



Faculty of Health Sciences
Bachelor of Science Honours in Industrial Pharmaceutical Sciences
PS 4213 - Pharmaceutical Management and Marketing
Batch – 02 & 03
4th year 2nd Semester
End Semester SEQ Examination

Date : 05th January 2024
Time : 09.00 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 01

- 1.1 Define the term “management”. (10 Marks)
- 1.2 Identify the level of skills that need to be acquired by different levels of managers within an organization. (20 Marks)
- 1.3 Differentiate efficiency and effectiveness. (30 Marks)
- 1.4 “Management is a never-ending process”. Briefly describe the given statement with a practical example. (40 Marks)

Question 02

- 2.1 Briefly describe why managers need to focus on social responsibility. (10 Marks)
- 2.2 Identify different types of plans. (20 Marks)
- 2.3 Describe what is span of control is and how the shape of the organization structure will be changed based on the span of control. (30 Marks)
- 2.4 Write a brief description of the decision-making process with a practical application. (40 Marks)

Question 03

- 3.1 Define the term “Motivation”. (10 Marks)
- 3.2 Differentiate extrinsic motivation and intrinsic motivation. (20 Marks)
- 3.3 Briefly describe the validity of Maslow’s hierarchy of needs in motivating employees in today’s business context. (30 Marks)
- 3.4 Write short notes on the following motivation theories. (40 Marks)
- 3.4.1. ERG Theory
 - 3.4.2. Need Theory
 - 3.4.3. Herzberg’s two factors theory
 - 3.4.4. Theory X and Y

Question 04

- 4.1 Differentiate a leader and a manager. (10 Marks)
- 4.2 The behavioral theory of leadership argues that the effectiveness of the leader will be highly reliant on his or her behavior. Briefly describe two orientations of behaviors that are performed by a leader according to the behavioral theory of leadership. (20 Marks)
- 4.3 Briefly describe the Feidler's contingency model of leadership. (30 Marks)
- 4.4 Describe the leadership style that should be presented by the managers within the organization when implementing the new strategy. (40 Marks)

Question 05

- 5.1 Define the term work specialization. (10 Marks)
- 5.2 Briefly describe the process of controlling. (20 Marks)
- 5.3 Differentiate centralization and decentralization. (30 Marks)
- 5.4 Write short notes on four (04) different organizational structures. (40 Marks)

Question 06

- 6.1 Define the term human resource management. (10 Marks)
- 6.2 Differentiate job description and job specification. (20 Marks)
- 6.3 Briefly describe four (04) selection tools (30 Marks)
- 6.4 Write short notes on the following. (40 Marks)
- 6.4.1. Managing work life balance
 - 6.4.2. Training and development
 - 6.4.3. Recruitment and selection
 - 6.4.4. Performance management

Faculty of Health Sciences
Bachelor of Science Honours in Industrial Pharmaceutical Science

IPS 4233 – Pharmacognosy II

Batch – 02 & 03

4th year 2nd semester

End Semester SEQ Examination

Date : 02nd of January 2024
Time : 09.00 a.m. – 12.00 p.m. (Three hours)

INSTRUCTIONS TO CANDIDATES

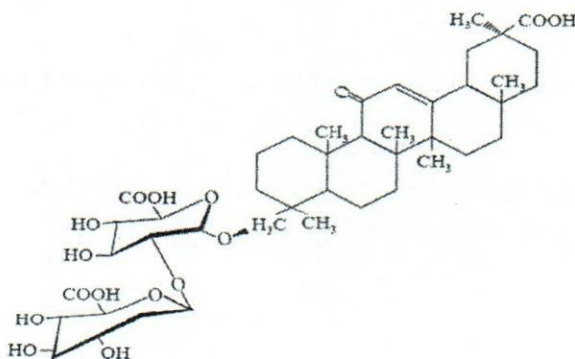
- This question paper consists of **SIX** questions.
- Answer **ALL** questions.
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01

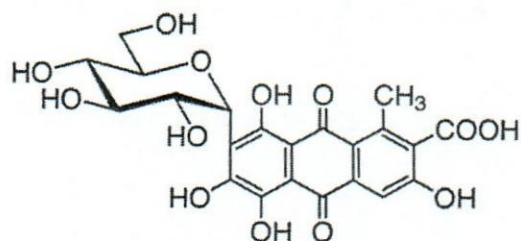
(100 marks)

1.1. Based on the linkage identify the category of below mentioned glycosides. (20 marks)

1.1.1.

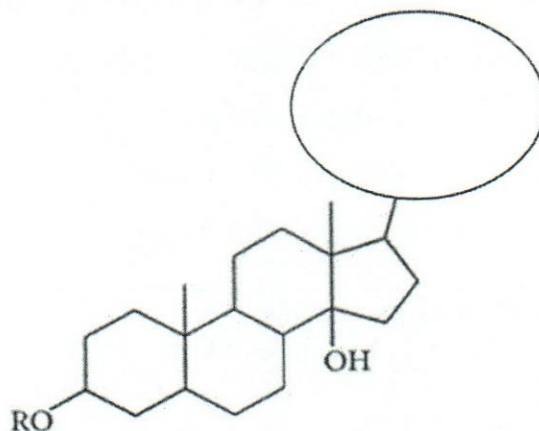


1.1.2.



1.2.

- 1.2.1. Draw the chemical structures of cardenolide and bufadienolide separately by using the given chemical structure. (30 marks)



- 1.2.2. State **02** chemical tests for the identification of saponin glycosides in the laboratory. (10 marks)

1.3. Write **02** plant-based enzymes and mention their sources with scientific names. (10 marks)

1.4. Describe the extraction of Pepsin for industrial purposes. (30 marks)

02**(100 marks)**

2.1. State **03** medicinal properties of natural dyes used in pharmaceutical industry. (15 marks)

2.2. State and draw the structure chemical compound which is responsible for providing the colour pigments in below mentioned plants. (20 marks)

a). *Curcuma longa*

b). *Lawsonia inermis*

2.3. Briefly describe the importance of each chemical constituents present in the plant *Crocus Sativus*. (15 marks)

2.4. Describe the biosynthesis pathway of stearic acid $\text{CH}_3\text{-(CH}_2\text{)}_{16}\text{-COOH}$, (18:0) (50 marks)

03

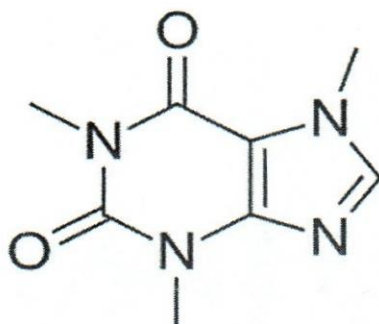
(100 marks) 00028

- 3.1. Name **02** pathways that lead to the synthesis of aromatic compounds. (10 marks)
- 3.2. Describe the biosynthesis pathway of Squalene. (50 marks)
- 3.3. Name the group of secondary metabolites that are synthesized using Squalene as the starting compound. (10 marks)
- 3.4. Briefly describe the biosynthesis pathway of the secondary metabolite that you mentioned in above 3.3. (30 marks)

04

(100 marks)

- 4.1. Differentiate true alkaloids and proto alkaloids. (15 marks)
- 4.2.



- 4.2.1. Identify the above-mentioned alkaloid. (10 marks)
- 4.2.2. State and draw the main alkaloid ring structure to which the alkaloid mentioned in 4.2.1. belongs to. (10 marks)
- 4.2.3. The plant *Thea sinensis* consists of the alkaloid mentioned in 4.2.1. Based on the structure of this compound, draw the structure of other **02** similar alkaloids which are presence in minor quantities in this plant. (20 marks)
- 4.3. Vinca alkaloids are dimeric alkaloids, having indole & dihydroindole nuclei.
- 4.3.1. Draw the structure of indole. (10 marks)
- 4.3.2. State the scientific name of the plant that consists of vinca alkaloids. (10 marks)
- 4.3.3. State **02** types of vinca alkaloids with one medicinal property that consist in the plant mentioned in 4.3.2. (25 marks)

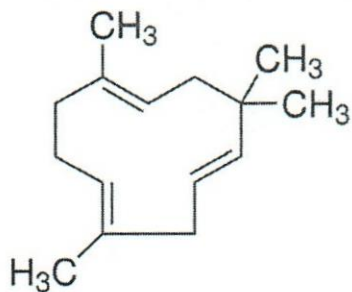
Question 05

(100 marks) 00028

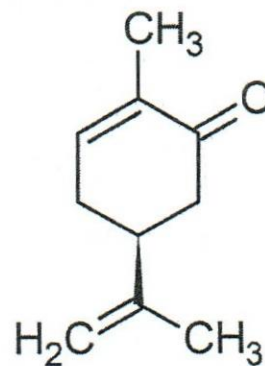
5.1. State 05 extraction methods of volatile oils. (20 marks)

5.2. Identify the types of terpenoids given below according to the isoprene rule. (30 marks)

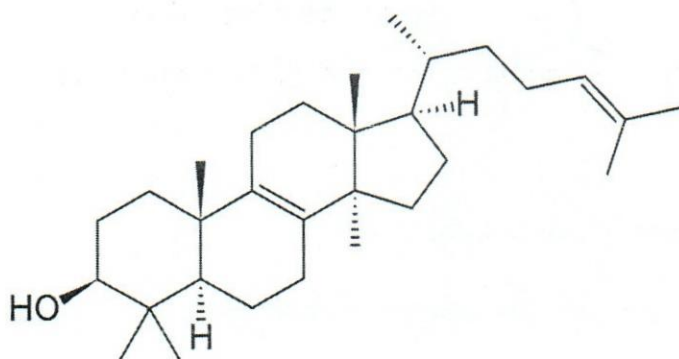
5.2.1.



5.2.2.

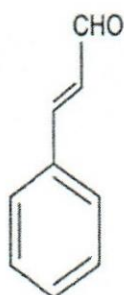


5.2.3.

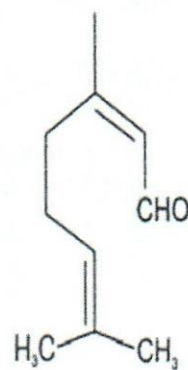


5.3. Identify the chemical structures that consist in essential oils. (20 marks)

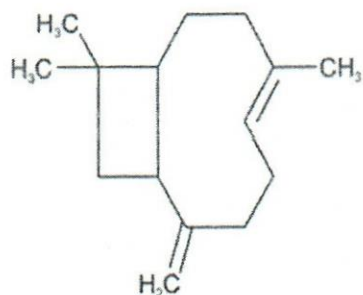
5.3.1.



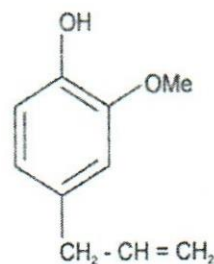
5.3.2.



5.3.3.



5.3.4.



5.4. Briefly describe the precautions that you would take when you are handling volatile oils. (30 marks)

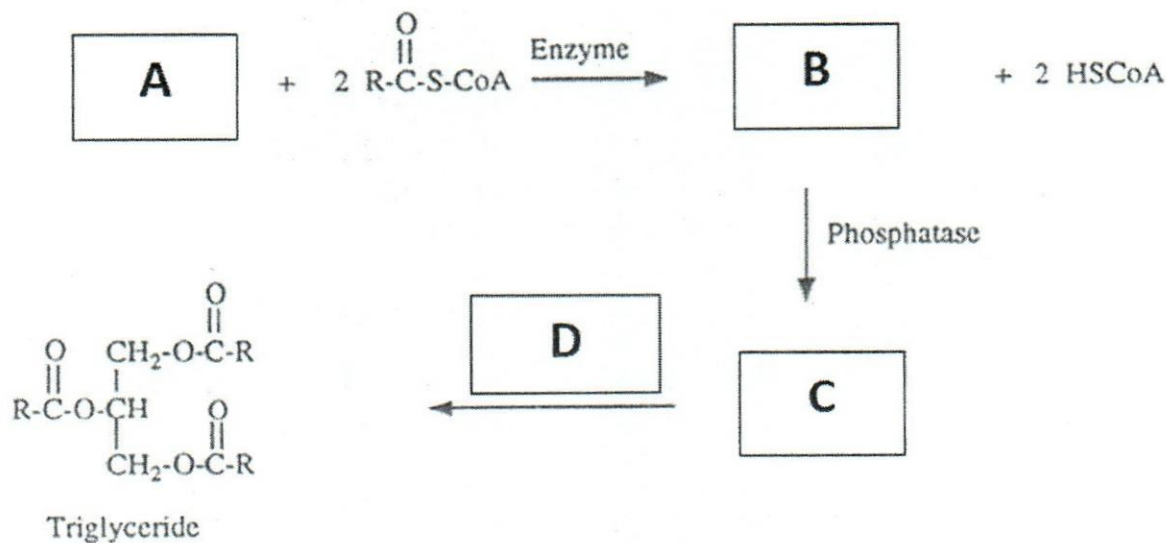
Question 06**(100 marks)**

6.1. Name the starting compound/s in the biosynthesis of each of the following substances. (20 marks)

6.1.1. Penicillin

6.1.2. Nicotine

6.2. The biosynthetic pathway of triglycerides is given below. Draw the structures of compounds A-D. (40 marks)



6.3.

6.3.1. Outline the process of preparing Jute fiber. (20 marks)

6.3.2. State 04 advantages of Jute fiber in the pharmaceutical industry. (20 marks)



Faculty of Health Sciences

Bachelor of Science Honours in Industrial Pharmaceutical Science

IPS 4222 – Pharmaceutical Jurisprudence

Batch – 02 & 03

4th year 2nd semester

End Semester SEQ Examination

Date : 08th of January 2024
Time : 09.00 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.

01 **(100 marks)**

- 1.1. List **06** legislations related to pharmacy practice in Sri Lanka. (30 marks)
- 1.2. Briefly describe **02** ethical issues relating to pharmaceutical industry. (20 marks)
- 1.3. Outline the difference between certificate of efficiency and proficiency for registration as pharmacist under the Sri Lanka Medical Council. (50 marks)

02 **(100 marks)**

- 2.1. Briefly describe the importance of implementing a National Medicinal Policy. (20 marks)
- 2.2. State the elements in National Medicines Drug Policy and describe **02** of them. (60 marks)
- 2.3. Briefly describe the types of registrations available for cosmetic products registration in Sri Lanka. (20 marks)

03**(100 marks)**

- 3.1. State **05** objectives of the National Medicines Regulatory Authority (NMRA). (40 marks)
- 3.2. Briefly describe the constituent of the NMRA. (40 marks)
- 3.3. What is the main function of the National Advisory Committee? (20 marks)

04**(100 marks)**

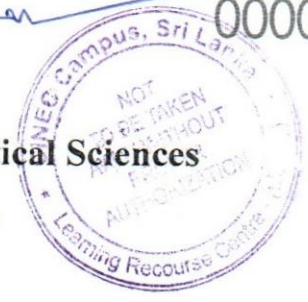
- 4.1. State **05** basic information that you must submit with the application for registration of medicine to the NMRA. (10 marks)
- 4.2. What are the physician samples? (20 marks)
- 4.3. Briefly describe the powers of authorized officers. (30 marks)
- 4.4. Describe how NMRA regulates the pharmacies in Sri Lanka. (40 marks)

05**(100 marks)**

- 5.1. State **02** office members in the constituent of Sri Lanka Medical Council. (10 marks)
- 5.2. Write **05** people who can handle poisons. (20 marks)
- 5.3. Briefly describe the following items.
- 5.3.1. Raw opium (20 marks)
- 5.3.2. Prepared opium (20 marks)
- 5.4. Describe the storage and disposal of poisons. (30 marks)

06**(100 marks)**

- 6.1. What are the main prohibitions of the Food Act No. 26 of 1980? (20 marks)
- 6.2. State the duties of the Food Advisory Committee. (20 marks)
- 6.3. Describe the different types of nutraceuticals based on the source, pharmacological condition and chemical constitution. (60 marks)



Faculty of Health Sciences

Bachelor of Science Honours in Industrial Pharmaceutical Sciences

IPS 4222 – Pharmaceutical Jurisprudence

Batch - 01

4th year 2nd Semester

End Semester SEQ Examination

Date : 04th January 2023
Time : 09.00 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.
- You are not allowed to take out the examination papers.

01 **(100 marks)**

1.1. Describe the following.

- 1.1.1. Educational qualifications recognized for registration as pharmacists under the Sri Lanka Medical Council. (40 marks)
- 1.1.2. Procedure for obtaining each of the above qualification. (60 marks)

02 **(100 marks)**

2.1. With reference to the National Medicines Regulatory Authority Act,

- 2.1.1. List out the ex-officio members of the board of management of National Medicines Regulatory Authority. (30 marks)
- 2.1.2. Describe the qualifications required to be the head of Medicines Regulatory Division of the National Medicines Regulatory Authority. (35 marks)

2.2. What is the principal function of the Medicines Regulatory Division? (15 marks)

2.3. Name **02** other functions of the Medicines Regulatory Division. (20 marks)

03

(100 marks)

00003

3.1. As per the National Medicines Regulatory Authority Act,

3.1.1. List out the government officers entitled to be appointed as Authorized Officers by the Minister of Health. (70 marks)

3.1.2. Name the government officers who can function as Approved Analysts. (30 marks)

04

(100 marks)

4.1. Regarding registration of medicines, medical devices, and borderline products, what are the main criteria taken into consideration? (25 marks)

4.2. What are the sales categories (schedules) of medicines? (20 marks)

4.3. Describe the conditions applicable for sale of medicines under each sales category. (55 marks)

05

(100 marks)

5.1. As per the medicines regulations under the Medicines Regulatory Authority,

5.1.1. Briefly describe the information that should be submitted to the National Medicines Regulatory Authority by a local manufacturer to obtain a license to manufacture Medicines. (20 marks)

5.1.2. Describe the steps involved in the approval process for issuing a license to manufacture medicines. (80 marks)

06

(100 marks)

6.1. What are the main provisions of the Food Act No. 26 of 1980? (20 marks)

6.2. Who is the government official functioning as the Food Authority? (10 marks)

6.3. What are the functions of the Food Advisory Committee? (20 marks)

6.4. What are the information that should be included in the label of a container of medicines by a manufacturer? (50 marks)

Faculty of Health Sciences

Bachelor of Science Honours in Industrial Pharmaceutical Sciences

IPS 4213 – Pharmaceutical Management and Marketing

Batch - 01

4th year 2nd Semester

End Semester SEQ Examination



Date : 02nd January 2023
Time : 09.00 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.
 - You are not allowed to take out the examination papers.
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01		(100 marks)
1.1. Write short notes on,		
1.1.1. Importance of management history		(25 marks)
1.1.2. System theory and contingency		(35 marks)
1.1.3. Classical theories		(40 marks)
02		(100 marks)
2.1.1. What are the purposes of organizing in pharma industry?		(15 marks)
2.1.2. Compare wide span and narrow span		(20 marks)
2.1.3. Describe six key elements in organizational design.		(30 marks)
2.1.4. Contrast mechanistic and organic structures, in relating to pharmaceutical research industry.		(35 marks)
03		(100 marks)
3.1.1. Defines the external environment of the organization and indicate three examples.		(20 marks)
3.1.2. What are the components of the general environment to the pharmaceuticals Organization? Explain each with an example.		(40 marks)
3.1.3. Describe how the economical factor impacted to the pharmaceutical industry at present in Sri Lanka.		(40 marks)

4.1. Mahendra de Silva is an experience manager in HPL pharmaceutical company,

Mahendra was stumped. Three months ago, he was assigned to lead a team of new projects, and although no one has come out said anything directly, he feels like his team doesn't trust him. They have been withholding information and communicating only selective when asked questions. And they have persistently questioned the team's goals and strategies and even Mahendra's actions and decisions.

4.1.1. What are the three elements of the leadership? (10 marks)

4.1.3. How these three elements interact to successfully accomplish a team's mission and goals? (30 marks)

4.1.3. What are the four roles of leader? (20 marks)

4.1.4. How can Mahendra build trust with his team? (40 marks)

5.1. Drug A is the flagship brand of ABC Pvt. Ltd. During its five decades in Sri Lanka, Drug A has introduced several unique initiatives to promote safe and responsible use of medicine. Drug A is the first and only brand in Sri Lanka to introduce a child resistant cap to its liquid Drug A product range "Drug A for Children". It has also introduced the revolutionary Dosage by Weight Matrix for child medication. In 2012, a state-of-the-art Drug A manufacturing facility in Ratmalana, Sri Lanka was established with an investment of Rs. 217 million, making it one of the largest Foreign Direct Investments in the pharmaceuticals sector in Sri Lanka.

5.1.1. What are the 4Ps of the marketing mix and how it can be related to 4Cs? (30 marks)

5.1.2. Describe how 4Ps are used by ABC marketing team to promote Drug A for children as the leading brand. (40 marks)

5.1.3. What is the societal marketing concept? (30 marks)

6.1.1. Name and describe the major steps in developing a new product. (30 marks)

6.1.2. Describe the main steps of the product life cycle? (30 marks)

6.1.3. Why do some medicines enter the decline stage of the product life cycle? Discuss marketers' options at this stage. (40 marks)