

Ref. No. : Ex/PG/PHAR/T/128D/2019

Name of the Examinations: M. PHARMACY FIRST YEAR SECOND SEMESTER - 2019
Subject : INDUSTRIAL PHARMACY - III

Time : 3 hr

Full Marks : 100

Answer any 5 questions from 2 groups and answer at least two questions from each group.

Q1. What are the functions of packaging? Briefly discuss on primary , secondary packaging and container closure system? Enumerate the information displayed on label of a product? Discuss on various types of containers used for pharmaceutical products.

Marks 4+6+5+5

Q2. Give a list of raw materials and their uses, and discuss in detail on various types of materials (Glass, plastic, polymers, paper and metals) which are used for primary and secondary packaging.

Marks 5+15

Q3. What are the objectives of production planning? What are the objectives of production control ? What are the benefits of production planning and control? Discuss on the four stages in production planning and control?

Marks 4+4+4+8

Q4. What are the functions of warehousing? Discuss on various types of warehouses. Give a sketch of warehouse design and describe its operation. Discuss on basic warehouse equipments and their uses.

Marks 2+5+6+7

M. PHARMACY FIRST YEAR SECOND SEMESTER - 2019

INDUSTRIAL PHARMACY-III

TIME: 3 h

FULL MARKS: 100

ANSWER ANY FIVE QUESTIONS TAKING ATLEAST ONE FROM EACH GROUP

GROUP-B

1.
 - a. What are the various types of accident causes?
 - b. What is an industrial accident? Write a brief overview of the type of the accidents.
 - c. What are the main hazards? Describe briefly each of the types.
 - d. What is process safety management system? Explain the 14 elements of process safety briefly with the help of schematic diagram.
 - e. How many members constitute the central board and state board according to water pollution control act 1974. What are the advantages of Common Treatment? Draw a schematic diagram for steps in audit of water pollution.
 - f. What are the objectives and applicability of factory act, 1984? Write short notes on the following fourteen sections: i. section-16, ii. Section-19, iii. Section-23, iv. Section-26, v. section-29, vi. Section-33, vii. Section-36A, viii. Section-38, ix. Section-40B, x. section-44. xi. Section-44, xii. Section- 48, xiii. Section-56, xiv. Section-67, xv. Section-73, xvi. Section-80, xvii. Section-105.
 - g. How will you control fire and explosion? Write the various aspects in a paragraph format.
 - h. What are the control measures taken for waste water management?
[1+2+2+2+3+7+2+1=20 marks]
2.
 - a. Write short note on ferrous-metals and non-ferrous-metals.
 - b. What are the factors effecting corrosion? Write a short note on the protection of corrosion.
 - c. Write a short on metallic and non-metallic coatings. What are the different types of organic coatings being available?
 - d. Write a note on Annealing techniques, Quenching and Tempering
 - e. What are the corrosivity evaluations in hydrocarbon systems.
 - f. Write a note on HSLA and stainless steel, Cast Iron. Explain briefly the fabrication of metals and alloys.
[4+4+4+3+1+4=20 marks]
3.
 - a. What are the objectives of Pilot Plant?
 - b. Draw an algorithm that are required in scale up of a pilot plant.
 - c. Write briefly on any five of the following: i. Master Manufacturing Procedures, ii. GMP consideration, iii. Stages of Production of tablets, iv. Granulation, v. drying, vi. Blending, vii. Tablet coating, viii. Formulation aspects of oral liquids ix. Role of in vitro release testing, x. contract manufacturing
 - d. A model in a concrete channel of a plant is constructed in a scale of 1:64. The Manning's n of the channel is 0.02, find the value of n of the model.
[2+4+10+4 = 20 marks]

- 4 a. The critical depth y_c in a triangular channel is a function of the discharge and acceleration g due to gravity. Show by the Rayleigh method, $y_c = \left(\frac{Q^2}{g}\right)^{1/5}$
- b. Capillary rise h depends on density ρ , acceleration due to gravity g , surface tension σ and radius of the tube r . Show by using the Buckingham π -theorem that
- $$\frac{h}{r} = \phi\left(\frac{\sigma}{\rho g r^2}\right)$$
- c. Classify Materials for Plant Construction. Write a short note on the various types of materials.
- d. Write a short note on major categories of pharmaceutical agents. [6+6+4+4=20]