PP—14—2023

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (Seventh Semester) EXAMINATION

JANUARY, 2024

NOVEL DRUG DELIVERY SYSTEM

Paper—(BP-704T)

(Tuesday, 02-01-2024)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

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

   (ii) Draw neat diagram wherever necessary.

   (iii) Assume suitable data if necessary stating it clearly.

1. Solve the following questions :

   $10 \times 2 = 20$

   (a) Discuss criterias for selection of drug candidate for CDDS.

   (b) Enlist the theories of Mucoadhesion.

   (c) Define penetration enhancer with examples.

   (d) Define Gastroretentive drug delivery system and write its *two* advantages.

   (e) Define Transdermal drug delivery system with example.

   (f) What are barriers of ocular drug delivery system ?

   (g) What is SODI ?

   (h) Enlist advantages of implantable drug delivery system.

   (i) Enlist types of Nebulisers.

   (j) Define Polymers with examples.

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2. Solve the following questions (any *two*) :

   $2 \times 10 = 20$

   (a) Classify microencapsulation techniques. Explain air suspension technique.

   (b) Enlist approaches of Gastroretentive drug delivery system and describe in detail floating drug delivery system.

   (c) Explain different formulation approaches of transdermal drug delivery system.

3. Solve the following questions (any *seven*) :

   $5 \times 7 = 35$

   (a) Enumerate the factors affecting permeation of drug through the skin.

   (b) Explain in detail about ALZET osmotic pump.

   (c) Classify the polymers used to modify the drug release.

   (d) Write in detail about Dry powder inhalers.

   (e) Discuss briefly about Intrauterine drug delivery systems.

   (f) State various methods to prepare Liposomes.

   (g) How will you evaluate Buccal drug delivery system ?

   (h) Write in detail about types of occusert.

   (i) Explain basic components of transdermal patches.

PP—06—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Seventh Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

INDUSTRIAL PHARMACY

Paper—II (BP—702T)

(Thursday, 28-12-2023)   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 only.

1. Solve *all* of the following :   10×2=20

    (a) Give the functions of Pilot Plant.

    (b) What do you mean by Technology Transfer ?

    (c) Define Regulation and Regulatory affairs.

    (d) Enlist responsibilities of drug development team.

    (e) Define the terms :

         (i)   Quality control

         (ii) Quality assurance.

    (f) Enlist any *four* responsibilities of CDSCO.

    (g) What is master manufacturing procedure ?

P.T.O.

    (h) Define Sending unit and Receiving unit.

    (i) What do you mean by Investigator's Brochure ?

    (j) Enlist any *four* quality certifications.

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

    (a) Discuss Pilot Plant scale up consideration for solid dosage form.

    (b) Explain in detail about Validation.

    (c) Describe general consideration of IND application.

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

    (a) Explain checklist for Pharmaceutical Scale up.

    (b) Discuss Technology Transfer Protocol.

    (c) Explain importance of RA.

    (d) Define B.E. Discuss its study methods.

    (e) Write a note on TQM.

    (f) Discuss drug approval process in India.

    (g) Describe SUPAC guidelines in brief.

    (h) Explain the six-sigma concept.

    (i) Discuss qualities and key duties of R.A. Officer.

PP—06—2023   2

PP—10—2023

FACULTY OF PHARMACEUTICAL SCIENCE

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

NOVEMBER/DECEMBER, 2023

PHARMACY PRACTICE

Paper—(BP-703T)

(Saturday, 30-12-2023)   Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours   *Maximum Marks*—75

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

(ii) Draw the diagrams wherever necessary.

(iii) Figures to the right indicate full marks.

1. Solve the following :   10×2=20

(a) What do you mean by Medication Adherence ?

(b) Write the advantages of planning of budget.

(c) Write the need of therapeutic drug monitoring.

(d) Enlist the different types of ambulatory patient services.

(e) How to manage ADR in community pharmacy ?

(f) What are the advantages and disadvantages of hospital pharmacy ?

(g) Define pharmacy and therapeutic committee.

(h) Draw a typical layout of hospital pharmacy.

(i) Write about primary care hospital.

(j) List out the supporting services required in a hospital.

WT   (2)   PP—10—2023

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

(a) Discuss various legal requirements for the establishment and maintenance of drug store.

(b) Write the roles and responsibilities of hospital pharmacist.

(c) Write the organization, structure and staff associated with hospital pharmacy.

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

(a) Write the need and limitations of therapeutic drug monitoring.

(b) Write the policy for the preparation, revision and maintenance of hospital formulary.

(c) Explain dispensing procedure in unit dose system.

(d) Explain in brief floor stock system of drug distribution.

(e) Discuss in detail the drug distribution system to inpatient department.

(f) Write contents and organization of hospital formulary.

(g) Discuss various layouts of Community Pharmacy.

(h) Write the procedure of dispensing of proprietary products.

(i) Discuss the ideal plan of retail and wholesale pharmacy unit.

This question paper contains 2 printed pages]

PP—02—2023

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2023

INSTRUMENTAL METHODS OF ANALYSIS

BP701T

(Tuesday, 26-12-2023)   Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours   Maximum Marks—75

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

(ii) Answer to the point only.

(iii) Figures to the right indicate full marks.

1.   Solve the following :   2×10=20

(a)   State Hooke's law.

(b)   Write limitations of flame photometry.

(c)   Write characteristics of adsorbent used in column chromatography.

(d)   Define singlet state and triplet state.

(e)   How to prepare 4000 NTU.

(f)   Why silica gel used in thin layer chromatography ?

(g)   Why region below 200 nm is also called as Vacuum UV region ?

P.T.O.

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(2)   PP—02—2023

(h)   What is Radial Chromatography ?

(i)   Sketch a neat labelled diagram of atomic absorption spectroscopy.

(j)   Which filter paper used in paper electrophoresis ?

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

(a)   Write instrumentation of UV-Visible spectroscopy.

(b)   What is C_{18} column ? Explain detectors used in HPLC.

(c)   Write advantages and limitations of affinity chromatography.

3.   Solve any *seven* of the following :   7×5=35
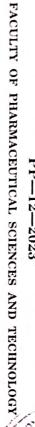
(a)   Write errors in flame photometry.

(b)   How will you activate TLC plates ?

(c)   Write requirements in molecular structure for exhibiting fluorogenic activity.

(d)   Write principle and factors affecting nephelometry and turbidimetry.

(e)   Describe method of sampling of solid, liquid and gases in IR spectroscopy.

(f)   Write disadvantages of Atomic Absorption Spectroscopy.

(g)   Write applications of electrophoresis.

(h)   Give reasons for deviations from Beer's law.

(i)   Write advantages and disadvantages of AID in gas chromatography.

PP—02—2023   3

This question paper contains 2 printed pages]

PP—12—2023

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm. (Fourth Year) (Eighth Semester) EXAMINATION

JANUARY, 2024

PHARMA MARKETING MANAGEMENT

Paper—(BP-803ET)

(Pharmaceutical Marketing)

(Monday, 01-01-2024)

Time—3 Hours   Time : 2.00 p.m. to 5.00 p.m.

                                                Maximum Marks—75

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

            (ii)   Figures to the right indicate full marks.

            (iii)   Answer to the point only.

1.   Answer the following :   10×2=20

     (a)   Differentiate between marketing and selling.

     (b)   Define DPCO.

     (c)   Write the importance of industry analysis.

     (d)   Mention the scope of marketing.

     (e)   Define promotional budget.

     (f)   Define channels of distribution.

     (g)   Define promotional mix.

     (h)   What is competitor analysis ?

     (i)   Write objectives of public relation in promotion.

     (j)   Define the term 'motivation'.

WT   (2)   PP—12—2023

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

     (a)   What are different tools used to analyze industry ?

     (b)   Explain in detail training and selection of sale representive.

     (c)   Explain in detail about product life-cycle.

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

     (a)   What are functions of packaging ?

     (b)   How pharmaceutical companies price their drugs ?

     (c)   What are different elements of branding ?

     (d)   Write objectives of personal selling.

     (e)   What are functions of NPPA ?

     (f)   What are disadvantages of advertising ?

     (g)   Write the purpose of effective detailing.

     (h)   Explain types of market research in pharmaceutical industry.

     (i)   Write a note on market segmentation and targeting.

This question paper contains 3 printed pages]

PP—08—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Eighth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

SOCIAL AND PREVENTIVE PHARMACY

Paper—(BP-802T)

(Friday, 29-12-2023)

Time—3 Hours   Time : 2.00 p.m. to 5.00 p.m.

                         Maximum Marks—75

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

        (ii)   Illustrate your answer with neat sketch wherever necessary.

       (iii)   Figures to the right indicate full marks.

1. Answer the following :   20

   (a)   Enlist various health indicators.

   (b)   Give different functions of minerals with examples.

   (c)   Define drug addiction and drug abuse.

   (d)   Write causative agent for Tuberculosis and Leprosy.

   (e)   Define Health.

   (f)   Give sign and symptoms of Malaria.

   (g)   Give objectives of national programme for control of blindness.

   (h)   Give objectives of National Family Welfare Programme.

   (i)   Define cholera and write its symptoms.

   (j)   What is Marasmus ?

P.T.O.

(2)   PP—08—2023

WT

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

   (a)   Explain objectives and functions of universal immunization programme.

   (b)   Write a note on national health programme and national AIDS control programme.

   (c)   Give general principles and prevention of diabetes mellitus and malaria.

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

   (a)   Define proteins. Write about protein deficiency disease.

   (b)   Write a note on personal hygiene with its importance.

   (c)   Explain about national tobacco control programme.

   (d)   Explain various socio-culture factors related to health and disease.

   (e)   Write the deficiency disease of the following vitamins :

      (i)   Vitamin C

     (ii)   Vitamin A

    (iii)   Vitamin B_{12}

    (iv)   Vitamin B_1

     (v)   Vitamin B_3.

This question paper contains 3 printed pages]

PP—04—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Eighth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

BIOSTATISTICS AND RESEARCH METHODOLOGY

(Wednesday, 27-12-2023)   Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours   Maximum Marks—75

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

(ii) Answer to the point only.

(iii) Figures to the right indicate full marks.

(iv) Scientific calculators are not allowed.

1. Answer the following :   10×2=20

(a) Define Biostatistics. Give significance in Pharmaceutical Research.

(b) What is degree of freedom ?

(c) What are types of observational studies ?

(d) Define Research.

(e) What are the phases of clinical trial ?

(f) Define the term probability.

(g) Give characteristics of good research report.

P.T.O.

WT

(h) Calculate mean from the following data :

X = 14, 16, 18, 20, 24, 26

(i) What is the difference between the dependent variable and the independent variable ?

(j) Define normal distribution.

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

(a) Explain in brief about report writing.

(b) Write a note on clinical design.

(c) Explain in detail about plagiarism.

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

(a) Define graph. Explain various types of graphs in research tools.

(b) Differentiate between parametric and non-parametric tests in detail with example.

(c) Write short notes on :

(a) Cohort study

(b) ANOVA

(c) Randomized control trial

(d) Type-I error and type-II error.

(d) Write a short note on hypothesis and hypothesis testing.

(e) Describe various types of research.

(f) What is sample size ? Explain how to determine sample size ?

(g) What is analysis of variance ? Describe briefly the technique of analysis of variance for one-way and two-way.

(h) Briefly describe regression analysis.

(i) Calculate mean, median and mode from the following data :

X = 26, 28, 30, 32, 28, 26, 30

This question paper contains 2 printed pages]

PP—18—2023

FACULTY OF SCIENCE AND TECHNOLOGY
(PHARMACEUTICAL SCIENCE)
B.Pharm. (VIII Semester) EXAMINATION

JANUARY, 2024

PHARMACOVIGILANCE

(Thursday, 4-1-2024)   Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours   Maximum Marks—75

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

       (ii)   Answer to the point only.

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

   (a)   What is pharmacovigilance ?

   (b)   What is MedDRA ?

   (c)   Define the following :

       (i)   Dechallenge

      (ii)   Rechallenge.

   (d)   What is INN ?

   (e)   Give principles of DDD assignment.

   (f)   Draw WHO-ART Hierarchy.

   (g)   Define ADR.

   (h)   Explain setinel sites.

   (i)   Give full form of :

       (i)   CIOMS

      (ii)   CDSCO.

   (j)   Write down objectives of ICH.

(2)   PP—18—2023

WT

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

   (a)   Write down pharmacovigilance programme of India.

   (b)   With appropriate illustration explain anatomical and chemical classification of drugs.

   (c)   Outline schedule Y of Drugs and Cosmetics Act.

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

   (a)   Explain pre-clinical studies.

   (b)   Give importance of clinical phases of drugs.

   (c)   Describe adverse events as per ICH guidelines.

   (d)   What is process for reporting serious adverse reaction ?

   (e)   Explain vaccine safety surveillance.

   (f)   How INN are selected ? Give its procedure.

   (g)   What is role of CRO in PUPI ?

   (h)   What is ADR ? Give its classification.

   (i)   What are roles and responsibilities of QPPV ?