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Faculty of Health Sciences
Higher Diploma in Pharmaceutical & Cosmetic Sciences
HD 1163 – Pharmaceutical and Cosmeceutical Unit Operations
Batch – 03 - 1st year 1st semester - End Semester - SEQ Examination

Date : 12th June 2024
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 03 techniques for particle size separation by sieving (30 marks)

1.2 Briefly describe one the method you mentioned in 1.1. (30 marks)

1.3. Name two (02) desirable properties of coated pellets. (10 marks)

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1.4. Outline the main steps of extrusion and spheronization process. (30 marks)

Question 02 (100 marks)

2.1 Define the term ‘unit operation’ in pharmaceutical industry. (10 marks)

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2.2 State **five (05)** important unit operations for pharmaceutical industry. (20marks)

2.3 State **five (05)** Critical Quality Attributes (CQAS) of tablet compression. (20 marks)

2.4 List **five (05)** differences between single station and multi station tablet presses.
(20 marks)

2.5 How do unit operations involve in tablet manufacturing? Briefly describe. (30 marks)

Question 03

(100 marks)

3.1 State **three (03)** main considerations in liquid filling.

(15 marks)

3.2 How is the Blow-Fill-Seal (BFS) machine applied in pharmaceutical manufacturing? Briefly describe. (25 marks)

3.3 State three (03) importance of tablet coating.

(15 marks)

3.4 List **five (05)** reasons for manufacturing tablets with an enteric coating. (20 marks)

3.5 Indicate the principle of film coating with a flow chart and briefly describe process. (25 marks)

Question 04

(100 marks)

4.1 List **five (05)** main informations that needs to be printed on pharmaceutical label. (15 marks)

4.2 State **three (03)** main methods of powder conveying systems in pharmaceutical industry. (15 marks)

- 4.3 List **four (04)** parameters that should be considered when designing the cleaning process. (20 marks)

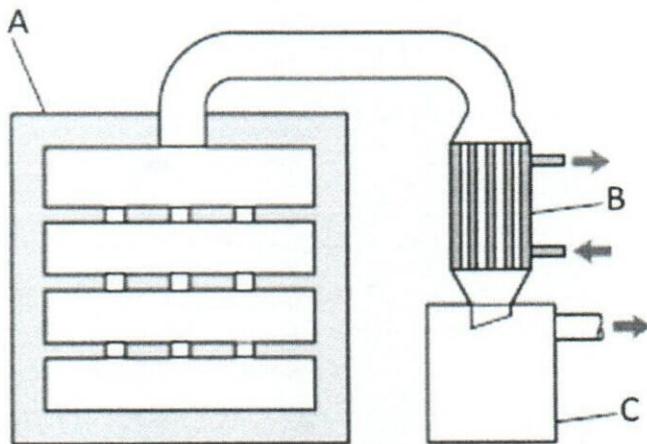
- 4.4 Briefly describe the clean in place (CIP) system. (25 marks)

- 4.5 Justify the following statement “Area Line Clearance is crucial in preserving the quality of manufactured product.” (25 marks)

Question 05**(100 marks)**

5.1 Given below is a vacuum oven. Identify the A,B,C parts shown the diagram.

(30 marks)



5.2 Mention the heat transfer method used in the above machine. (10 marks)

5.3 Briefly describe the 03 types of landfills used for disposal of pharmaceutical products.

(30 marks)

5.4 State how the particles are separated based on their size using the concept of elutriation. (30 marks)

Question 06

(100 marks)

6.1 List three (03) types of size reduction methods.

(15 marks)

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6.2 Briefly explain 03 reasons for granulation.

(30 marks)

6.3 State four (04) methods of energy loss during size reduction. (20 marks)

6.4 Write a short note on the factors affecting the segregation of powders and granules. (35 marks)

**Faculty of Health Sciences****Higher Diploma in Pharmaceutical and Cosmetic Sciences****HD 1143 Good Manufacturing Practices & Organizational Management****Batch 03****1st Year 1st Semester****End Semester Examination – SEQ****INDEX NUMBER:****Date : 10th June 2024****Time : 9.00 a.m. - 12.00 p.m. (Three hours)****INSTRUCTIONS TO CANDIDATES**

- This question paper consists of **SIX** questions.
- Answer **ALL** the questions on this paper itself.
- Final answers should be given legibly in black or blue ink.

Question 01**(100 marks)**

1.1 What is manufacturing?

(10 marks)

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1.2 Briefly describe the term 'Good Manufacturing Practices (GMP)'.

(20 marks)

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1.3 State the **five (05)** main components of GMP.

(25 marks)

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1.4 Differentiate GMP and current GMP (cGMP). (20 marks)

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1.5 Briefly describe GMP guidelines on personnel and their training. (25 marks)

Question 02 (100 marks)

2.1 List three (03) world renowned pharmacopoeia. (15 marks)

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2.2 Differentiate general monographs and specific monographs. (25 marks)

2.3 What is the importance of having standards in cosmetic industry? (20 marks)

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2.4 Write a brief account on EUGMP guidelines. (20 marks)

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2.5 List **four (04)** types of contaminations occurred in pharmaceutical industry, giving **one (01)** example for each of the type you listed. (20 marks)

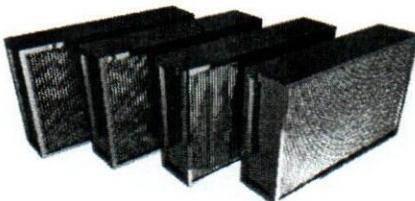
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Question 03 (100 marks)

3.1 Define what is a clean room. (10 marks)

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3.2 Name the equipment given below. (15 marks)



3.3 Briefly describe the use of Heating-Ventilation-Air Conditioning (HVAC) systems. (25 marks)

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3.4 State **five (05)** factors (other than environment control related factors) to be considered when designing a pharmaceutical clean room. (25 marks)

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3.5 List **five (05)** measures to maintain aseptic conditions in manufacturing area. (25 marks)

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Question 04 (100 marks)

4.1 Define the term “Planning”. (15 marks)

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4.2 List the major **four (04)** planning related activities. (20 marks)

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4.3 Briefly describe the term ‘performance management’. (20 marks)

4.4 List four (04) product quality dimensions. (20 marks)

4.5 List five (05) steps in goals setting process of an organization. (25 marks)

Question 05 (100 marks)

5.1 State **three (03)** techniques for continuous improvement. (15 marks)

5.2 What is team leadership? (20 marks)

5.3 What is meant by ‘performance appraisal’? (20 marks)

5.4 State **four (04)** performance appraisal methods. (20 marks)

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5.5 List the stages of team development. (25 marks)

Question 06 (100 marks)

6.1 What is code of ethics? (15 marks)

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6.2 Briefly describe the need of ethics in pharmaceutical industry. (25 marks)

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6.3 List **five (05)** characteristics of a well-designed goal. (25 marks)

6.4 Differentiate goals and plans. (15 marks)

6.5 Briefly describe different time management techniques. (20 marks)

EXAMINATION
05 JUN 2024

CINEC



Faculty of Health Sciences

Higher Diploma in Pharmaceutical & Cosmetic Sciences

Pharmaceutical And Cosmeceutical Microbiology – HD 1113

1st Year 1st Semester -End Examination SEQ -Batch 03

Date	:	2024.06.05
Time	:	9.00 A.M – 12.00 P.M (3 HOURS)

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 Classify the diverse group of microorganisms. (25 marks)

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1.2 Mention the types of microscopes use in microbiology laboratory. (25 marks)

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1.3 Briefly describe the terms of magnification and resolution of the microscope. (25 marks)

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1.4 Briefly describe the importance of phase contrast microscope and dark field microscope. (25 marks)

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QUESTION 02

(100 Marks)

- 2.1 Mention five types of staining methods used in microbiology laboratory. (25 marks)

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- 2.2 Briefly describe the principle of gram staining method. (25 marks)

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- 2.3 Briefly describe the phases of growth in bacterial growth curve. (25 marks)

- 2.4 Briefly describe the use of enrichment media, selective media and differential media. (25 marks)

QUESTION 03

(100 Marks)

- 3.1 Mention five medically important gram-positive cocci microorganisms. (25 marks)

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- 3.2 Briefly describe the general characteristics of *Staphylococcus* spp. (25 marks)

- 3.3 Briefly describe two diagnostic methods of *Staphylococcus* spp. (25 marks)

3.4 Briefly describe the characteristics of any two medically important gram-negative microorganisms. (25 marks)

QUESTION 04 (100 Marks)

4.1 Define the terms of sterilization, disinfection, antiseptic, bacteriostatic and bactericidal. (25 marks)

4.2 Compare and contrast the process of sterilization and disinfection. (25 marks)

4.3 Briefly describe the advantages and disadvantages of filtration method in sterilization. (25 marks)

4.4 State the factors that influence the efficacy of disinfection and sterilization. (25 marks)

QUESTION 05

(100 Marks)

5.1 State the characteristics of spirochetes.

(25 marks)

5.2 Briefly describe an infection cause by *Treponema pallidum* spirochete. (25 marks)

5.3 Mention three types of curvy form gram-negative bacteria that cause enteric diseases and briefly describe their structural characteristics. (25 marks)

5.4 Briefly describe the pathogenesis of gastroenteritis caused by *Campylobacter* spp.
(25 marks)

QUESTION 06 (100 Marks)

6.1 State the properties of a virus. (25 marks)

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6.2 State the key stages of life cycle of a virus. (25 marks)

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6.3 Briefly describe the transmission methods of a virus into the host cell. (25 marks)

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6.4 Briefly describe the structure of a fungus. (25 marks)

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Faculty of Health Sciences

Higher Diploma in Pharmaceutical & Cosmetic Sciences

HD 1133 – Introduction to Pharmaceutical & Cosmeceutical Industry

Batch – 03 - 1st year 1st semester - End Semester - SEQ Examination

Date	: 3 rd of June 2024
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. State **three (03)** types of alternative medicines. (15 marks)

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1.2. List **one (01)** advantage and **one (01)** disadvantage of the alternative medicines

mentioned in 1.1. (20 marks)

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1.3. Briefly describe the differences between conventional and alternative medicines. (25 marks)

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1.4. State **three (03)** factors affecting personality of an individual. (15marks)

1.5. Write a short note on positive personality traits that makes you stand out. (25 marks)

Question 02

(100 marks)

2.1. Define the term 'Dosage form.' (05 marks)

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2.2. Outline the classification of solid dosage form with examples. (20 marks)

2.3. Discuss the differences between hard gelatin and soft gelatin capsules. (25 marks)

2.4. State **two (02)** Biphasic liquid dosage forms. (10 marks)

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2.5. Write short notes on the following.

- a) Elixir (20 marks)

- b) Excipients used in the manufacturing of liquid dosage form (20 marks)

Question 03

(100 marks)

- 3.1. State **five (05)** ideal properties of semi-solid dosage form. (10 marks)

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- 3.2. List **four (04)** excipients used in semi-solid dosage form manufacturing. (20 marks)

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- 3.3. Write a short note on oleaginous base. (25 marks)

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3.5. Briefly describe the packaging of parenteral preparations. (25 marks)

Question 04 (100 marks)

4.1. State **three (03)** types of gaseous dosage forms. (15 marks)

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4.2. Draw the diagram of a Dry Powder Inhaler (DPI) and label the important parts. (25 marks)

4.3. State three (03) types of moist inhalation. (15 marks)

4.4. List the steps of manufacturing process of a Metered Dose Inhaler (MDI). (20 marks)

4.5. Write a short note on Pressure Filling Process. (25 marks)

Question 05

(100 marks)

5.1 State the **three (03)** items regulated by National Medicines Regulatory Authority. (15 marks)

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5.2 Write **four (04)** functions of the National Medicines Quality Assurance Laboratory. (20 marks)

5.3 What is National Dangerous Drugs Control Board? (30 marks)

5.4 Describe **five (05)** functions of National Medicines Regulatory Authority. (35 marks)

Question 06 (100 marks)

6.1 What is an over-the-counter medicine (OTC)? (10 marks)

6.2 State **five (05)** unsuitable conditions for sale of OTC medicines. (20 marks)

6.3 Briefly describe the disadvantages of taking OTC medicines. (30 marks)

6.4 State **two (02)** common prescription only medicines. (10 marks)

6.5 Briefly describe the reason for controlling drugs with a prescription? (30 marks)