This question paper contains **2** printed pages]

SP—29—2024

FACULTY OF SCIENCE & TECHNOLOGY

B. PHARMA (First Semester) EXAMINATION

APRIL/MAY, 2024

HUMAN ANATOMY & PHYSIOLOGY–I

Paper–BP–101T

(Tuesday, 14-05-2024)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

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

      (ii) Figures to the right indicate full marks.

      (iii) Draw well labelled diagrams whenever necessary.

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

     (a)   What is tissue ? Give its classification.

     (b)   Enlist basic life processes.

     (c)   Give composition and functions of synovial fluid.

     (d)   What is the importance of Rh factor ?

     (e)   Give normal values of Haemoglobin (Hb) in male and female.

     (f)   Give composition and functions of Lymph.

     (g)   Draw well labelled diagram of eye.

     (h)   Give difference between arteries and veins.

     (i)   Define the terms heart rate and stroke volume.

     (j)   Enlist facial bones.

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

    (a)   Write location, structure and functions of various epithelial tissues.

    (b)   Explain in detail mechnism of transportation of material across plasma membrane.

    (c)   Explain in detail physiology of muscle contraction.

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

    (a)   Write about ABO system of blood group.

    (b)   Give location, structure and function of lymph nodes, lymphatic vessels and spleen.

    (c)   What is autonomic nervous system ? Explain distribution and function of its divisions.

    (d)   Write about elements of conducting system of heart.

    (e)   Explain structure and functions of skin.

    (f)   Give anatomy and physiology of ear.

    (g)   Write, location, structure and functions of various connective tissue.

    (h)   Explain in brief, bones of appendicular sketeton.

    (i)   Explain in brief about cardiac cycle and electrocardiogram.

SP—33—2024

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B. Pharma (First Semester) EXAMINATION

APRIL/MAY, 2024

PHARMACEUTICAL ANALYSIS–I

(Thursday, 16-05-2024)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

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

     (ii) Illustrate your answers with sketches wherever necessary.

     (iii) Figures to the right indicate full marks.

     (iv) Answer to the point only.

1. Answer the following questions :   20

     (i) Write a note on Arrhenius theory.

     (ii) Define the terms masking and demasking agents.

     (iii) Define Pharmaecutical Analysis. Give techniques of pharmaceutical analysis.

     (iv) What do you mean by indicators in titrations ?

     (v) Write *two* objectives of Pharmacopoeia.

     (vi) Define the terms (a) Significant figures and (b) Accuracy.

     (vii) Define primary standard and secondary standard.

     (viii) Define oxidation and reduction with an example.

     (ix) What is precipitation filration ?

     (x) Enlist types of solvents used in non-aqueous titrations.

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

    (i) Define error. Explain in detail about different types of errors and methods of minimizing of error.

    (ii) Discuss in deail about types of conductometric titrations.

    (iii) Define Gravimetric analysis. Explain in detail the steps involved in it.

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

    (i) Describe indicators used in complexometric titrations.

    (ii) Discuss solvents used in non-aqueous titrations.

    (iii) Write an account of different types of redox titrations.

    (iv) Write in detail about conductivity cell used in Conductometry.

    (v) Emphasis on different types of electrodes used in potentiometric titrations.

    (vi) Define precipitation titration. Write in detail about Mohr's method.

    (vii) What is Polarographic method ? Give its applications.

    (viii) Write a note on theories of acid-base indicators.

    (ix) Write a note on ligands and chelating agents.

SP—37—2024

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B. Pharmacy (First Year) (First Semester) EXAMINATION

APRIL/MAY, 2024

PHARMACEUTICS

Paper–I (BP-103T)

(Saturday, 18-5-2024)   **Time : 10.00 a.m. to 1.00 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 :   10×2=20

      (i)   Why simple syrup acts as a self preservative ?

      (ii)   Enlist different excipients used in liquid dosage form.

      (iii)   Classify dosage form according to sterility.

      (iv)   What do you mean by Inscription and Subscription ?

      (v)   What are effervescent powders ? Give *two* examples.

      (vi)   What are gelling agents ? Give *two* examples.

                                 P.T.O.

(vii) Give advantages and disadvantages of suppositories.

(viii) Define incompatibility. Enlist its types.

(ix) Give examples of *two* ointment bases.

(x) Differentiate between liniment and lotion.

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

(a) Define emulsion. Explain methods of preparation of emulsion. Add a note on stability of emulsion.

(b) Explain physical and therapeutic incompatibility with suitable examples and give the methods for overcoming these incompatibilities.

(c) Define ointment. Add a note on method of preparation of ointment. Enlist different factors influencing dermal penetration of drugs.

3. Answer any *seven* : 7×5=35

(a) Write a note on history of Pharmacy.

(b) Explain in brief about *six* factors affecting posology.

(c) Define Powder. Write a note on dusting powder.

(d) Explain in brief about solubility enhancement technique.

(e) Describe preparation of syrups and elixirs with examples.

(*f*)   Write a note on preparation of suppositories.

(*g*)   Describe handing of prescription with examples.

(*h*)   Differentiate between flocculated and deflocculated suspension.

(*i*)   Enlist excipients used in semi solid dosage form and give evaluation of semi solid dosage form.

This question paper contains **3** printed pages]

SP—41—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharma (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2024

PHARMACEUTICAL INORGANIC CHEMISTRY

(Tuesday, 21-5-2024)   **Time : 10.00 a.m. to 1.00 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.   Answer the following questions :   10×2=20

   (a)   What is buffer capacity ?

   (b)   Classify extra and intracellular electrolytes with examples.

   (c)   Give the principle and reaction for the limit test of chloride.

   (d)   Write the formula and uses of ORS.

   (e)   Write the molecular formula and uses of Boric acid.

   (f)   What is achlorhydria ? Give its treatment.

   (g)   Give the precautionary measure required to handle radioactive substances.

   (h)   Write the molecular formula and medicinal uses of sodium thiosulphate.

P.T.O.

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

    (a) What are Antacids ? Classify them with examples. Give the ideal properties of antacids. Write the preparation, assay and uses of Sodium bicarbonate.

    (b) What are radiopharmaceuticals ? Explain in detail any *one* method employed for the measurement of radioactivity.

    (c) Define the term limit test. Write the procedure, reaction and principles for the limit test for :

        (i) Sulphates

        (ii) Iron.

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

    (a) Write a note on electrolytes used in replacement therapy.

    (b) What are dentrifrices ? Classify them with examples. Write a note on the role of fluoride as an Anticaries agent.

    (c) What are emetics ? Write the method of preparation and assay of copper sulphate.

    (d) Describe the various mechanisms of action of inorganic antimicrobial agents.

(e) Describe the principle, apparatus and procedure for the limit test of arsenic.

(f) Write the pharmaceutical applications of radioactive substances.

(g) Describe the various sources of impurities present in pharmaceutical substances.

(h) What are GIT agents ? Classify them with examples. Write a note on acidifiers.

(i) What are expectorants ? Give examples and mechanism of action.

PP—29—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

HUMAN ANATOMY AND PHYSIOLOGY–I

Paper BP101T

(Tuesday, 26-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours   *Maximum Marks—75*

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

        (ii)   Draw a neat labelled diagram wherever necessary.

        (iii)   Answer to the point only.

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

    (a)   Define Human Anatomy and Human Physiology.

    (b)   Enlist the functions of mitochondria.

    (c)   Give locations and functions of nervous tissues.

    (d)   Enlist the bones of axial skeleton.

    (e)   Define the term articulation.

    (f)   Give composition and functions of blood.

    (g)   Write a significance of Rh factor.

    (h)   Enlist any *six* cranial nerves.

    (i)   Draw a neat labelled diagram of heart.

    (j)   Define the term cardiac out. How is it calculated ?

P.T.O.

2. Long answer questions (answer any **2** out of 3) : 2×10=20

(a) Draw a neat labelled diagram of plasma membrane. Discuss in detail about various mechanism involved in transport of materials across plasma membrane.

(b) Define the term blood coagulation. Discuss in detail about various phases of blood coagulation process.

(c) Define the term blood pressure. Discuss in detail long-term and short-term regulation of blood pressure.

3. Short answer questions (answer any **7** out of 9) : 7×5=35

(a) Write a note on conducting system of heart.

(b) Discuss in short about systemic blood circulation.

(c) Draw neat labelled diagram of eye. Enlist its various physiological functions.

(d) Write a note on sympathetic nervous system.

(e) Write about ABO system.

(f) Write anatomy and physiology of lymph node.

(g) Classify structural and functional classification of joints.

(h) Write a note on physiology of muscle contraction.

(i) Write on structure, locations and functions of epithelial tissue.

This question paper contains **3** printed pages]

PP—33—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

PHARMACEUTICAL ANALYSIS–I

Paper BP-102T

(Thursday, 28-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three 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.   Answer the following :   2×10=20

   (a)   What is metal ion indicator ?

   (b)   What are the secondary standards ?

   (c)   Comment on 'Blank determination'.

   (d)   Mention indicator and primary standard used in standardization of sodium thiosulphate.

   (e)   What is meant by Acidimetry Titration ?

P.T.O.

(f)   What are the Adsorption indicators ?

(g)   What are the ideal requirements of chelating agent used in complexo-metric titration ?

(h)   *What do you mean by diazotisation titration ?*

(i)   Give 'Ilkovic equation'.

(j)   Comment on 'Iodimetry'.

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

(a)   Explain the following conductometric titration with suitable example :

   (i)   Strong acid Vs. Strong base

   (ii)   Weak acid Vs. Strong base.

(b)   Explain steps involved in gravimetry.

(c)   Describe principle and procedure of standardisation of oxalic acid and hydrochloric acid.

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

(a)   Write in detail classification of solvents used in non-aqueous titration.

(b)   Write principle and procedure of Mohr's method.

(c)   Describe the term 'Masking and Demasking agents'.

(d)   Explain principle and applications of Bromatometry.

(e)   Write the construction and working of calomel electrode.

(f)   Describe different sources of errors.

(g)   Write principle and procedure of estimation of 'Ephedrine HCl'.

(h)   Discuss in detail instrumentation of polarography apparatus.

(i)   Describe sources of impurities in medicinal agents.

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This question paper contains **2 printed pages**]

PP—37—2023

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

PHARMACEUTICS

Paper–I (BP-103T)

(Saturday, 30-12-2023)   **Time : 10.00 a.m. to 1.00 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 the following :   10×2=20

(a)   Define Pharmacy.

(b)   Differentiate between lotion and liniments.

(c)   What is the importance of date in prescription ?

(d)   Define :

    (i)   Ointment

    (ii)   Pastes.

(e)   Give advantages of emulsions.

(f)   Why are adjuncts needed in preparation of monophasic liquid dosage form ?

P.T.O.

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(g) Give ideal properties of suspensions.

(h) Give classification of suspensions.

(i) Write any *two* formulas for calculation of dose in children.

(j) Why is glycerine used as a base in throat paint ?

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

(a) Define suppositories. Explain in detail different methods of preparation of suppositories.

(b) What do you mean by Posology ? Discuss different factors affecting dose of drug.

(c) Define and classify sterile and non-sterile dosage form.

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

(a) Describe in brief physical incompatibility.

(b) Write in brief about eutectic mixtures.

(c) Discuss in brief different methods of preparation of syrups.

(d) Define emulsion. Write in detail various identification tests for emulsion.

(e) Give different factors influencing dermal penetration of drugs.

(f) Differentiate between flocculated and deflocculated suspension.

(g) Write the advantages and disadvantages of powders.

(h) Write in brief about parts of prescription.

(i) Give formula and method of preparation of mouth washes.

This question paper contains **2** printed pages]

PP—41—2023

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (First Semester) EXAMINATION

JANUARY, 2024

PHARMACEUTICAL INORGANIC CHEMISTRY

(Tuesday, 02-01-2024)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

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

       (*ii*)   Draw structure(s) and write reaction(s) wherever necessary.

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

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

   (*a*)   Define limit test. Enlist limit test.

   (*b*)   What are ideal properties of antacids ?

   (*c*)   What are expectorants ? Classify expectorants.

   (*d*)   Give pharmaceutical applications of radiopharmaceuticals.

   (*e*)   Why is nitric acid used in limit test for chloride ?

   (*f*)   Discuss Oral Rehydration Salt (ORS).

   (*g*)   What is cyanide poisoning ? Give name of antidote for it.

   (*h*)   Give functions of any *two* major Physiological ions.

   (*i*)   Give an account of buffer capacity.

   (*j*)   Define emetics with a suitable example.

                                  P.T.O.

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

   (a) Classify GIT agents. Why is combination of antacids used ? Justify with example. Give preparation and uses of sodium bicarbonate.

   (b) Classify dental products. Define dentrifices. Write a note on zinc oxide eugenol (ZOE) cement.

   (c) What are major extra and intracellular electrolytes ? Explain electrolyte used in replacement therapy. Give preparation and uses of calcium gluconate.

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

   (a) What are haematinics. Provide preparation method, properties and uses of ferrous sulphate ($FeSO_4$).

   (b) Explain preparation, reaction and procedure of limit test of sulphate.

   (c) Discuss principle and reaction of limit test of arsenic. Draw its diagram.

   (d) What are different acid-base theories. Discuss any *two*.

   (e) What is radioactivity and half life ? Give account an of any *two* methods of radioactivity measurement.

   (f) Classify and write mechanism of action of antimicrobials.

   (g) Define astringent. Write molecular formula, preparation, properties and uses of zinc sulphate.

   (h) Discuss different sources of impurities.

   (i) Discuss physiology of acid-base balance.

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This question paper contains **2** printed pages]

DP—29—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2023

HUMAN ANATOMY AND PHYSIOLOGY-I

Paper-BP-101-T

(Thursday, 16-03-2023)	Time : 10.00 a.m. to 1.00 p.m.

Time— Three Hours *Maximum Marks—75*

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

(ii) Draw a neat labelled diagram wherever necessary.

(iii) Answer to the point only.

1. Answer all the questions : 10×2=20

   (a) Draw a neat labelled diagram of Human cell.

   (b) Enlist the scope of anatomy and physiology.

   (c) Classify different types of tissues.

   (d) Name the different bones of skull.

   (e) Define the term articulation.

   (f) Give normal value of haemoglobin in male and female.

   (g) Give composition and functions of Lymph.

   (h) Enlist functions of spinal cord.

   (i) Differentiate between arteries and veins.

   (j) Define the term Bradycardia and Tachycardia.

2. Long answer (answer **2** out of **3**) : 2×10=20

   (a) Draw a neat labelled diagram and Heart. Discuss in detail about systemic and pulmonary blood circulations.

   (b) Enlist various coagulation factors. Discuss in detail about intrinsic and extrinsic pathway of blood coagulation.

   (c) Describe in detail various intracellular and extracellular signalling cell communication.

P.T.O.

3. Long answer (answer **2** out of **3**) : 7×5=35

   (*a*) Write anatomy and physiology of Erythrocytes.

   (*b*) Give structure and functions of skin.

   (*c*) Write a note on cardiac cycle.

   (*d*) Write a note on appendicular skeletal system.

   (*e*) Write a note on regulation of blood pressure by Barorecceptors.

   (*f*) Write a note Physiology of Hearing.

   (*g*) Write about structure and functions of parasympathetic nervous system.

   (*h*) Discuss about physiology of skeletal muscle on traction.

   (*i*) Write a note on Human basic life processes.

This question paper contains 3 printed pages]

DP—33—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2023

PHARMACEUTICAL ANALYSIS–I

Paper BP102T

(Saturday, 18-3-2023)   Time : 10.00 a.m. to 1.00 p.m.

Time—Three 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.   Answer the following :   10×2=20

(a)   Define :

(i)   Neutralization indicator

(ii)   Self-indicator.

(b)   Name the primary standard and indicator used in standardization sodium hydroxide solution.

(c)   What is meant by cell constant ?

(d)   Comment on 'Significant Figures'.

(e)   Write principle of Gravimetry.

P.T.O.

(f) Define :

    (i) Oxidizing agent

    (ii) Electrochemical cell.

(g) What is Half Wave Potential ?

(h) Comment on 'Post Precipitation'.

(i) Define :

    (i) Aprotic Solvent

    (ii) Strong Acid.

(j) Calculate molarity of the solution, if 250 ml solution contains 1g NaOH.

2. Solve any *two* of the following : $2 \times 10 = 20$

    (a) Discuss construction, working and merits of normal hydrogen electrode.

    (b) Discuss in detail theories of acid-base indicators.

    (c) Describe principle and procedure of estimation of magnesium sulphate and calcium gluconate.

3. Solve any *seven* of the following : $7 \times 5 = 35$

    (a) Write principle, procedure and stoichiometric factor of standardization sulphuric acid.

    (b) Describe various methods of minimization of errors.

    (c) Explain Alkalimetry titration with suitable example.

    (d) Write the principle and procedure of modified Volhard's method.

(e) Discuss in detail diazotisation titration.

(f) Describe different types of complexometric titration.

(g) Write construction and working of dropping mercury electrode.

(h) Explain 'cerimetry' with suitable example.

(i) Explain 'Conductometric Titration'.

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DP—37—2022

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2023

PHARMACEUTICS-I

Paper (BP-103-T)

(Tuesday, 21-03-2023) | **Time : 10.00 a.m. to 1.00 p.m.**

Time— Three 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 the following :   10×2=20

    (a) Give the importance of pharmacopoeia.

    (b) Write the difference between Gargles and Mouthwashes.

    (c) Define Elixirs and Liniments.

    (d) Write basic requirements of suspension.

    (e) Give any *two* formula for calculation of dose in children.

    (f) Define Semisolid dosage form.

    (g) Classify emulsion.

    (h) What is proof spirit ?

    (i) Why are drugs converted into dosage form ?

    (j) Give ideal properties of suppository base.

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

    (a) Define Posology. Describe various factors affecting dose of drug.

    (b) What do you mean by powders ? Classify powders. Explain various mehtods of preparation of powders.

    (c) What is Pharmaceutical Imcompatibility ? Discuss in detail therapeutic incompatibility.

P.T.O.

3. Solve the following (any *seven*) : $7 \times 5 = 35$

   (a) Differentiate between flocculated and deflocculated suspension.

   (b) Discuss in brief history of profession of pharmacy in India.

   (c) Define prescription. Write a note on Inscription and Subscription.

   (d) Give evaluation test for Semisolid dosage form.

   (e) Define Dosage forms. Give its classification.

   (f) Describe different excipients used in formulation of liquid dosage form.

   (g) Define Suppositories. Explain any *two* methods for preparation of Suppositories.

   (h) Write about the imperical and metric system of weight and measures.

   (i) Write in brief different methods of preparation of syrups.

This question paper contains 2 printed pages]

DP—41—2022

FACULTY OF PHARMACEUTICAL SCIENCE & TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2023

PHARMACEUTICAL INORGANIC CHEMISTRY

Paper-BP-104T

(Friday, 24-03-2023)   Time : 10.00 a.m. to 01.00 p.m.

Time—Three Hours   *Maximum Marks—75*

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

      (ii)   Draw structure(s) and write reaction(s) wherever necessary.

      (iii) Figures to the right indicate full marks.

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

    (i)   What are expectorants ? How do they act ?

    (ii)   Define the term buffer capacity.

    (iii)   Name *two* inorganic substances used as antacid.

    (iv)   Define radioactivity. Give the units of radioactivity.

    (v)   What is Pharmacopoeia ? Enlist official compendia.

    (vi)   Write uses of zinc eugenol cement.

    (vii)   What are catharatics ? Give its classification.

    (viii) What is achlorhydria ?

    (ix)   Give molecular formula and synonym of sodium fluoride.

    (x)   What are Astringents ? Give its example.

P.T.O.

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

   (*i*) What are gastrointestinal agents ? Classify them with example. Describe about qualities of an ideal antacid and combination therapy of antacid.

   (*ii*) What are radiopharmaceuticals ? Give the therapeutic and diagnostic application of radioisotopes.

   (*iii*) What is impurity ? Discuss in detail sources of impurities of pharmaceuticals and give the effect of impurities.

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

   (*i*) Define Antidote. Give classification of Antidote. Explain in detail mechanism of cyanide poisoning.

   (*ii*) Describe various concepts of acids and bases.

   (*iii*) Give assay of hydrogen peroxide.

   (*iv*) Define limit test. Write principle, reaction and procedure involved in limit test for Iron.

   (*v*) Write preparation method, chemical properties and uses of $KMnO_4$.

   (*vi*) Describe *two* methods of measurement of radioactivity.

   (*vii*) Describe role of fluorides in the treatment of dental caries.

   (*viii*) Define Acidifying agents. Write properties and uses of Dil. Hydrochloric acid.

   (*ix*) Write the function of major electrolytes. Explain electrolyte imbalance and its causes.

This question paper contains 2 printed pages]

CO—1—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (First Year) (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

HUMAN ANATOMY AND PHYSIOLOGY-I

BP-101T

(Wednesday, 27-11-2019)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours*   *Maximum Marks*—75

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

     (*ii*)   Draw neat labelled diagram whenever necessary.

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

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

     (*a*)   Enlist scope of anatomy and physiology.

     (*b*)   What are homeostatics and adaptation ?

     (*c*)   Name the bones of cranium.

     (*d*)   Define cardiac output. How is it calculated ?

     (*e*)   Draw neat labelled diagram of Eye.

     (*f*)   Differentiate between a suture and sydesmosis ?

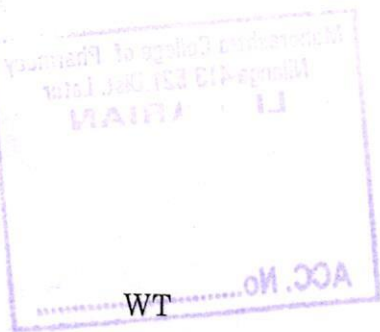   (*g*)   Give composition of blood and write its functions.

     (*h*)   Name the six cranial nerves.

     (*i*)   Define the term Angina and congestive heart failure.

     (*j*)   Write the functions of Lymph node.

P.T.O.

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CO—1—2019

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

(a) Define Blood pressure. Describe in detail short and long term regulation blood pressure.

(b) Describe the effect of autonomic stimulation on various organ systems of human body.

(c) Describe in detail structure and functions of cell and its organells.

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

(a) Describe conducting system of heart.

(b) Write the structure and functions of typical synovial joint.

(c) Describe in detail physiology of muscle contraction.

(d) Explain types and subtypes of WBCs with their functions.

(e) Write structure and functions of Tongue.

(f) What is Lymph ? Give the functions of Lymph node.

(g) Draw neat labelled diagram of heart. Write a note on pulmonary circulation.

(h) Write a note on cardiac cycle.

(i) Describe nodes of cell-cell signalling.

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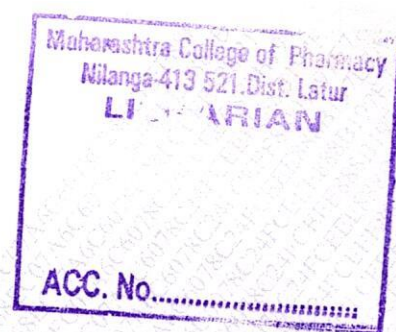
This question paper contains **2** printed pages]

CO—06—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharmacy (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2019

PHARMACEUTICAL ANALYSIS—I

(Friday, 29-11-2019)   Time : 10.00 a.m. to 1.00 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.   Answer the following :   10×2=20

(*a*)   What are secondary standards ?

(*b*)   Calculate molarity of NaOH solution if 100 ml solution contain 4 g NaOH.

(*c*)   What is neutralization indicators ?

(*d*)   Write the principle of Mohr's method.

(*e*)   Define the following :

(*i*)   Masking agent

(*ii*)   Chelating agent.

(*f*)   What do you mean by diazotisation titration ?

(*g*)   What is alkalimetry titration ?

(*h*)   Give Ilkovic equation.

(*i*)   Write principle of Redox titration.

(*j*)   What is electrochemical cell ?

P.T.O.

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

(*a*) Explain preparation and standardization of sodium hydroxide and potassium permanganate solution.

(*b*) Discuss principle and various steps involved in gravimetry.

(*c*) Describe construction and working of calomel electrode along with neat labelled diagram.

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

(*a*) Define and classify analytical techniques. Write scope of pharmaceutical analysis.

(*b*) Describe theory involved in the following titration :

(*i*) Strong acid *Vs* strong base

(*ii*) Weak acid *Vs* strong base.

(*c*) Describe in detail estimation of sodium benzoate.

(*d*) Explain principle and chemical reactions of Volhard's method with suitable example.

(*e*) Describe principle and applications of cerimetry.

(*f*) Write construction and working of dropping mercury electrode.

(*g*) Comment on the following terms :

(*i*) Conductivity cell

(*ii*) Conductometric titration.

(*h*) Write principle, chemical reaction and procedure of assay of calcium gluconate.

(*i*) Explain the term 'Iodimetry' with a suitable example.

CO—11—2019

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (First Year) (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2019

PHARMACEUTICS-I

(BP-103T)

(Monday, 2-12-2019)   **Time : 10.00 a.m. to 1.00 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 the following :   10×2=20

   (a)   Define Isotonic solution.

   (b)   Enlist different excipients used in preparation of semi solid dosage form.

   (c)   Give advantages of liquid dosage forms.

   (d)   Enlist evaluation test for suppositories.

   (e)   Give Young's formula and Dilling's formula.

   (f)   What are the characteristics of good powder ?

   (g)   Differentiate between liniments and lotions.

   (h)   Define the term displacement value.

   (i)   Enlist different stability problems of emulsion.

   (j)   Define and classify incompatibility.

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

   (a)   Define prescription. Explain various parts of prescription.

   (b)   Explain in detail sterile and non-sterile dosage forms.

   (c)   Define ointments. Explain different methods of preparation of ointments.

P.T.O.

3. Solve any *seven* of the following :

   (a)   Define Emulsion. Give its methods of preparations.

   (b)   Write in brief the history of profession of pharmacy in relation to pharmacy education ?

   (c)   What are suppositories ? Classify different suppository bases used in preparation of suppositories.

   (d)   What are advantages of suspensions ?

   (e)   Write various methods of preparation of syrup.

   (f)   Define mouthwash. Give its methods.

   (g)   Differentiate between ointments and creams.

   (h)   Explain in detail about therapeutic incompatibility.

   (i)   Give advantages and disadvantages of powders.

This question paper contains **3** printed pages]

CO—16—2019

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2019

PHARMACEUTICAL INORGANIC CHEMISTRY

Paper (BP-104T)

(Wednesday, 4-12-2019)   **Time : 10.00 a.m. to 1.00 p.m.**

Time— Three 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.   Answer the following :   20

    (a)   Define Radioisotopes. Give example of it.

    (b)   Give the chemical formula and uses of potash alum.

    (c)   Give the Ideal properties of antacids.

    (d)   Draw a neat labelled diagram of arsenic apparatus.

    (e)   Give the properties of Beta rays.

    (f)   Give the role of fluoride in dental caries.

    (g)   Give the composition of ORS as per WHO.

    (h)   Define Isotonicity. Enlist the methods of adjusting isotonicity.

    (i)   Why citric acid is used in the limit test of Iron ?

    (j)   Identify the category of dil. HCl and define it.

                                          P.T.O.

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

  (a) Define antimicrobial agents. Classify it with suitable example and discuss the mechanism of action of antimicrobial agent.

  (b) What are antidotes ? Give the classification of antidote on the basis of mechanism of action along with suitable example. Explain the principle and procedure involved in the assay of sodium thiosulphate.

  (c) What is Impurity ? Give the types of impurities. How impurities are incorporated in pharmaceutical products ?

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

  (a) Define limit test. Write the principle and procedure involved in the limit test for sulphate.

  (b) Write a short note on electrolytes used in the replacement therapy. Give the methods of preparation of sodium chloride.

  (c) Define dental products and classify it in detail with suitable example.

  (d) Define expectorant and emetics. Give properties and assay of ammonium chloride.

  (e) What are radiopharmaceuticals ? Give the therapeautic and diagnostic application of radioisotopes.

(f)   Write the chemical formula and uses of the following :

     (i)   Boric acid;   3

     (ii)   Magnesium sulfate

     (iii)   Copper sulphate

     (iv)   Hydrogen peroxide

     (v)   Sodium bicarbonate.

5 (g)   Define cathartics. Give the preparation, properties and uses of sodium orthophosphate.   3

5 (h)   Give a short note on combination of antacids.   3

2 (i)   Define buffer. Explain role of buffer in pharmacy.   2

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CO—1—2019

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B. Pharmacy (First Year) (First Semester) EXAMINATION
MARCH/APRIL, 2019
HUMAN ANATOMY AND PHYSIOLOGY—I
Paper (BPLO-IT)

(Monday, 22-4-2019)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

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

     (ii)   Figures to the right indicate full marks.

     (iii)   Draw neat labelled diagrams wherever necessary.

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

   (a)   Define anatomy and physiology.

   (b)   Give functions of Endoplasmic reticulum.

   (c)   Define tissue. Enlist its types.

   (d)   Give classification of bones.

   (e)   Enlist the contractile protein of skeletal muscle.

   (f)   Give composition of blood.

   (g)   Draw neat labelled diagram of Lymph node.

   (h)   Give classification of peripheral nervous system.

   (i)   Differentiate between arteries and veins.

   (j)   Write normal value and life span of leukocytes.

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

   (a)   Define blood pressure. Discuss in detail short-term and long-term mechanism involved in regulation of blood pressure.

P.T.O.

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(b) What is coagulation ? Discuss in detail about intrinsic and extrinsic pathway of blood coagulation.

(c) Draw neat labelled diagram of plasma membrane. Describe in detail about active and passive transport mechanism.

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

(a) What is Homeostasis ? Explain negative feedback mechanism with example.

(b) Explain in detail about anatomy and physiology of skin.

(c) Discuss about physiology and muscle contraction.

(d) Write about anatomy and physiology of epithelial tissue.

(e) Explain about bones of appendicular skeleton.

(f) Explain in detail synovial joint.

(g) What is erythropoiesis ? Explain the steps in erythropoiesis.

(h) Write anatomy and physiology of eye.

(i) Write about conducting system of heart.
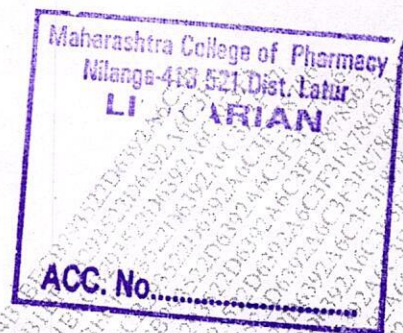
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CO—05—2019

FACULTY OF PHARMACEUTICAL SCIENCE

B. Pharmacy (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2019

PHARMACEUTICAL ANALYSIS-I

(Wednesday, 24-4-2019)   Time : 10.00 a.m. to 1.00 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.   Answer the following :   20

(a)   Define molarity and normality.

(b)   Give applications of polarography.

(c)   How to prepare conductivity water ?

(d)   Sketch a neat labelled diagram of silver chloride electrode.

(e)   Define oxidising agent and reducing agent.

(f)   Give difference between co-precipitation and post-precipitation.

(g)   Enlist types of non-aqueous solvents.

(h)   Define the term accuracy and precision.

(i)   Enlist the name of indicators used in non-aqueous titration.

(j)   What is masking and demasking agent.

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

(a)   What are mixed indicators ? Explain theories of acid-base indicators.

(b)   Define precipitation titration. Explain Mohr's method.

(c)   Explain in short electrochemical cell. Give construction and working of calomel electrode.

P.T.O.

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

(a) Define primary and secondary standards. Give ideal requirements for primary standard substances.

(b) Give the procedure for preparation and standardisation of sodium hydroxide solution.

(c) Write estimation of sodium benzoate.

(d) Define non-aqueous titration. Classify non-aqueous solvents with example.

(e) Describe steps involved in gravimetric analysis.

(f) Give applications of conductometric titration.

(g) Give construction and working of dropping mercury electrode.

(h) Discuss Ilkovic equation.

(i) Write the classification of complexometric titration.
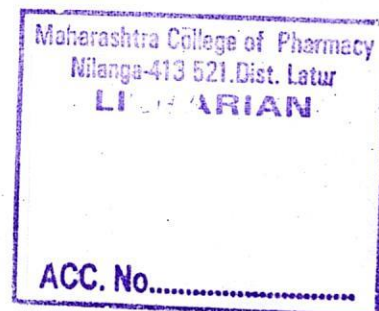
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CO—09—2019

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2019

PHARMACEUTICS—I

(Friday, 26-4-2019)   **Time : 10.00 a.m. to 1.00 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 the following :   10×2=20

    (a)   Define Drug and Dosage form.

    (b)   Give importance of Pharmacopoeia.

    (c)   Mention different systems of weights and measures.

    (d)   Why glycerine is used as a base in throat paint ?

    (e)   What is the duty of pharmacist in case the medicine is prescribed in over dose ?

    (f)   Write the equation of Stokes law.

    (g)   Define ointment. How does it differ from pastes ?

    (h)   Give Young's and Dilling's formula for calculation of dose in children.

    (i)   Define :

        (i)   Throat paints

        (ii)   Elixirs

    (j)   Give advantages of suppositories.

                                       P.T.O.

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

(a) Define and classify in detail sterile and non-sterile dosage forms.

(b) What is incompatibility ? Explain in detail chemical incomptability.

(c) Define emulsions. Discuss in blief methods of preparation and stability parameters for emulsions.

3. Solve any *seven* of the following :   7×2=35

(a) Write in brief about superscription and inscription in prescription.

(b) Describe in brief history of profession of pharmacy in India.

(c) Define Posology. Write in brief about :

    (i) Synergism

    (ii) Idiosyncracy

    (iii) Tachyphylaxis.

(d) Define suspensions. Give advantages of suspensions.

(e) Give evaluation of semisolid dosage form.

(f) Give formula and method of preparation of Mouthwash.

(g) Define suppositories. Write in brief cold compression method.

(h) Write a note on simple and compound powders.

(i) Describe different excipients used in formulation of liquid dosage form.
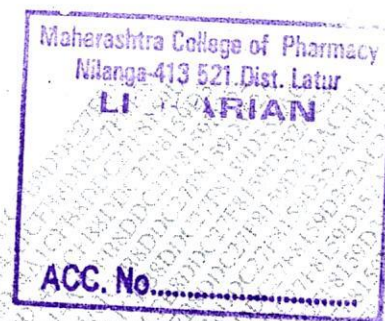
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CO—13—2019

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharmacy (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2019

PHARMACEUTICAL INORGANIC CHEMISTRY

(Monday, 29-4-2019)   Time : 10.00 a.m. to 1.00 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.   Answer the following :   20

   (*a*)   Sketch a neat labelled diagram of limit test for arsenic.

   (*b*)   Define buffer capacity.

   (*c*)   Give composition of ORS.

   (*d*)   Why calcium compounds as antacid are usually administered with magnesium salt.

   (*e*)   Name *two* inorganic substances used as antimicrobial agents.

   (*f*)   Give molecular formula and molecular weight of potash alum.

   (*g*)   What are expectorants ? How do they act ?

   (*h*)   Give properties of alpha rays.

   (*i*)   Define emetics with example.

   (*j*)   Give uses of I^{131}.

P.T.O.

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

2 (a) Discuss in detail about physiological acid base balance.

5 (b) Give ideal properties of antacids. Write properties and uses of Aluminium hydroxide gel.

(c) What is anaemia ? How would you treat it ? Give method of preparation, properties and uses of ferrous sulphate.

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

1 (a) Give principle and procedure of limit test for sulphate.

3 (b) Give properties and assay of calcium gluconate.

5 (c) Define saline cathartics. Give properties and uses of magnesium sulphate.

5 (d) Write mechanism of action of antimicrobials.

9 (e) What are astringents ? Give method of preparation and uses of zinc sulphate.

5 (f) Define Acidifying agents. Write properties and uses of Dil. Hydrochloric acid.

4 (g) Write a role of fluoride in the treatment of dental caries.

10 (h) Describe two methods of measurement of radioactivity.

10 (i) Write pharmaceutical applications of radioactive substances.

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CK—01—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm (I Year) (I Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

HUMAN ANATOMY AND PHYSIOLOGY-I

(Monday, 3-12-2018)

Time—3 Hours

Time : 10.00 a.m. to 1.00 p.m.

Maximum Marks—75

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

(ii) Draw neat labelled diagram wherever necessary.

(iii) Figures to the right indicate full marks.

1. Answer the questions :

    (a) Write the scope of anatomy and physiology.   2×10=20

    (b) Write the functions of mitochondria and golgi apparatus.

    (c) Write the normal value of RBC in male and female.

    (d) Write the composition and function of Lymph.

    (e) Enlist the bones of upper limb.

    (f) Draw diagram of Neuromuscular junction.

    (g) Define Heart rate and stroke volume.

    (h) Differentiate between arteries and veins.

    (i) Name six cranial names.

    (j) Draw neat labelled diagram of tongue.

2. Answer any two of the following :

    (a) Discuss in detail types and subtypes of connective tissue.   10×2=20

    (b) Define coagulation. Describe in detail mechanism of blood coagulation.

    (c) Describe in detail molecular mechanism of skeletal muscle contraction.

3. Answer any seven of the following :

    (a) Draw neat labelled diagram of cell. Discuss about active transport.   7×5=35

    (b) Draw neat labelled diagram of skin. Explain its structure and functions.

P.T.O.

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(c) Explain about conducting system of heart.

(d) Describe the constituents of plasma and their functions.

(e) Explain the physiology of hearing.

(f) Discuss about anatomy and physiology of spleen.

(g) Discuss process of cell division.

(h) Explain ECG. Mention the different waves of ECG.

(i) Explain structure and movement of knee joint.

This question paper contains **2** printed pages]

CK—04—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B. Pharmacy (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

PHARMACEUTICAL ANALYSIS—I

(Wednesday, 5-12-2018)   **Time : 10.00 a.m. to 1.00 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.   Answer the following :   20

(a)   Define parts per million and parts per billion.

(b)   Enlist the sources of impurities.

(c)   What do you mean by metallochrome indicator ?

(d)   Give the principle of cerimetry.

(e)   Give the applications of potentiometry.

(f)   What do you mean by non-aqueous titration ?

(g)   Give difference between co-precipitation and post-precipitation.

(h)   Write applications of diazotisation titration.

(i)   Write Ilkovic equation.

(j)   Sketch a neat labelled diagram of conductivity cell.

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

(a)   Define primary and secondary standards with example. Give ideal characteristics of primary standard substance.

(b)   What do you mean by acid-base titration ? Explain theories involved in acid-base indicators.

(c)   Write construction, working and applications of glass electrode.

P.T.O.

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

   (a)   Describe masking and demasking agents with examples.

   (b)   Explain the types of EDTA titrations.

   (c)   Write estimation of barium sulphate.

   (d)   Give classification of non-aqueous solvents with example.

   (e)   Write procedure for preparation and standardisation of 1 M NaOH.

   (f)   Explain the following terms :

      (i)   Bromatometry

      (ii)   Dichrometry.

   (g)   Write advantages and disadvantages of standard hydrogen electrode.

   (h)   Write construction and working of dropping mercury electrode.

   (i)   Explain Mohr's method and Volhard's method in precipitation titration.

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CK—07—2018

FACULTY OF PHARMACEUTICAL SCIENCES

B. Pharm (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

PHARMACEUTICS—I

Paper BP 103T

(Saturday, 8-12-2018)   **Time : 10.00 a.m. to 1.00 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) Illustrate your answer with neat sketch wherever necessary.

1. Solve the following :   2×10=20

(a)   Define the term 'pharmacopoeia'.

(b)   Define flocculated and deflocculated suspensions.

(c)   Enlist different excipients used in semi-solid dosage forms.

(d)   Classify emulsion.

(e)   Write any *two* formulae for calculation of dose in children.

(f)   Define prescription. Give its importance.

(g)   Enlist identification tests for emulusion.

(h)   Define Posology.

(i)   Define suppositories. Give its advantages.

(j)   Differentiate between liniments and lotion.

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

(a)   Define and classify incompatibilities. Write in detail therapeutic Incompatibility.

(b)   What are the evaluation parameters of semisolid dosage forms.

(c)   Define and classify powders. Give advantages and disadvantages of powder.

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7×5=35

3. Solve any *seven* of the following :

   (a) Define Mouthwash. Give its method of preparation.

   (b) Give the ideal qualities of suppository bases.

   (c) Write in brief about different factors influencing dermal penetration of drug.

   (d) What are the advantages and disadvantages of liquid dosage forms.

   (e) Explain Sterile and Non-sterile dosage forms.

   (f) Give different stability parameters for suspension.

   (g) Write about the imperical and metric system of weight and measures.

   (h) Give methods for preparation of suspension.

   (i) Write a note on Eutectic mixtures.

This question paper contains **2** printed pages]

CK—10—2018

FACULTY OF PHARMACEUTICAL SCIENCE

B. Pharmacy (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2018

PHARMACEUTICAL INORGANIC CHEMISTRY (IPC)

(Tuesday, 11-12-2018)

Time : 10.00 a.m. to 1.00 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. Answer the following :

    10×2=20

    (*a*) Define Pharmaceutical Inorganic Chemistry.

    (*b*) What is pharmacopoeia. Enlist official compendia.

    (*c*) Define radioactivity and give the units of radioactivity.

    (*d*) Give the preparation and uses of sodium orthophosphate.

    (*e*) Define Tonicity. Enlist the methods for measurement of tonicity.

    (*f*) Draw a neat labelled diagram of arsenic apparatus.

    (*g*) Give the Sprowls formula.

    (*h*) Define expectorant. Classify it.

    (*i*) Give the molecular formula and synonym of sodium fluoride.

    (*j*) Give the composition of ORS.

2. Answer any *two* of the following :

    2×10=20

    (*a*) What are gastrointestinal agents ? Classify them with example. Describe about qualities of an ideal antacid and combination therapy of antacid.

    (*b*) What is impurity ? What are the various sources of impurities ? Explain the principle for the limit test for iron and chloride.

    (*c*) What are major extra and intra cellular electrolytes ? Write the functions of electrolytes. Explain electrolyte imbalance and its causes.

P.T.O.

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

    5 (a)   What are saline cathartics ? Write the synonym, properties, preparation, storage condition and uses of magnesium sulphate.

    10 (b)   What are radiopharmaceuticals ? Give their applications.

    2 (c)   What are dentifrices ? Discuss about calcium carbonate.

    5 (d)   What are antimicrobials ? Discuss the mechanism of action of antimicrobial agents.

    5 (e)   What are antacids ? Write the assay of sodium bicarbonate.

    10 (f)   What is radioactivity ? Explain G.M. counter method for measurement of radioactivity.

    1 (g)   Write about history of pharmacopoeia. Give brief account of Indian pharmacopoeia.

    2 (h)   Define Buffer. Explain the role of Buffer in pharmacy. Enlist the methods of adjusting tonicity and pH. Explain any *one* method.

    2 (i)   Describe Arrhenius concept of acid and base with example. Enlist the ideal characteristics of Buffer for use in biological research.

DH—1—2018

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (First Semester) EXAMINATION
MARCH/APRIL, 2018

HUMAN ANATOMY AND PHYSIOLOGY

Paper I

(Friday, 20-4-2018)   Time : 10.00 a.m. to 1.00 p.m.

Time—Three Hours   Maximum Marks—75

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

(ii) Draw neat labelled diagram wherever necessary.

(iii) Figures to the right indicate full marks.

1. Answer the following :   10×2=20

   (a) Define anatomy and physiology.

   (b) Enlist basic life process.

   (c) Draw neat labelled diagram of cell.

   (d) Write composition and function of blood.

   (e) Give structure and function of lymph node.

   (f) Name *six* cranial nerves.

   (g) Draw neat labelled diagram of eye.

   (h) Define cardiac output. How is it calculated ?

   (i) Name the bones of skull.

   (j) Give composition and functions of synovial fluid.

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

   (a) Draw neat labelled diagram of plasma membrane. Describe in detail various methods involved in transported material across plasma membrane.

   (b) Define coagulation. Describe in detail mechanism of blood coagulation.

   (c) What is blood pressure ? Discuss in detail the factors regulating blood pressure.

P.T.O.

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

   (*a*) Explain physiology of skeletal muscle contraction.

   (*b*) Classsify types and subtypes of epithelial tissues and its location and functions.

   (*c*) What is autonomic nervous system ? Explain the distribution and functions of sympathetic and parasympathetic nervous system.

   (*d*) Explain elements of conducting system of heart.

   (*e*) Explain in detail physiology of sense organ of hearing.

   (*f*) Explain structure and function of skin.

   (*g*) What is articulation ? Explain in detail synovial joint with example.

   (*h*) Explain in brief bones of appendicular skeleton.

   (*i*) Discuss structure and function of spleen.

This question paper contains **2** printed pages]

DH—03—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B. Pharmacy (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2018

PHARMACEUTICAL ANALYSIS

Paper I

(Monday, 23-4-2018)   Time : 10.00 a.m. to 1.00 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.   Answer the following :   20

    (*a*)   Define molarity and normality.

    (*b*)   Enlist the types of non-aqueous solvent.

    (*c*)   Give the difference between co-precipitation and post-precipitation.

    (*d*)   What is masking and demasking agents ?

    (*e*)   What do you mean by precipitation titration ?

    (*f*)   Sketch a neat labelled diagram of standard hydrogen electrode.

    (*g*)   Define limit test and pharmacopoeia.

    (*h*)   Give the applications of polarography.

    (*i*)   How will you prepare conductivity water ?

    (*j*)   Name the indicator used in Mohr's method and Valhard's method.

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

    (*a*)   What do you mean by Gravimetric analysis ? Describe in detail steps involved in Gravimetric analysis.

    (*b*)   Define errors. Give the detailed classification of errors. Explain the method of minimization of errors.

    (*c*)   Give the construction and working of dropping mercury electrode and rotating platinum electrode.

                                                   P.T.O.

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

   (*a*)   Give the procedure for preparation and standardisation of 0.1 M HCl and 0.1 M oxalic acid.

   (*b*)   Write estimation of calcium gluconate.

   (*c*)   Define non-aqueous titration. Classify non-aqueous solvents with examples.

   (*d*)   State law of mass action and explain its applications.

   (*e*)   Give the types of EDTA titration.

   (*f*)   Explain the following terms :

       (*a*)   Cerimetry

       (*b*)   Iodimetry

   (*g*)   Write construction and working of calomel electrode.

   (*h*)   Write the applications of conductometry.

   (*i*)   Discuss sources of impurities of medicinal agents.

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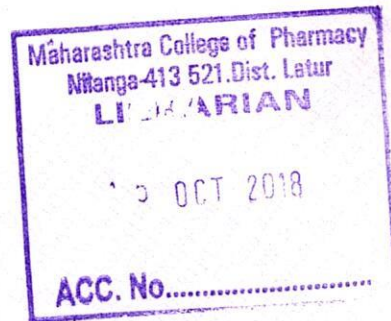
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DH—05—2018

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY
B.Pharm. (First Year) (First Semester) EXAMINATION
MARCH/APRIL, 2018
PHARMACEUTICS-I

3 S

(Wednesday, 25-4-2018)	Time : 10.00 a.m. to 1.00 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.

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

1.   Solve the following :   10×2=20

    (*a*)   Define Pharmacy.

    (*b*)   Name any four standard books used in India.

    (*c*)   Write any two formulae for calculation of dose in childern.

    (*d*)   Mention different systems of weights and measures.

    (*e*)   Define the term 'Powder' with example.

    (*f*)   Give advantages of liquid dosage form.

    (*g*)   Differentiate between liniment and lotion.

    (*h*)   Why is glycerine used as a base in throat paint ?

    (*i*)   Why are adjuncts needed in preparing different monophasic liquid dosage form.

    (*j*)   Define the term "suspension" with example.

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

    (*a*)   Define Dosage form. Classify sterile and non-sterile dosage form.

    (*b*)   Define emulsions. Give identification tests and method of preparation of emulsions.

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(c) Define and classify incompatibilities. Write in detail therapeutic incompatibility.

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

(a) Define pharmacopoeia. Give its importance.

(b) Define prescription. Write in brief about inscription and subscription.

(c) Write in brief about Hot/fusion method of suppository.

(d) Give the difference between flocculated and deflocculated suspension.

(e) Give the ideal qualities of suppository bases.

(f) Write in brief different methods of preparation of syrups.

(g) Calculate the dose of a drug for a :

(i) 6 months old infant

(ii) Child of 7 years.

when the adult dose of the drug is 100 mg.

(h) Write a note on eutectic mixtures.

(i) Give advantages and disadvantage of powders.

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This question paper contains **2** printed pages]

FF—01—2017

FACULTY OF PHARMACEUTICAL SCIENCE & TECHNOLOGY
B.Pharm. (First Year) (First Semester) EXAMINATION
NOVEMBER/DECEMBER, 2017
HUMAN ANATOMY AND PHYSIOLOGY—I

(Tuesday, 21-11-2017)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

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

  (ii)   Draw neat labelled diagram wherever necessary.

  (iii)   Figures to the right indicate full marks.

1.   Answer the following :   20

   (a)   Define anatomy and physiology.

   (b)   Write the functions of Endoplasmic reticulum and mitochondria.

   (c)   Write normal values of Heamoglobin content in male and female.

   (d)   Draw a neat labelled diagram of spleen.

   (e)   Enlist bones of lower limb.

   (f)   Give composition and function of synovial fluids.

   (g)   Define cardiac output. How is it calculated ?

   (h)   Differentiate between arteries and veins.

   (i)   Name any *six* cranial nerves.

   (j)   Draw a neat labelled diagram of internal structure of ear.

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

   (a)   Define coagulation. Describe in detail mechanism of blood coagulation.

   (b)   What is autonomic nervous system ? What are its major divisions ? Explain the distribution and functions of each division.

   (c)   What is tissue ? Explain its types and subtypes with neat labelled diagram.

P.T.O.

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

   (a) Draw a neat labelled diagram of plasma membrane and discuss about passive transport across cell membrane.

   (b) Draw a neat labelled diagram of skin and explain its structure and function.

   (c) Explain the conducting system of heart with the help of neat labelled diagram.

   (d) Explain the short-term control of blood pressure.

   (e) Draw a neat labelled diagram of eye and explain structure and function of organ of sight.

   (f) With the help of neat labelled diagram explain structure and function of lymph node.

   (g) Draw a neat labelled diagram of internal structure of heart and explain the process of pulmonary circulation.

   (h) Explain the physiology of muscle contraction.

   (i) Explain structure and movement of shoulder joint.

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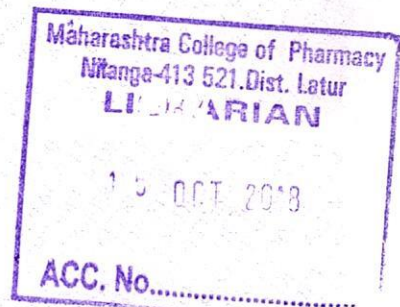
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FF—2—2017

FACULTY OF PHARMACEUTICAL SCIENCES

B. Pharm. (First Year) (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2017

PHARMACEUTICAL ANALYSIS

Paper I

(27)

(Thursday, 23-11-2017)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three 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. Answer the following :   20

    (a) Give the importance of pharmaceutical analysis.

    (b) What do you mean by acid-base titration ?

    (c) Define acidimetry and alkalimetry titration.

    (d) What do you mean by masking and demasking agents ?

    (e) Define parts per million and parts per billion.

    (f) Name the indicators used in complexometric titrations.

    (g) State the Ilkovic equation.

    (h) Give the applications of potentiometric titration.

    (i) Define cerimetry and iodimetry.

    (j) What is oxidation and reduction ?

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

    (a) Define error and classify it in detail.

    (b) What do you mean by precipitation titration ? Explain in detail about Volhard's method.

    (c) Give the construction and working of standard hydrogen electrode and calomel electrode.

P.T.O.

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

   (a) Define primary standard substance and give the ideal characteristics of primary standard substance.

   (b) What do you mean by non-aqueous titration ? Give the classification of non-aqueous solvents with examples.

   (c) Write the estimation of magnesium sulphate.

   (d) Explain in short steps involved in Gravimetric analysis.

   (e) Write a short note on Iodimetry and Iodometry titrations.

   (f) Give the procedure for prepration and standardization of Hydrochloric acid.

   (g) Write the applications of polarography.

   (h) Discuss in short about Ostwald theory of acid-base indicators.

   (i) Explain the construction and working of glass electrode.

This question paper contains 2 printed pages]

FF—03—2017

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY
B.Pharm. (First Year) (First Semester) EXAMINATION
NOVEMBER/DECEMBER, 2017
PHARMACEUTICS—I
Paper BP-103T

(Saturday, 25-11-2017)

Time : 10.00 a.m. to 1.00 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) Illustrate your answers with neat sketchs wherever necessary.

1. Solve the following :

10×2=20

(a) Define sterile and non-sterile dosage form.

(b) Give an ideal format of prescription.

(c) Give the importance of date in prescription.

(d) What is the duty of pharmacist in case the medicine is prescribed in overdose ?

(e) Calculate the amount of 95% alcohol required to prepare 400 ml of 45% alcohol.

(f) Define isotonic solution.

(g) Enlist different stability parameter for suspension.

(h) Define the term "displacement value".

(i) Enlist different excipients used in semisolid dosage form.

(j) Give Young's and Dilling's formula for calculation of child dose.

2. Solve any *two* of the following :

2×10=20

(a) Define suppositories. Explain in detail different methods of preparation of suppositories.

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(b) Define and classify powders. Give the advantages and disadvantages of powder.

(c) Explain the different factors affecting dose of Drug.

3. Solve any *seven* of the following :

7×5=35

(a) Define Emulsion. Give its stability problems and methods to overcome it.

(b) Give method of preparation of suspension.

(c) Define mouthwash. Give its method of preparation.

(d) Write a brief note of Dusting powder.

(e) Describe in brief about the different types of bases used in manufuture of suppositories.

(f) Define therapeutic incompatability. Describe different reason of Therapeutic incompatability.

(g) Write in brief about history of profession of pharmacy in India in relation to pharmacy education.

(h) Write a note on term 'superscription' in prescription.

(i) Write in brief about different factors influencing dermal penetration of drug.

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FF—04—2017

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2017

PHARMACEUTICAL INORGANIC CHEMISTRY—I

(Monday, 27-11-2017)   Time : 10.00 a.m. to 1.00 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.   Answer the following :   20

    (a)   Give the importance of pharmaceutical Inorganic chemistry.

    (b)   Write about Zinc Oxide Eugenol (ZOE) cement.

    (c)   Write any *two* chemical properties of boric acid.

    (d)   Give the proporties of Gamma rays.

    (e)   Define buffer action and buffer capacity.

    (f)   Identify the category of ammonium chloride and define it.

    (g)   Define emetics and expectorant with example.

    (h)   How much silver nitrate is needed to prepare 100 ml of Isotonic solution using Sprowl's method ?

        (given that : E 1% = 0.68).

    (i)   Draw a neat labelled diagram of arsenic apparatus.

    (j)   What is astringent ?

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

    (a)   What is Impurity ? Discuss in detail sources of impurities of pharmaceuticals and give the effect of impurities.

    (b)   What are antimicrobial agents ? Enlist the various classes of antimicrobial agent and discuss the mechanism of action of antimicrobial agent.

    (c)   What are radiopharmaceuticals ? Give the therapeutic and diagnostic application of radioisotopes.

                                                                 P.T.O.

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3.   Answer any *seven* of the following :

2 (a)   Describe the various concepts of acids and bases.

1 (b)   Define limit test. Write the principle involved in the limit test for chloride and sulphate.

3 (c)   Write a note on electrolyte used in replacement therapy.

4 (d)   What are dental products ? Discuss the role of fluorides in preventing tooth carries. Give a brief account of sodium fluoride.

(e)   Justify the importance of :

    (i)   Dilute HNO_3 in limit test for chloride.

    (ii) K_2SO_4 in limit test for sulphate.

    (iii) Citric acid in limit test for iron.

    (iv) H_2S in limit test for heavy metal

    (v)   Ammonium citrate is added in the limit test for lead.

5 (f)   Why antacids are given in combination always ? Explain with some marketed preparations. Write the storage condition and uses of Aluminium hydroxide Gel.

(g)   Write the chemical formula and medicinal uses of the following (any *five*) :

    (i)   Potash alum

    (ii)   Sodium thiosulphate

    (iii) Ferrous sulphate

    (iv)   Boric Acid

    (v)   Kaolin

    (vi)   Calcium carbonate

    (vii) Epsom salt.

8 (h)   Define Antidote. Give the classification of antidote. Which antidotes are used for cyanide poisoning ? Explain their mechanism of action.

5 (i)   Give the assay of hydrogen peroxide.