

II/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022**Third Semester****PHARMACEUTICAL ORGANIC CHEMISTRY II - THEORY**Time : **Three Hours**Maximum : **75 Marks**

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SECTION - A**Answer any FIVE Questions.****5x10 = 50 M**

1. Explain Huckel's Rule and write the synthetic and other evidences in the derivation of structure of benzene.
2. Describe the acidity of Aromatic acids and discuss the effect of substituents on acidity of aromatic acids.
3. Write a note on Saponification, Rancidity and Drying of Oils.
4. Discuss the synthesis, reactions and medicinal uses of Naphthalene.
5. Describe Baeyer's strain theory and add a note on its limitations.
6. Explain the significance and principle involved in the determination of Ester value and Iodine value.
7. Write a note on basicity of amines and give an emphasis on synthetic uses of aryl diazonium Salts.

SECTION - B**Answer any FIVE Questions.****5x5 = 25 M**

8. Write the sulphonation and halogenation reactions of Benzene.
9. Write the structure and uses of Cresols, Naphthols and Resorcinol.
10. Give an account on Reichert Meissl (RM) Value.
11. Write the structure, synthesis and medicinal uses of Anthracene.
12. Give an account on Sachse Mohr's Theory.
13. Briefly outline the reactions of Cyclopropane.
14. Give the structure and uses of DDT, BHC and Saccharin.

II/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022**Third Semester****PHYSICAL PHARMACEUTICS I - THEORY**Time : **Three Hours**Maximum : **75 Marks**

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SECTION - A**Answer any FIVE Questions.****5x10 = 50 M**

1. Classify different complexes with examples. Add notes on analysis by distribution method.
2. Discuss the methods to measure & identify surface and interfacial tension.
3. Write about PH determination by electrometric method. Add a note on applications of buffers.
4. Enumerate the differences between amorphous and polymorphism.
5. Write the principle, construction, working of different types of refractometers.
6. Write about solubility of gases in liquids and Henry's law. Add a note on critical solution temperature.
7. Write a note on :
 - a) Solute - Solvent interactions.
 - b) Eutectic mixtures.
 - c) Solubilisation and detergency.
 - d) Isotonic solutions.

SECTION - B**Answer any FIVE Questions.****5x5 = 25 M**

8. Explain briefly about role of buffers in Pharmaceutical systems.
9. Define diffusion. Write about Fick's laws of diffusion.
10. Write a note on dipole moment and its determination.
11. Describe the calculation of RHLB of oil for making O/W emulsion by taking suitable examples.
12. Write a note on complexation and drug action.
13. Write a note on adsorption at liquid interfaces.
14. State and explain distribution law and its limitations.

II/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022**Third Semester****PHARMACEUTICAL MICROBIOLOGY - THEORY**Time : **Three Hours**Maximum : **75 Marks****SECTION - A****Answer any FIVE Questions.****5x10 = 50 M**

1. a) How do you classify bacteria based on their morphology.
b) Differentiate between prokaryotes and Eukaryotes.
2. a) Explain the raw materials used for culture media.
b) Give a brief note on bacterial growth.
3. a) Explain the principle and procedure of Gram staining.
b) Merits and demerits of chemical method of sterilization.
4. Write the principle and procedure for the microbiological assay of Vitamins.
5. a) Write a brief note on dark field microscopy.
b) Factors influencing disinfection.
6. Discuss the source of contamination in an aseptic area. Add a note on Designing of aseptic area and laminar air flow equipment.
7. Discuss the procedure for following :
 - a) Evolution of microbial stability of formulations.
 - b) Primary cultures.
 - c) Transformed cultures.
 - d) Types of spoilage.

SECTION - B**Answer any FIVE Questions.****5x5 = 25 M**

8. Define microscopy ? Add a note on different microscopic techniques used in the field of microbiology.
9. Write a short notes on Gaseous Sterilization.
10. Explain the factors affecting the microbial spoilage of pharmaceutical products.
11. Write the nutritional requirements for the growth of bacteria.
12. Give a brief note on sterility indicators.
13. Write the principle, procedure and media used in test for sterility for an oily injections as per IP.
14. Explain about Application of Cell Cultures in pharmaceutical industry.

II/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022**Third Semester****PHARMACEUTICAL ENGINEERING - THEORY**Time : **Three Hours**Maximum : **75 Marks**

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SECTION - A**Answer any FIVE Questions.****5x10 = 50 M**

1. Discuss different types of Manometers and add a note on applications of Venturimeter.
2. Write a note on Forced circulation evaporation and steam distillation.
3. Describe the principles, construction, working, merits and demerits of Tray dryer and vacuum dryer.
4. Discuss the factors affecting mixing and add a note on Ribbon blender and sigma blade mixer.
5. Write the principle, construction, working and advantages of
 - a) Cartridge filter.
 - b) Semi-continuous centrifuge.
6. Write a note on utility and various types of Glass and Steel in pharmaceutical industry.
7. Write an equation for heat transfer by conduction through compound resistance in series and discuss the applications of heat transfer.

SECTION - B**Answer any FIVE Questions.****5x5 = 25 M**

8. Describe the principle, construction and working of End Runner Mill.
9. Discuss the mechanisms of size separation and add a note on different types of sieves.
10. Give a brief outline on Freeze dryer with the help of a diagram.
11. What do you mean by filter aids and filter media ? Write a brief note on various types of filter aids and filter media used in filtration in pharmaceutical industries.
12. Write a short note on chemical reaction related corrosion.
13. Sketch the diagram of super centrifuge and explain its principle and construction.
14. Write a note on Turbines and Paddles used in Mixing.