

SVKM'S NMIMS

Shobhaben Pratapbhai Patel / School of Pharmacy &amp; Technology Management

Programme: B. Pharm / B. Pharm + MBA ✓

Year: IV

Semester: VII ✓

Academic Year: 2019-20

Marks: 70 ✓

Subject: Pharmaceutical Technology III ✓

Time: 2.00 pm to 5.00 pm

Duration: 3 hrs. ✓

Date: 04 December 2019 ✓

No. of Pages : 2FINAL EXAMINATION

**Instructions:** Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

- 1) Question No. 01 is compulsory.
- 2) Out of remaining questions, attempt any 04 questions.
- 3) **In all 05 questions to be attempted.**
- 4) All questions carry equal marks.
- 5) **Answer to each new question to be started on a fresh page.**
- 6) **Figures in brackets on the right hand side indicate full marks.**
- 7) **Assume suitable data if necessary.**

**SECTION A**

- 1.a. Propose two quality control test for parenteral formulations apart from assay and uniformity of content. (2)
- b. Assume two reasons why crossing corneal barrier is the major challenge of topical ophthalmic formulation. (2)
- c. Write the importance of the following parameters in analytical method validation: (2)
  - i. Limit of quantitation
  - ii. Precision
- d. Mention two examples of each of the following classes of ingredients used in lipstick: (2)
  - i. Wax
  - ii. Oil
- e. Write the functions of laparotomy sponge during surgery. (2)
- f. Propose two ways of enhancing intra nasal drug permeation. (2)
- g. Write two ways to minimize the risk of mechanical hazards in industry. (2)

## SECTION B

2. a. Discuss two types of laminar air flow along with suitable diagram. (6)
- b. Draw a flow chart of manufacturing stick eye shadow. (4)
- c. Briefly discuss the relation between the following factors and wound healing: (4)
- i. Age
  - ii. Sex hormone
  - iii. Oxygenation
  - iv. Ischemia
- 3.a. Discuss one of the following methods of determining mucoadhesion; (6)
- i. Falling film method
  - ii. Everted gut sac technique
- b. Write a brief note on "chemical hazards in industry". (4)
- c. Demonstrate the following test of quality control of lipstick; (4)
- i. Any method of softening point determination
  - ii. Breaking load determination
- 4.a. Describe the steps of manufacturing surgical catgut using a flow diagram. (6)
- b. "Wetting of polymer on the mucoadhesive surface has significant relation with degree of mucoadhesion"- Justify the statement in term of contact angle with one example of relevant polymer. (4)
- c. Differentiate analytical method validation and analytical method verification. (4)  
Write three conditions when re-validation of analytical method is necessary.
- 5.a Identify the type of drug that is formulated as parenteral preparation by freeze drying. Mention two special type of inactive ingredients to be incorporated in freeze dried formulation. Discuss the three major steps of freeze drying. (6)
- b. Assume, you are writing protocol for long term stability study for a tablet to be marketed in India. Mention the study conditions and duration for the same. Also propose four evaluation tests that you can include in the protocol. (4)
- c. Write four criteria which must be present in a material safety data sheet. (4)
- 6.a. Describe the blow-fill-seal technology with suitable diagram. (6)
- b. Write the advantages of closed vial technology over conventional filling process. (4)
- c. Mention four criteria of an ideal preservative for ophthalmic solution. (4)
- 7.a. Discuss on any two of the following topic; (6)
- i. Diffusion theory of mucoadhesion
  - ii. Ophthalmic suspension
  - iii. Local factors of wound healing
- b. What are the desirable criteria of an ideal eye shadow. (4)
- c. Write a note on isolation barrier technology. (4)