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PM—02—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Seventh Semester) EXAMINATION

APRIL/MAY, 2025

INSTRUMENTAL METHODS OF ANALYSIS

(Wednesday, 7-5-2025) (BP701T) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 Hours *Maximum Marks—75*

N.B. :— (1) Figures to the right indicate full marks.

(2) Draw the structure and write chemical reaction wherever necessary.

1. Answer the following : 10×2=20

(*a*) Why addition of auxochrome in a structure shifts absorption maxima towards higher value ?

(*b*) What are spectrophotometric titrations ?

(*c*) Define singlet state and triplet state.

(*d*) Enlist mobile phases used in gas chromatography.

(*e*) Enlist flurogenic substances.

(*f*) Which type of substances show IR absorption ?

(*g*) Quote positive and negative deviations from Beer-Lambert's law.

(*h*) What are inorganic ion exchangers ?

(*i*) State Beer's law.

(*j*) What are quenching ? Enlist types of quenching.

P.T.C.

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

(*a*) Discuss in detail about instrumentation of gas chromatography.

(*b*) Describe in detail about paper electrophoresis and gel electrophoresis.

(*c*) Discuss in detail various type of radiation sources and different sample handling techniques in IR spectroscopy.

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

(*a*) Name the gels used in Gel chromatography. Write application of gel chromatography.

(*b*) Discuss the factors affecting ion-exchange chromatography.

(*c*) Describe thermal conductivity detector and electron capture detector with diagram.

(*d*) Explain factors affecting fluorescence and phosphorescence.

(*e*) Write a note on paper electrophoresis.

(*f*) Write a note on interferences in atomic absorption spectroscopy.

(*g*) Discuss types of coating material used in TLC. Give the application of TLC.

(*h*) Discuss in detail factors affecting vibrational frequency.

(*i*) Explain the instrumentation of turbidometry with suitable diagram.

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PM—06—2025

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2025

INDUSTRIAL PHARMACY-II

(Friday, 9-5-2025) (BP702T) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

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

(*iii*) Answer to the point.

1. Answer the following : 2×10=20

(*a*) Define plant and pilot plant.

(*b*) What are the key objectives of pilot plant scale-up ?

(*c*) Enlist various drug regulatory authorities.

(*d*) Why QMS is important for pharmaceutical companies ?

(*e*) What does CDSCO stands for ? Mention its goal.

(*f*) Define quality control and quality assurance.

(*g*) What do you mean by sending unit and receiving unit ?

(*h*) State the reasons for technology transfer.

(*i*) Enlist the functions of state licensing authorities.

(*j*) What are pre-exhibit batches and exhibit batches ?

P.T.O.

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

(*a*) Describe pilot plant scale-up considerations for solid dosage form in detail.

(*b*) Explain the procedure for NDA filing in detail.

(*c*) Discuss in detail about the ISO9000.

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

(*a*) What is NABL ? What are the benefits of NABL accreditation ?

(*b*) What is SUPAC guidelines ? Give the purpose and explain contents of SUPAC guidelines in short.

(*c*) Describe in brief the steps in transfer of technology.

(*d*) Explain the significance of QRM in pharmaceutical manufacturing.

(*e*) Write in brief about applications of biostatistics in product development.

(*f*) What is QBD ? Write applications of QBD in quality improvement.

(*g*) Explain pilot plant scale up considerations for oral liquids in brief.

(*h*) Describe in brief about Investigator's Brochure.

(*i*) Discuss the concept of GMP and its significance in pharmaceutical manufacturing.

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PM—10—2025

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm. (VII Semester) EXAMINATION

APRIL/MAY, 2025

PHARMACY PRACTICE

Paper BP703T

(Tuesday, 13-5-2025) **Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

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

1. All questions are compulsory : 10×2=20

(*a*) What is P & TC ?

(*b*) Define objective of hospital pharmacy.

(*c*) Write need of medication history interview.

(*d*) Give objective of drug distribution system in hospital.

(*e*) Why is hospital formulary need on hospital ?

(*f*) Define satellite pharmacy.

(*g*) Define Inventory control.

(*h*) Write the advantages of planning of Budget.

(*i*) What do you mean by medication Adherence ?

(*j*) Define individual prescription system.

P.T.O.

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

(*a*) Discuss in detail about classification of hospital on the basis of chemical and non-chemical orientation with role of administration.

(*b*) Explain floor stock system of drug distribution.

(*c*) What is Therapeutic Drug Monitoring (TDM) ? Explain current scenario of TDM in India.

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

(*a*) Define material management. Write functions of material management.

(*b*) Classify adverse drug reactions.

(*c*) Explain procedure for purchasing of material.

(*d*) Write a note on stocking and coding or codification.

(*e*) Explain causes of medication non-adherence.

(*f*) Determine the role and responsibilities of hospital pharmacist.

(*g*) Write a short note on rational use of OTC Drugs.

(*h*) Write a brief account of ABC analysis.

(*i*) Explain the various laboratory tests used in urine analysis.

PM—14—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharma. (Seventh Semester) EXAMINATION

APRIL/MAY, 2025

NOVEL DRUG DELIVERY SYSTEM

(Thursday, 15-5-2025) (BP704T) **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

(*iv*) Illustrate your answer with neat sketch wherever necessary.

1. Solve the following : 20

(*a*) What are dry powder inhalers ?

(*b*) Give the application of nasal drug delivery system.

(*c*) Give disadvantages of nanoparticles.

(*d*) Give characterization of liposomes.

(*e*) List out the advantages and disadvantages of implantable drug delivery system.

P.T.O.

(*f*) Give the application of monoclonal antibodies.

(*g*) Define ocular drug delivery system.

(*h*) Give the advantages and disadvantages of intrauterine devices.

(*i*) Enlist advantages of polymers in pharmaceuticals.

(*j*) What are the advantages and disadvantages of controlled release drug delivery system ?

2. Solve any *two* of the following : 20

(*a*) Explain briefly about intraocular barrier. How do you overcome the intraocular barrier ?

(*b*) Define micro encapsulation. Explain the coacervation phase separation technique of microencapsulation.

(*c*) Enlist the different methods and explain any *one* method of preparation of nanoparticles.

3. Solve any *seven* of the following : 35

(*a*) Enlist and elaborate the factors affecting permutation through skin.

(*b*) Define the components of transdermal drug delivery system.

(*c*) Explain concept, advantages and disadvantages of liposomes.

(*d*) Explain the approaches for CR formulations.

(*e*) Explain in brief about nasal spray.

(*f*) Explain in brief about various approaches to transdermal devices.

(*g*) Describe hormonal intrauterine drug delivery system.

(*h*) Give the pharmaceutical application of polymers.

(*i*) Explain the principle of drug release form alzeit osmotic pump.