is good manufacturing practices (GMP)?
18. What do you mean by SU &RU
19. Define quality risk management (QRM) and write its principle
20. What do you mean by intercompany and intracompany?
21. What is the standard operating procedure (SOP) ?
22. What is validation and process validation?
23. What is validation protocol (VP) and validation report (VR) ?
24. What is the drug master file (DMF)?
25. What is analytical method transfer?
26. What is design qualification (DQ) and installation qualification (IQ)?
27. What is operational qualification (OQ) and performance qualification (PQ)?

28. What is regulatory affairs ? what its goal?
29. what is investigational new drug and application?
30. what is New drug application (NDA) /
31. what is clinical trial?
32. what is clinical trial protocol?
33. what are BE & BA studies? why they are required?
34. Mention the major regulatory bodies in the world?
35. What is the organizational structure of regulatory affairs ?
36. Which is the health care product regulated by RA?
37. What is CTD ?
38. What are the three aspects of TQM?
39. What is ISO 9000?
40. Write a note on GLP.
41. Write application of QbD.
42. What is OOS? How does OOS apply only to finished products.
43. Define clinical trial according to CDSCO.
44. What was given in the CDSCO regarding academic Research.
45. Write a note on COPP.
46. Write a note on drug control laboratory.
47. Write the phases of clinical trials.
48. Write a note on CDSCO.
49. Write the aim of NDA.
50. Differentiate between IND and NDA.
51. Enlist the functions of regulatory authority.
52. Write vision and mission of CDSCO.

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PHARMACY PRACTICE

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LONG ESSAYS 10 MARKS

1. Define and Classify Adverse drug reaction. Explain in detail the mechanism of type- A ADR with example
2. Define hospital pharmacy and explain its functions in detail
3. Write a note on location, layout, and staff requirements in hospital pharmacy
4. Define hospitals and classify it with examples
5. Explain the methods used for detection of adverse drug reactions
6. Describe the organizational structure of hospital
7. Define hospital pharmacy. Write in detail the responsibilities of hospital pharmacist
8. Define ADR. Write the various causality assessment scales used in ADR monitoring
9. Define hospital. Write the functions of a hospital
10. Write a short note on history of hospitals. Give the objectives and function of it
11. Explain in detail about drug distribution methods for Inpatients
12. Give the objectives, need, advantage and disadvantage of hospital formulary
13. Explain drug distribution system in hospital for In-Patients
14. Explain in detail the staff and Infrastructure Requirement for Community Pharmacy
15. Write a note on Individual prescription order and floor stock system
16. Define hospital formulary. Explain in detail the contents of hospital formulary
17. Define community pharmacy. Explain the role of community pharmacist
18. Define TDM. Write the steps involved in performing TDM
19. Write on preparation and content of hospital formulary
20. Describe the purpose and functions of PTC and how PTC ensures drug safety in hospital
21. Define patient counselling. Explain in detail steps involved in patient counselling
22. Define drug information. Write the steps involved in answering a drug information query
23. What are the policies of Pharmacy and Therapeutic Committee?
24. What is the role of PTC in developing "Emergency Drug List"
25. Define Prescribed Medication Order and write a note on Legal requirements and Interpretation of Prescribed Medication Order.
26. Write the organisational structure and functions of P&T committee
27. Enlist the various counselling points to be provided for a Diabetes and Hypertension patient.
28. Write a detailed note on Drug Information Services/Centre

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SHORT ESSAYS 05 MARKS

1. Enlist the types of hospitals
2. Add a note on organization structure of hospital pharmacy
3. Define and classify drug interaction
4. Write a note on idiosyncrasy
5. Write in detail the mechanism of type- B ADR
6. Enumerate on Pharmacokinetic Drug interactions
7. Write a note on personal/staff requirements in hospital
8. Define ADR. Give the significance of monitoring ADR
9. Classify hospitals based on economy
10. Write the functions of a hospital Pharmacist
11. Write in detail about any two causality assessment scales of ADR
12. What are the functions of a hospital Pharmacist
13. Write the role of blood bank and CSSR in a hospital
14. Define ADR. What are the risk factors of ADR?
15. Classify hospitals according to system of medicines
16. Write a note on Pharmacodynamic drug interactions
17. Define and classify ADR
18. Write about the various clinical services in a hospital
19. Enlist the various functions of a hospital Pharmacy
20. Define ADR. Write the mechanism of type -A ADR with examples
21. Write a note on community Pharmacy
22. Write the need for hospital formulary
23. Discuss the applications of TDM
24. Enumerate the causes for medication non-adherence
25. What are the advantages and disadvantages of Individual prescription order system
26. Write the objectives of hospital formulary.
27. Write the advantages of Unit dose dispensing system
28. Enlist the types of records needs to be maintained in a community Pharmacy
29. Write the advantages of hospital formulary
30. Draw the design and layout of community Pharmacy

31. Write a note on charge floor stock drug system
32. What are the principles of TDM
33. Discuss about drug dispensing system in ambulatory patients
34. Write the need of hospital formulary in a hospital
35. Role of pharmacist in improving medication adherence
36. Explain in detail the dispensing of controlled drugs
37. Draw a neat, labeled diagram of drug store layout
38. Write in detail about any two drug dispensing systems with its advantages and disadvantages
39. Write the contents of a hospital formulary
40. Write a note on Indian scenario for TDM
41. Define drug information. Write the source of drug information
42. Give in detail the Interpretation of Prescribed Medication Order
43. Write the organisation of Pharmacy and Therapeutic Committee
44. Explain in detail about drug information bulletin
45. Write the sources of drug information services
46. Role of Pharmacist in P&T committee
47. Writ the steps involved in answering a drug query
48. Enumerate the counseling points for Asthma
49. Write the functions of P&T committee
50. What are the communication skills required for a better patient counseling?
51. Give the advantages and disadvantages of OTC drugs
52. Write the responsibilities of clinical pharmacist
53. Give the importance of ward round participation
54. Write the significance of Drug Therapy Monitoring
55. What are the Benefits and Risks associated with OTC drug use
56. Write a note on Pharmaceutical care
57. Scope of clinical Pharmacy in India.
58. Discuss the primary aims of Clinical Review
59. Write the importance of ward round participation
60. Discuss in brief about OTC medicines

61. Write a note on Medication chart review
62. What are the factors to be considered before dispensing OTC drugs?
63. Scope of clinical Pharmacy in India
64. Define Pharmacist intervention and its importance in patient safety
65. Write a note on rational use of OTC drugs
66. Define medication error and add a note on importance of monitoring it
67. Explain the concept and scope of clinical Pharmacy
68. Write a note on misuse and abuse of OTC drugs
69. Enumerate the importance of medication history review
70. Roles and responsibilities of clinical Pharmacist
71. Explain in detail about drug therapy monitoring
72. What are the legal requirements for OTC sales
73. Classify ward round participation. Add a note on its significance
74. Discuss on rational use of OTC medicines
75. Write the importance of clinical review
76. What are the risks and benefits of dispensing OTC drugs
77. Discuss the hematology parameters and its interpretation
78. Write a note on ABC analysis with its advantages and disadvantages
79. Write a short note on types of materials stocked in drug store
80. Write a short note on VED analysis
81. Write the various abnormal constituents of urine and the diagnostic tests of it
82. Give the normal range and significance of the following: a. RBC, b. ESR, c. PCV, d. Ferritin, e. Thrombocytes
83. Write the signifance of blood chemistry values
84. Define Purchase. What are the various types of purchasing
85. Define Inventory control. Classify it and explain in detail about any one method.
86. Discuss in detail the procurement and purchasing of drugs

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SHORT ANSWERS 02 MARKS

1. Enlist the various paramedical services in hospital
2. Define hospital according to WHO
3. Purpose of medical records in a hospital
4. Define hospital Pharmacy
5. Staff requirement for hospital Pharmacy
6. Give two examples for type B ADR
7. Enlist any four functions of hospital
8. Define hospital
9. Naranjo scale of ADR assessment
10. Draw the typical layout of hospital Pharmacy
11. What do you mean by term “In-Patient”
12. Enlist types of free floor stock system
13. Drug basket system
14. What is the minimum qualification required to start a community pharmacy?
15. List any four drugs for TDM monitoring
16. Advantages of Unit dose dispensing system
17. Individual prescription system
18. Define medication adherence
19. What is medication non-adherence
20. Role of a community Pharmacist in women healthcare
21. Write any two functions of a community pharmacist
22. Enlist the barriers in Patient Counselling
23. Define automatic stop order for dangerous drugs
24. Give the composition of P&T committee
25. What is medication error
26. Sources of drug information services
27. Define PIC
28. Differentiate between generic and brand name
29. Enlist various patient counselling aids
30. Members of P &T committee.

31. Importance of patient counselling
32. Define prescribed medication order
33. Patient counselling points for TB patients
34. Importance of poison information centre
35. What is internal and external training program in a hospital
36. Give some examples of tertiary sources for drug information
37. Enlist the qualities of a patient counsellor
38. Write the parts of a prescription
39. What is Prescribed medication order
40. Define patient counselling
41. What are communication skills
42. Write the members of P& T committee
43. What is mean by drug information services
44. . What are the benefits of Patient counselling
45. Differentiate between generic and brand name
46. Write the various patient counselling aids
47. Define drug information bulletin
48. Give two examples of primary sources for drug information
49. What is the need of poison information centre in a hospital?
50. Importance of medication history
51. Define Pharmacist intervention
52. Define clinical Pharmacy
53. Define budget
54. What is ward round participation
55. Define clinical review
56. Give examples for OTC analgesics
57. What is an administration error?
58. Define Drug therapy monitoring
59. Define Pharmaceutical care
60. What are the risks associate with OTC drugs
61. Importance of medication history review.

62. Write the importance of medication history review
63. Significance of Pharmacist intervention
64. Give four examples of OTC drug
65. Give the normal range of a. Hb, b. clotting time
66. Enlist the types of inventory control
67. Give the normal range of RBC, ESR
68. What do you mean by Investigational drugs?
69. Enlist the factors affecting Inventory Control
70. Write the formula to calculate EOQ
71. Write the normal values of BUN, Creatinine
72. What is an investigational new drug
73. Write the normal values of a. PCV b. MCV
74. Write the significance of ESR values
75. Write the disadvantages of VED analysis
76. Significance of the presence of protein and glucose in urine
77. Role of pharmacist in investigational drug use
78. Write the objectives of inventory control
79. Write the significance of the urine culture test
80. Define procurement and stocking of drugs
81. Define Re-order quantity level
82. What is an investigational drug?
83. Normal values of a. Potassium, b. Sodium
84. Write the methods used for analysis of drug expenditure
85. Normal values of a. Platelets b. WBC
86. Write the Various phases of clinical trials.
87. Give the normal range of (a) creatinine (b) BUN
88. What do you mean by Investigational drugs?
89. Define purchase order.
90. Define drug store.
91. What is the formula to calculate EOQ?
92. Write the significance of platelets and ESR.

EAST POINT COLLEGE OF PHARMACY
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NOVEL DRUG DELIVERY SYSTEM

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LONG ESSAYS 10 MARKS

1. Describe the various physicochemical and pharmaceutical factors to be considered in selection of a drug candidate for controlled delivery formulations.
2. Write the concept of controlled drug delivery systems. Explain the approaches for the Controlled release formulations based on dissolution.
3. Describe the various approaches to formulate dissolution and diffusion based controlled release drug delivery systems.
4. Explain the principle involved in the design of controlled drug delivery systems.
5. Explain in detail about various types of osmotic pumps
6. Write the concept of controlled drug delivery systems. Explain the approaches for the controlled release formulations based on ion exchange technique.
7. Write about the various factors which influence development of controlled release formulations.
8. Explain the principle, advantages, disadvantages and types of controlled release formulations.
9. Explain the types, advantages and disadvantages of implantable drug delivery system.
10. Describe various theories of mucoadhesion with their significance in designing mucoadhesive products.
11. Explain in detail about various types of osmotic pumps
12. Explain the types, advantages and disadvantages of mucoadhesive formulations
13. Write in details about the implantable drug delivery system
14. Explain in details of implantable drug delivery system and their drug release mechanisms.
15. Write about factors affecting designing and development of mucoadhesive dosage forms.
16. Explain in detail about the evaluation of mucoadhesive formulations.
17. Write in details about mucoadhesive drug delivery systems.
18. Describe in detail about of gastrorententive drug delivery system with advantages and disadvantages.
19. Explain different formulation approaches of Transdermal drug delivery system.
20. What are gastrorententive drug delivery systems? Explain various approaches of gastrorententive drug delivery system.

21. Discuss in detailed about gastrorententive floating drug delivery systems.
22. Describe in detail about formulations aspects of Nasal Spray.
23. What is a pulmonary route of administration? Explain in detail about drug powder inhalers
24. Describe in detail about formulations aspects of Nasal Spray
25. Discuss permeation of the drug through the skin and explain factors affecting permeation of drug through skin.
26. Define Transdermal drug delivery system (TDDS)? Give advantages and disadvantages. Describe permeation enhancer with examples.
27. Define Transdermal drug delivery system (TDDS)? Describe various basic components of TDDS.
28. Write polymers used in transdermal drug delivery systems.
29. Explain about various factors behind controlled release drug delivery systems. Describe various approaches.
30. Explain the various structural components of liposomes.
31. Mention the application of monoclonal antibodies on targeted drug delivery.
32. Explain spray drying and spray congealing method.
33. Define niosomes and nanoparticles.
34. Write the process of production of monoclonal antibodies.
35. Write in details about controlled release drug delivery system.
36. Define the term permeation enhancer with examples.
37. Discuss implantable drug delivery system and explain in detail the osmotic pump.
38. Describe the various approaches for designing controlled release formulation.
39. Discuss the application of IUDs in pharmaceutical drug delivery.
40. Write a note on barriers of ocular drug delivery system. Explain the methods to overcome the barrier.

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SHORT ESSAY 05 MARKS

1. Classify the polymers used to modify the drug release.
2. Describe Ion Exchange Resins based controlled release formulation.
3. What are biodegradable and non- biodegradable polymers?
4. Write about reservoir and matrix type of controlled release formulations
5. Explain the biological factors affecting controlled release drug delivery systems.
6. Explain mechanisms involved in drug release retardation using polymers.
7. Write about the drug candidate section criteria for developments of controlled release drug delivery systems.
8. Write about the types and uses of controlled release polymers.
9. Explain the various requirements of drug candidate to be selected for formulation into controlled drug delivery system.
10. Write shortly about types of polymers with their applications in pharmaceuticals.
11. Write in details about the microencapsulated drug delivery systems.
12. Write in details about the microencapsulated drug delivery systems.
13. Enlist factors affecting formulation of controlled drug release dosage forms.
14. Describe shortly about polymers in modified drug delivery system.
15. Write the advantage and role of polymers in modified drug delivery.
16. Write about controlled release polymers and their applications.
17. Define absolute bioavailability.
18. What are the criteria followed in polymer selection in controlled drug delivery systems.
19. Write about concept of mucoadhesion.
20. Explain the theories of mucoadhesion.
21. Write mucosal permeation enhancers with examples.
22. Describe about mucosa and drug permeation across it.
23. Write the basic components in buccal drug delivery system.
24. Write note on applications of mucoadhesion in development of pharmaceutical products.
25. Define and classify different mucoadhesive formulations.

26. Discuss gastrorententive drug delivery system applications.
27. Discuss the factors affecting permeation of drug through the skin.
28. Write microballoons as gastroadhesive drug delivery system.
29. Enlist the types of nebulizers.
30. Write types of rectal drug delivery system
31. Write advantages of nasal spray.
32. Write advantage and disadvantage of nebulizer.
33. Write the excipients in nasal spray formulations.
34. Write polymers used as backing layer in Transdermal drug delivery.
35. Write advantage of Nasal drug delivery.
36. Enlist excipients used in nasal spray.
37. Describe about GRAS.
38. State various system of transdermal drug delivery.
39. Write types of rectal drug delivery system.
40. Write the composition and classification of liposomes.
41. Explain the pharmaceutical applications of microspheres.
42. Write the advantages and disadvantages of liposomes.
43. Write the solvent extraction and solvent evaporation methods to prepare microspheres.
44. Write methods of preparing nanoparticles.
45. State various methods to prepare nanoparticles.
46. State various methods to prepare liposomes.
47. What are the excipients used for nasal spray formulation?
48. Write advantages, disadvantages and applications of nanoparticles.
49. State various methods to prepare nanoparticles
50. Monoclonal antibodies.
51. Explain the application of Transdermal drug delivery systems.
52. Discuss strategies and components of targeted drug delivery systems.
53. Explain evaluations of microparticulate drug delivery system.

54. Write short note on Hydrogels.
55. Enlist the components of drug targeting.
56. Write note on ALZET osmotic pump.
57. State various approaches of transdermal drug delivery system.
58. Enlist excipients used in nasal spray formulations.
59. Explain methods of implants preparations.
60. Write the challenges in delivering drug to the eye.
61. Discuss briefly about Intrauterine drug delivery systems.
62. Explain the osmotically regulated implants as new drug delivery system.
63. Write a note on novel ocular formulations.
64. Describe about hormonal intrauterine drug delivery systems.
65. Describe osmotically regulated ocuserts.
66. Discuss briefly on intra-vaginal drug delivery systems.
67. Write the advantages and disadvantage of implants.
68. Write the advantages and disadvantages of ocuserts.
69. Discuss briefly on contraceptive patches.
70. Write in details about types of ocuserts.
71. Describe about contraceptive implants.
72. Write mechanisms of controlled drug release in ophthalmic drug delivery.
73. Describe osmotically regulated implants as new drug delivery system.
74. Describe about formulation of ocular drug delivery systems.
75. What are the various applications of intrauterine drug delivery systems.
76. Write 3D printing in implantable drug delivery system.
77. What are advantages of copper intrauterine devises.
78. Write the types, advantages and disadvantages of ocuserts.
79. Write a note on contraceptives implants.
80. Write application of intrauterine drug delivery systems.
81. Write about the various types of osmotic pumps

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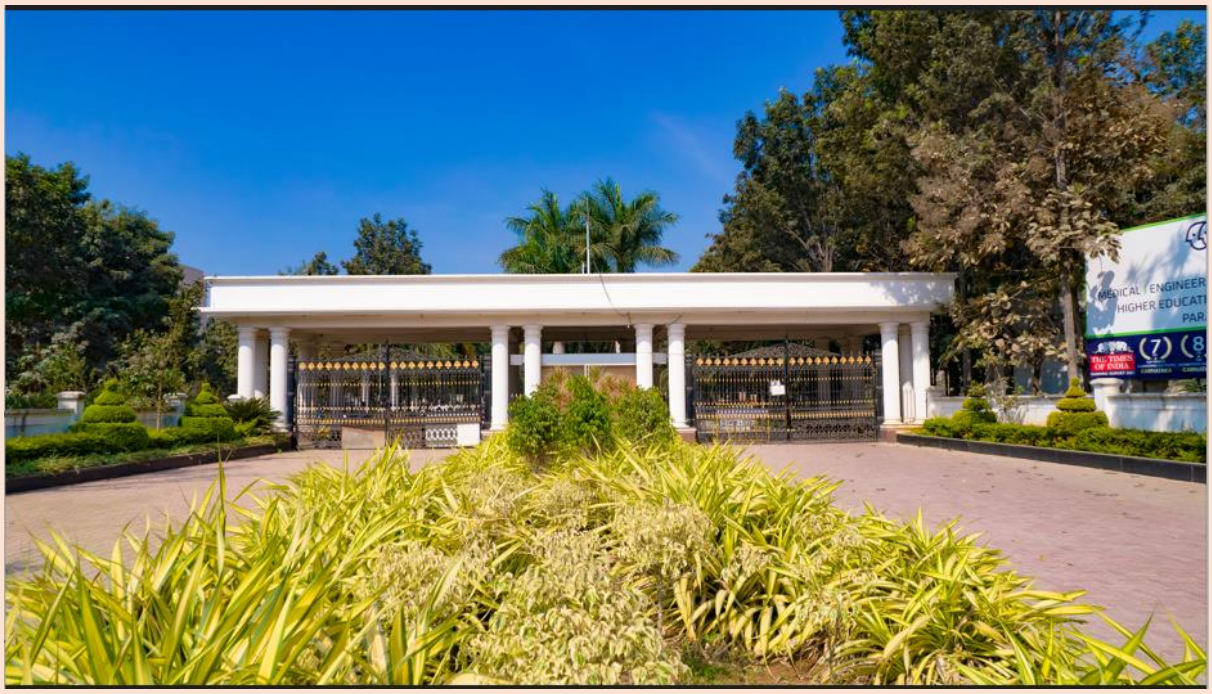
SHORT ANSWERS 02 MARKS

1. Write the criteria followed to select polymers for Controlled release drug delivery systems.
2. Write factors affecting formulation of Controlled release drug delivery systems.
3. State Hixson Crowell model.
4. State Korsmayer's and Peppas model.
5. Write any four application of polymers in pharmaceuticals.
6. Write note on magnetic microspheres.
7. State factors affecting mucoadhesion.
8. Write the methods of microencapsulation.
9. Write biological factors influencing controlled release drug delivery systems
10. What are ideal characters of polymers
11. What are smart polymers.
12. Write note on matrix diffusion system.
13. Write short note on alginates.
14. Write the drug release mechanisms in microencapsulated products.
15. Write biological factors influencing controlled release drug delivery systems.
16. What are ideal characters of polymers.
17. Write note on surface modified microparticulate drug delivery systems.
18. Applications of controlled drug delivery system
19. What are the stages in mucoadhesion.
20. Enlist uses of mucoadhesive in drug delivery.
21. Give examples of mucoadhesive formulations.
22. What are the factors affecting mucoadhesion.
23. What are important stages of mucoadhesion.
24. Write the test involved in invitro mucoadhesion.
25. Write the role of saliva and mucus in mucosal drug delivery.
26. State factors affecting mucoadhesion

27. Discuss gastroadhesive drug delivery systems and its applications.
28. Write in details about Dry powder inhalers.
29. Explain about microballoons as gastroadhesive drug delivery system
30. Write short note on nebulizer.
31. Discuss about gastroadhesive drug delivery system applications.
32. Write note on pulmonary route as a promising route of drug administration.
33. Write short notes on Gastroretentive floating drug delivery system.
34. Describe the non effervescent gastroadhesive drug delivery system.
35. Describe the formulations of nasal sprays.
36. Write applications of transdermal drug delivery system.
37. Write briefly about metered dose inhalers.
38. Write short note on formulations of transdermal drug delivery system.
39. What are the excipients of nasal spray formulations?
40. Enlist the chemical enhancers in transdermal drug delivery.
41. Write note on transdermal drug delivery permeation enhancers with examples.
42. Write the two polymerisation techniques.
43. State basic components of transdermal drug delivery.
44. What are the factors affecting gastric retention in gastro rententive drug delivery.
45. State various system of transdermal drug delivery.
46. Write the methods of microencapsulation.
47. What are the advantages of nanoparticles in drug delivery system
48. Write a note on Dendrimers.
49. Write types of liposomes.
50. What are the types of niosomes.
51. Write the types of microencapsulation method.
52. Define microsphere and microcapsules.
53. Enlist any four applications of nanoparticles.
54. What are monoclonal antibodies.
55. Write about types of niosomes.

56. Describe salting out method of preparing nanoparticles.
57. Explain types, advantages and disadvantages of microparticulate drug delivery systems.
58. Write note on biodegradable and non-biodegradable microspheres.
59. Describe the monoclonal antibodies with its applications.
60. Write the types of niosomes.
61. Write about various applications of microparticulate drug delivery systems.
62. Describe the monoclonal antibodies with its applications.
63. Explain in detail about types of microparticulate drug delivery systems and their Evaluation.
64. Define and classify the different microparticulate drug delivery systems.
65. Write a note on polymerisation technique.
66. What are the strategies of drug targeting.
67. State Niosomes.
68. Give advantages of liposomes..
69. Write note on surface modified microparticulate drug delivery systems
70. Define targeted drug delivery systems
71. Advantages of Metered dose inhalers.
72. What are the drug release mechanisms in implants.
73. Write types of contact lenses.
74. Write applications of intrauterine drug delivery system.
75. Write about immunization implants.
76. State advantages of ocuserts
77. What are contraceptive patches
78. Enlist advantages of implantable drug delivery system.
79. State disadvantages of implantable drug delivery system.
80. What are the drug absorption routes in eye.
81. Enlist intra-vaginal drug delivery systems.
82. Write note on DUROS osmotic pump.
83. What are OCUFIT.
84. Advantages of contraceptive patches.

85. State advantages of contraceptive patches.
86. Discuss shortly on ocular drug delivery systems.
87. Write briefly on contraceptive implants.
88. Write novel ocular formulations.
89. Write any four routes of ocular drug delivery.
90. Give types of ocular inserts
91. What are disadvantages of copper intrauterine devises.
92. Write various approaches overcome ocular barriers to drug delivery.
93. Monoclonal antibodies.



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**.