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SP—02—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Seventh Semester) EXAMINATION

APRIL/MAY, 2024

INSTRUMENTAL METHODS OF ANALYSIS

Paper BP101-T

(Tuesday, 14-05-2024) (BP701T) Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours *Maximum Marks—75*

Note :— (*i*) *All* questions are compulsory.

(*ii*) Write to the point only.

(*iii*) Figures to the right indicate full marks.

(*iv*) Mobiles/phones/digital watch are strictly prohibited.

1. Answer all the following questions : 10×2=20

(*a*) Explain the following terms :

(*i*) Chromophore and blue shift

(*ii*) Rf value

(*b*) Distinguish between TLC and paper chromatography.

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(c) What is affinity chromatography ?

(d) What is difference between Raman spectroscopy and IR spectroscopy ?

(e) What is principle of Nephelometry and Turbidimetry.

(f) What is quenching ? Write down the application of Flurometry.

(g) What is Chromatography ? What are applications of ion exchange chromatography ?

(h) Define electrophoresis and enlist the factors affecting electrophoretic mobility.

(i) What is Hooke's law and simultaneous equation method of analysis ?

(j) What is single component and multicomponent analysis ?

2. Answer the following (any *two*) : 2×10=20

(a) Discuss different types of molecular vibrations and detail different sample handling tech. in IR spectroscopy.

(b) Write in detail instrumentation, sources of radiation, wavelength selectors and different detectors in UV visible spectroscopy.

(c) Discuss in brief methodology, advantages, disadvantages and applications of adsorption and partition column chromatography.

3. Answer the following (any *seven*) : 7×5=35

(*a*) Write down the principle, instrumentation and application of the flame photometry.

(*b*) What is Beer and Lambert's law ? Explain derivation and deviations.

(*c*) Discuss in brief about principle of interference instrumentation and application of atomic absorption spectroscopy.

(*d*) Write in detail about introduction, instrumentation and application of gel chromatography.

(*e*) What are the types of ion exchange resins ? Discuss different factors affecting ion exchange resins.

(*f*) Write down the preparation, activation of TLC plate and development technique in TLC.

(*g*) Write about different development techniques and detection technique in paper chromatography.

(*h*) Discuss different types of column in gas chromatography. What is programmed temperature gas chromatography.

(*i*) Write in detail about instrumentation and applications of Nepheloturbidometry.

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SP—06—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharmacy (Final Year) (Seventh Semester) EXAMINATION

APRIL/MAY, 2024

INDUSTRIAL PHARMACY-II

(Thursday, 16-05-2024) (BP-702T) **Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours *Maximum Marks—75*

Note :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Figures to the right indicate full marks.

1. Solve the following : 10×2=20

(*a*) Give the functions of pilot plant.

(*b*) Define sending unit and receiving unit.

(*c*) Enlist responsibilities of drug development team.

(*d*) What is Copp ?

(*e*) Mention any *four* characteristics of TQM.

(*f*) What is standard operating procedure ?

(*g*) What do you mean by QbD and CGMP ?

(*h*) Enlist any *four* quality certifications.

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(*i*) What do you mean by investigators brochure ?

(*j*) Define regulation and regulatory affairs.

2. Solve any *two* of the following : 2×10=20

(*a*) Explain various stages involved in TT in pharmaceutical industry.

(*b*) Discuss pilot plant scale up consideration for solid dosage form.

(*c*) Describe regulatory requirement approval for obtaining NDA.

3. Solve any *seven* of the following : 7×5=35

(*a*) Discuss the type of changes under SUPAC guidelines.

(*b*) Explain in detail quality risk management.

(*c*) Write a note on six sigma concept.

(*d*) Give the functions or role of CDSCO.

(*e*) Discuss the benefits of NABL accrediation.

(*f*) Describe the scope of WHO guidelines.

(*g*) Explain analytical method exchanged in technology transfer.

(*h*) Discuss the fundamentals of GLP.

(*i*) Write about qualities and key duties of RA officer.

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SP—14—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Seventh Semester) EXAMINATION

APRIL/MAY, 2024

NOVEL DRUG DELIVERY SYSTEM

(Tuesday, 21-05-2024) (BP704T) **Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours *Maximum Marks—75*

Note :— (*i*) *All* questions are compulsory.

(*ii*) Draw appropriate diagram/charts wherever necessary.

(*iii*) Answer to the point only.

1. Answer the following : 10×2=20

(*a*) Define controlled drug delivery system.

(*b*) Classify liposomes.

(*c*) Write applications of targeted drug delivery system.

(*d*) Write merits of mucoadhesive drug delivery system.

(*e*) Define microspheres and micro-capsules.

(*f*) Define floating time and floating lag time.

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(g) Define nebulizer.

(h) State Higuchi model.

(i) Write applications of micro-encapsulations.

(j) Define bioresponsive drug delivery system.

2. Answer any *two* questions : 2×10=20

(a) Discuss classification and application of polymers used in CDDS.

(b) Explain the approaches used in development of GRDDs.

(c) Explain in detail coacervation phase separation method.

3. Answer any *seven* : 7×5=35

(a) Explain principles of Mucoadhesion.

(b) Write about production of monoclonal antibodies.

(c) Explain about intrauterine devices.

(d) Write a short note on Alzet osmotic pump.

(e) Write a note on metered dose inhaler.

(f) Describe factors considered in development of TDDs.

(g) Write a short note on ocuserts.

(h) Discuss in brief nano-particles.

(i) Give the applications of liposomes.

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