VO—02—2022

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (II Year) (III Semester) EXAMINATION

JUNE/JULY, 2022

PHARMACEUTICAL ORGANIC CHEMISTRY–II

Paper BP301T

(Tuesday, 28-6-2022)   **Time : 2.00 p.m. to 5.45 p.m.**

Time—3.45 Hours   *Maximum Marks—75*

N.B. :— (i) Draw structure wherever necessary.

       (ii) *All* questions are compulsory.

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

     (a) What are aromatic acid ? Give its example.

     (b) Write difference between fats and oils.

     (c) Define saponification value and acid value.

     (d) Give structure and uses of Aniline.

     (e) Draw canonical forms of benzoic acid.

     (f) Define phenols. Give its example.

     (g) Draw structure of cyclopropane and cyclohexane.

     (h) What do you understand by Hydrolysis of fat ?

     (i) Draw orbital picture of benzene.

     (j) Write structure and uses of triphenylmethane.

P.T.O.

2. Long answer questions (Answer *two* out of three) : 2×10=20

   (a) Explain the basicity of aromatic amine and effect of substituent on basicity of amine.

   (b) Discuss electrophilic substitution reactions of phenols.

   (c) Explain Haworth synthesis of Anthracene and write reactions of it.

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

   (a) Draw structure and medicinal uses of Chloromine, Diphenylmethane, Phenol.

   (b) What is the effect of meta directing group on reactivity of benzene and its derivatives ?

   (c) Give method of preparation of aromatic acids.

   (d) Discuss Friedel-Crafts Acylation and Alkylation.

   (e) Explain coulson and moffitt's modification.

   (f) Explain chemical reactions of Napthalene.

   (g) What are benzene derivatives ? Explain their nomanclature.

   (h) Explain effect of substituent on acidity of aromatic acid.

   (i) Draw structure of aryl diazonium salt and give its application.

VO—10—2022

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharma (Second Year) (Third Semester) EXAMINATION

MAY/JUNE, 2022

PHYSICAL PHARMACEUTICS-I

BP-302T

(Thursday, 30-6-2022)   **Time : 2.00 p.m. to 5.45 p.m.**

Time— 3.45 *Hours*   *Maximum Marks—75*

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

      (ii)   Draw the diagram whenever necessary.

1.   Answer the following :   20

   (a)   Define Molality and Normality.

   (b)   Define eutectic mixture with examples.

   (c)   What are liquid crystals ?

   (d)   Define HLB scale with examples.

   (e)   Define surface tension with its unit.

   (f)   State Raoult's law of solution.

   (g)   Define complexation with examples.

   (h)   Define isotonic solution and buffer solutions.

   (i)   Give the significance of Protein Binding.

   (j)   Write a short note on Sorenson's pH scale.

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

   (a)   Describe methods for liquefication of gases.

      P.T.O.

(b)   Explain factors influencing solubility of drug.

(c)   Give the classification of surfactants and write its pharmaceutical appplication.

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

(a)   Explain dielectric constant with its applications.

(b)   Write significance of isotonicity.

(c)   Explain mechanism of solute solvent interaction.

(d)   Differentiate between crystline and amorphous solids.

(e)   Explain glassy state with its types.

(f)   Explain Thermodynamic treatment of stability constants.

(g)   Describe methods for determination of pH.

(h)   Explain pharmaceutical and biological buffer system.

(i)   Describe Wilhelmy plate method for determination of surface tensions.

VO—18—2022

FACULTY OF PHARMACEUTICAL SCIENCE

B. Pharm (Second Year) (Third Semester) EXAMINATION MAY/JUNE, 2022

PHARMACEUTICAL MICROBIOLOGY

(Saturday, 2-7-2022)   (BP 303T)   **Time : 02.00 p.m. to 05.45 p.m.**

Time— 3.45 *Hours*   *Maximum Marks*—75

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

(*ii*)   Draw neat labelled diagrams wherever necessary.

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

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

(*a*)   Define :

(*i*)   Antiseptics

(*ii*)   Preservatives

(*b*)   What is plasmid ?

(*c*)   Draw the structure of cytoplasmic membrane (lipid fluid mosaic model).

(*d*)   Give applications of physical sterilization.

(*e*)   Write principle of simple staining.

(*f*)   What is bacteriophage ? Draw its structure.

(*g*)   Draw typical structure of virus.

(*h*)   Draw well labelled diagram of aseptic area.

(*i*)   Define spoilage and enlist factors affecting microbial spoilage

(*j*)   What is primary cell culture ?

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

(*a*)   Write classification of bacteria depending on arrangement of flagella with example.

P.T.O.

(b) Write notes on :

   (i)   Streak plate method.

   (ii) Spread plate method.

(c) Describe bacterial growth curve with graphical representation.

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

(a) Explain in detail about Gram staining technique of bacteria.

(b) Define sterilization and explain about moist heat sterilization.

(c) Write the classification of disinfectants and their mode of action.

(d) Explain lysogenic and lytic cycle of viruses.

(e) Write short notes on :

   (i)   Types of hyphae

   (ii) Reproduction of fungi

(f) Explain in detail IMViC test

(g) Describe bacterial cell structure with neat labelled diagram.

(h) Differentiate between prokaryotes and eukaryotes.

(i) Explain in detail sterilization by radiation.

VO—26—2022

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharma (Second Year) (Third Semester) EXAMINATION

MAY/JUNE, 2022

PHARMACEUTICAL ENGINEERING

(Tuesday, 5-7-2022)   C B P 304 T   **Time : 2.00 p.m. to 5.45 p.m.**

Time— 3.45 *Hours*   *Maximum Marks*—75

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

(ii)   Q. No. **1** is compulsory.

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

(a)   Give the objectives of size reduction.

(b)   What is Fourier's law of heat transfers ?

(c)   Define Raynolds number and give its significance.

(d)   Differentiate between solid and liquid mixing.

(e)   Define the terms equilibrium moisture content and critical moisture content.

(f)   What is supercentrifuge ? Give its application.

(g)   Give the classification of material for construction.

(h)   Define the terms Poiseuilles equation for filtration.

(i)   Give the Darcy's law for filtration.

(j)   Differentiate in between evaporation and other heat process (boiling/drying)

P.T.O.

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

   (a) Explain principle, construction and working of multiple effect evaporator.

   (b) Write in detail about construction and working of ball mill and fluid energy mill.

   (c) Write a note on fractional distillation, draw a well labelled diagram.

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

   (a) Discuss principle, construction, working and uses of cyclone separator.

   (b) Write a note on principle, construction and working of ribbon blender.

   (c) Write a note on fluidised bed dryer.

   (d) Write a note on mechanism of heat transfer.

   (e) Discuss Bernoulli's theorem and its application.

   (f) Discuss the theories of corrosion and types of corrossion.

   (g) Write a note on factors affecting during materials selected for pharmaceutical plant construction.

   (h) Write a note on perforated basket centrifuge.

   (i) Explain theories of filtration.