



Faculty of Health Sciences
Higher Diploma in Pharmaceutical & Cosmetic Sciences
HD 1163 – Pharmaceutical and Cosmeceutical Unit Operations
Batch – 02 - 1st year 1st semester - End Semester - SEQ Examination

Date : 20th September 2023
Time : 9.00 am – 12.00 noon (Three hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
- Write the answers legibly in black or blue ink.

Question 01 **(100 marks)**

- 1.1 List 02 desirable properties of pellets. (10 marks)
- 1.2 State the main steps of extrusion and spheronization process. (20 marks)
- 1.3 Briefly describe why drying is important in pharmaceutical processes. (30 marks)
- 1.4 Discuss about “Applications of extrusion and spheronization in pharmaceutical industry”. (40 marks)

Question 02 **(100 marks)**

- 2.1 List 04 issues encountered during compression process. (10 marks)
- 2.2 State 02 differences and 01 similarity between the two main types of tablet compression presses available. (20 marks)
- 2.3 Briefly describe the advantages of film coating compared to sugar coating. (30 marks)
- 2.4 Discuss about “The different types of coating pans used for the tablet coating process”. (40 marks)

Question 03 (100 marks)

- 3.1 List the 02 types of powder filling techniques. (10 marks)
- 3.2 List and state the functions of 02 ancillary equipment used during capsule filling process. (20 marks)
- 3.3 Briefly describe the issues related to use of powders in the pharmaceutical industry. (30 marks)
- 3.4 Justify: "Pneumatic powder conveying systems are better than gravitational systems for powder conveying in the pharmaceutical industry." (40 marks)

Question 04 (100 marks)

- 4.1 List 02 exemptions to pharmaceutical printing. (10 marks)
- 4.2 Define the 04 methods of pharmaceutical imprinting. (20 marks)
- 4.3 Give a brief introduction to the "Clean In Place" concept in the pharmaceutical industry. (30 marks)
- 4.4 "Area Line Clearance is crucial in preserving the quality of manufactured pharmaceutical products". Do you agree? Explain why. (40 marks)

Question 05 (100 marks)

- 5.1 list 02 advantages of automated sorting. (10 marks)
- 5.2 State the difference between Critical Quality Attributes (CQA) and In Process Checks (IPC) (20 marks)
- 5.3 Briefly describe the 03 types of landfills used for disposal of pharmaceutical products. (30 marks)
- 5.4 Discuss on "Reasons why pharmaceutical products must be properly disposed of and destroyed". (40 marks)

Question 06 (100 marks)

- 6.1 What is meant by Efflorescence and Exsiccation? (10 marks)
- 6.2 State 04 factors affecting evaporation process. (20 marks)
- 6.3 Briefly describe why granulation is done in pharmaceutical industry. (30 marks)
- 6.4 Explain the factors affect the segregation of powders and granules. (40 marks)



Faculty of Health Sciences
Higher Diploma in Pharmaceutical & Cosmetic Sciences
HD 1153 – Good Manufacturing Practices & Organizational Management
Batch - 02
1st year 1st semester
End Semester SEQ Examination

Date : 19th September 2023
Time : 09.00 a.m to 12.00 p.m.

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

Question 01 **(100 marks)**

- 1.1. What is GMP? (10 marks)
- 1.2. State **05** areas that should be followed under GMP. (20 marks)
- 1.3. Differentiate between GMP and cGMP. (30 marks)
- 1.4. Briefly describe the importance of GMP in a pharmaceutical manufacturing area. (40 marks)

Question 02 **(100 marks)**

- 2.1. Define the term management. (20 marks)
- 2.2. List the major **04** functions of management. (20 marks)
- 2.3. "Management is a never-ending process". Do you agree with this statement? Justify your answer. (30 marks)
- 2.4. Briefly describe the process of management identifying the input, process, and output of the management process. (30 marks)

Question 03 **(100 marks)**

- 3.1. State **03** purposes of referring pharmacopeia. (10 marks)
- 3.2. Differentiate general monographs and specific monographs. (20 marks)
- 3.3. Briefly describe the cleanrooms according to European classification. (25 marks)
- 3.4. Write a descriptive account on HEPA filters. (45 marks)

Question 04 (100 marks)

- 4.1. What is performance management? (10 marks)
- 4.2. List **03** qualitative forecasting methods and **03** quantitative forecasting methods. (20 marks)
- 4.3. Briefly describe the role of front-level managers in team management. (30 marks)
- 4.5. Describe **04** dimensions of quality with a practical example. (40 marks)

Question 05 (100 marks)

- 5.1. What does it mean by “Kaizen”? (20 marks)
- 5.2. State the differences between an open system and a closed system. (20 marks)
- 5.3. State whether an organization belongs to an open or closed system by providing examples. (25 marks)
- 5.4. Describe **03** techniques for continuous improvement. (35 marks)

Question 06 (100 marks)

- 6.1. List **05** planning techniques. (15 marks)
- 6.2. Write short notes on the following. (30 marks)
- 6.2.1. Product specification
- 6.2.2. Manufacturer specification
- 6.3. List **05** stages of a group. (25 marks)
- 6.4. Briefly describe **03** time management techniques. (30 marks)

**Faculty of Health Sciences****Higher Diploma in Pharmaceutical and Cosmetic Sciences****HD 1133 Anatomy and Physiology I****1st year 1st semester****End Semester SEQ Examination****2nd Batch**

Date : 15th September 2023
Time : 9.00 a.m. – 12.00 p.m. (Three hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
- You should write legibly in black or blue ink.

- Question 1** (100 marks)
- 1.1 Draw the diagram of typical animal cell structure. (30 marks)
- 1.2 Define the term 'osmosis'. (15 marks)
- 1.3 List **two (02)** functions of each of the following mentioned organelles.
- 1.3.1 Golgi body (15 marks)
- 1.3.2 Rough Endoplasmic Reticulum (15 marks)
- 1.4 Write a short note on passive transport systems (25 marks)
- Question 2** (100 marks)
- 2.1 List **two (02)** compartments of extra cellular fluid. (10 marks)
- 2.2 List **five (05)** constituents in extra cellular fluid. (20 marks)
- 2.3 State **five (05)** constituents of lymph. (25 marks)
- 2.4 State the functions of lymph. (20 marks)
- 2.5 State the functions of tears. (25 marks)
- Question 3** (100 marks)
- 3.1 "Myocardium in left ventricle is thicker than the wall of right ventricle". What is the reason for that? (20 marks)
- 3.2 Describe anatomical features of human pericardium. (30 marks)
- 3.3 List **two (02)** functions of blood. (10 marks)
- 3.4 Outline the functions of white blood cells. (15 marks)
- 3.5 Briefly describe the conduction system of the heart. (25 marks)

- Question 4** (100 marks)
- 4.1 Describe the anatomical features of respiratory epithelium. (30 marks)
- 4.2 Define following terms.
- 4.2.1 True Ribs (10 marks)
- 4.2.2 False Ribs (10 marks)
- 4.3 Define the following lung volumes.
- 4.3.1 Tidal volume (10 marks)
- 4.3.2 Residual volume (10 marks)
- 4.4 Briefly describe the respiration process including inspiration and expiration. (30 marks)
- Question 5** (100 marks)
- 5.1 List **four (04)** accessory organs associated with human digestive tract. (10 marks)
- 5.2 Write short notes on followings.
- 5.2.1 Microvilli (20 marks)
- 5.2.2 Pharynx (20 marks)
- 5.3 Outline **five (05)** major functions of gastro-intestinal system. (25 marks)
- 5.4 Define peristalsis. (05 marks)
- 5.5 State the function of each organ of the gastro-intestinal system given below (20 marks)
- 5.5.1 Stomach
- 5.5.2 Small intestine
- Question 6** (100 marks)
- 6.1 List all bones in the upper limb. (20 marks)
- 6.2 List **four (04)** differences between right and left bronchi. (20 marks)
- 6.3 Describe features of mediastinum. (30 marks)
- 6.4 Describe features of thoracic vertebrae. (30 marks)



Faculty of Health Sciences

Higher diploma in Pharmaceutical and Cosmetic Sciences

BIOCHEMISTRY - HD 1113

1st YEAR 1st SEMESTER – END EXAMINATION SEQ – BATCH 02

Date : 11th of September 2023

Time : 09.00 am – 12.00 pm (Three Hours)

INSTRUCTIONS TO CANDIDATES

- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
- You should write answers legibly in black or blue ink.

QUESTION 01

(100 marks)

- 1.1. Draw a labelled diagram of the plasma membrane. (25 marks)
- 1.2. Compare and contrast between active and passive transport. (25 marks)
- 1.3. Define the term “intracellular receptor”. (15 marks)
- 1.4. Write a short note on secondary active transport systems. (35 marks)

QUESTION 02

(100 marks)

- 2.1. Differentiate between reducing and non-reducing sugars. (20 marks)
- 2.2. Outline the reaction steps involved in the Kreb’s cycle. (30 marks)
- 2.3. Compare and contrast between glycolysis and gluconeogenesis. (30 marks)
- 2.4. Describe the role of glycogen phosphorylase in glycogen metabolism. (20 marks)

QUESTION 03

(100 marks)

- 3.1 Draw a labeled diagram of common structure for an amino acid. (20 marks)
- 3.2 Illustrate the peptide bond formation only using a labeled diagram. (20 marks)
- 3.3 What is an isoelectric point of an amino acid? (20 marks)
- 3.4 List 4 types of interactions that stabilize tertiary structure of proteins. (20 marks)
- 3.5 Write a short note on “transamination”. (20 marks)

QUESTION 04

(100 marks)

- 4.1 Describe main characteristic features of the DNA double helix. (30 marks)
- 4.2 If Guanine presents in 20% in a particular double stranded DNA molecule, what are the percentages of Adenine, Thymine and Cytosine? (20 marks)
- 4.3 List the differences between DNA and RNA. (25 marks)
- 4.4 Write a short note on hypouricemia. (25 marks)

QUESTION 05

(100 marks)

- 5.1 Name three lipolytic hormones. (15 marks)
- 5.2 Describe functions of lipids. (35 marks)
- 5.3 Illustrate the formation of triglyceride molecule using a labeled diagram. (25 marks)
- 5.4 Write a short note on omega nomenclature of fatty acids. (25 marks)

QUESTION 06

(100 marks)

- 6.1. Mention five factors which affects the activity of enzymes. (15 marks)
- 6.2. Draw a diagram to denote the induced fit model of enzymes. (25 marks)
- 6.3. List the deficiencies that could occur due to lack of consumption of vitamin A. (25 marks)
- 6.4. Discuss the importance of vitamin E to the human body. (35 marks)