

# University of Sargodha

Pharm-D (1<sup>st</sup> Prof.) 2<sup>nd</sup> Semester (F-24) Exam 2025

Paper: Pharmaceutical Chemistry-IB (Organic-II) (PHRM-5113/PHARM-316)

Time Allowed: 02:30 Hours

Maximum Marks: 60

Note: Attempt all questions.

## Objective Part (Compulsory)

(2\*10)

Q.1. Write short answers of the following in 4-5 lines each on your answer sheet.

- i. What is thiophene? Draw its resonance structures.
- ii. Define reaction intermediate species. Give examples.
- iii. What are carbocation? Explain it.
- iv. Define Wittig reaction with example.
- v. Why pyridine is more basic than ammonia?
- vi. What is Substitution reactions, Give example?
- vii. How Indole is formed? Give its two reactions.
- viii. Define Cannizzaro reaction with examples.
- ix. Define Arndt Eistert reaction with example.
- x. What is Nitrene? How it is formed?

## Subjective Part (4\*10)

- Q.2. Define Friedel-Crafts Reaction. Discuss its general reaction and mechanism with examples.
- Q.3. Define Wolff rearrangement. Discuss its general reaction and mechanism with examples.
- Q.4. Write down the methods of preparation, properties and pharmaceutical applications of FREE Radicals.
- Q.5. Write down the methods of preparation, structure, properties and pharmaceutical applications of Quinoline.

# University of Sargodha

Pharm-D (1<sup>st</sup> Prof.) 2<sup>nd</sup> Semester (F-24) Exam 2025

Paper: Pharmaceutics-IB (Physical Pharmacy-II) (PHRM-5111/PHARM-315)

Time Allowed: 02:30 Hours

Maximum Marks: 60

Note: Attempt all questions.

## Objective Part (Compulsory)

Q.1. Write short answers of the following in 4-5 lines each on your answer sheet.

(2\*10)

- i. Sublimation
- ii✓ Levigation
- iii✓ Evaporation
- iv✓ Ignition
- v✓ Lyophilization
- vi✓ Fusion
- vii. Adsorption
- viii. Polymorphism
- ix✓ Dessication
- x✓ Centrifugation

## Subjective Part (4\*10)

- Q.2. Define crystallization; also explain types of crystals and its application in pharmacy.
- Q.3. What is maceration? explain its purpose and process in detail.
- Q.4. Explain rate and order of reactions.
- Q.5. What is liquid-liquid extraction? Discuss its purpose and process.

----- LK-5408/13-11-25 -----

# University of Sargodha

Pharm-D (1<sup>st</sup> Prof.) 2<sup>nd</sup> Semester (F-24) Exam 2025

Paper: Physiology-B (PHRM-5117/PHRM-318)

Time Allowed: 02:30 Hours

Maximum Marks: 60

Note: Attempt all questions.

## **Objective Part (Compulsory)**

- Q.1.** Write short answers of the following in 4-5 lines each on your answer sheet. (2\*10)
- Enlist the non-respiratory functions of lungs.
  - Write down the factors that increase blood pressure.
  - Discuss the anti-clotting mechanisms of heparin and warfarin.
  - Name the factors that provide first and second line of defense against infection.
  - How renin angiotensin aldosterone system controls the blood pressure?
  - Briefly discuss the factors that maintain body water balance.
  - Define gastritis, its symptoms and causes.
  - Define pulmonary ventilation and its normal value.
  - Briefly discuss the hormonal control of male reproductive functions.
  - What are the hormonal influences on growth?

## **Subjective Part (4\*10)**

- Q.2.** Discuss the chemical reactions that occur during exchange of gases in alveoli and tissues.
- Q.3.** Elaborate the mechanical events of cardiac cycle.
- Q.4.** Describe the mechanisms through which kidneys regulate acid base balance.
- Q.5.** How gastric secretions and motility are regulated?



# University of Sargodha

Pharm-D (1<sup>st</sup> Prof.) 2<sup>nd</sup> Semester (F-24) Exam 2025

Paper: Pharmaceutical Chemistry-IB (Biochemistry-II) (PHRM-5115/PHARM-317)

Time Allowed: 02:30 Hours

Maximum Marks: 60

Note: Attempt all questions.

## **Objective Part (Compulsory)**

- Q.1. Write short answers of the following in 4-5 lines each on your answer sheet. (2\*10)
- What are the main precursors of Gluconeogenesis?
  - What is Glucose Alanine cycle?
  - Differentiate between the Aerobic and Anaerobic Glycolysis.
  - Discuss the role of Pyruvate Kinase and its associated deficiency disease.
  - Discuss the fate of Glucose 6 phosphate in muscle, brain and liver.
  - Discuss the importance of Krebs Cycle.
  - How much ATPs produced from one molecule of Palmitoyl CoA by Beta Oxidation?
  - Define and briefly explain the Ketogenesis.
  - What are Porphyrias also classify the Porphyrias?
  - What is Hemoglobin structure and function?

## **Subjective Part (4\*10)**

- Discuss the Synthesis and Degradation of Heme.
- Discuss the Pentose Phosphate pathway in detail.
- Draw and calculate the energy calculation of TCA cycle and Urea Cycle.
- Discuss the De-Novo Synthesis in detail.

# University of Sargodha

Pharm-D (1<sup>st</sup> Prof.) 2<sup>nd</sup> Semester (F-24) Exam 2025

Paper: English-II (Communication & Writing Skills) (URCE-5102/ENG-301)

Maximum Marks: 60

Time Allowed: 02:30 Hours

Note: Attempt all questions.

## Objective Part (Compulsory)

Q.1. Write short answers of the following in 4-5 lines each on your answer sheet.

(2\*10)

- Define a coherent paragraph.
- Write two differences between CV and Resume.
- What is précis writing?
- Define skimming and scanning.
- What is the purpose of writing meeting minutes?
- Mention two important qualities of an effective presentation.
- Write two characteristics of a good research proposal.
- Define discursive essay.
- Write two features of a technical report.
- What is a memo?

## Subjective Part (4\*10)

Q.2. Translate into English.

پاکستان ایک امن پسند ملک ہے۔ ہم اپنے مسابو سے ہمیشہ دوستانہ تعلقات رکھنا چاہتے ہیں۔ لیکن اس کا مطلب یہ نہیں کہ ہم اپنے دفاع سے غافل ہو جائیں۔ ہمیں اپنے گرد و پیش پر نظر رکھنے کی ضرورت ہے۔ ہمیں اتنا مضبوط ہونا چاہیے کہ کوئی ہماری طرف بڑی آنکھ سے نا دیکھ سکے۔ موجودہ زمانے میں مضبوط دفاع ہی امن کی ضمانت ہے۔

- Write a job application with CV for the post of Pharmacist Assistant in a hospital.
- Write a descriptive essay on "The Role of Communication Skills in Professional Life."
- Write a technical report on "Uses of Pharmacy Record Keeping System."