

SVKM'S NMIMS

Shobhaben Pratapbhai Patel / School of Pharmacy & Technology Management

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

Year: I

Semester: I ✓

Academic Year: 2019-20

Marks: 75 ✓

Subject: Pharmaceutics I - Theory ✓

Time: 10.00 am to 1.00 pm

Duration: 3 hrs. ✓

Date: 16 December 2019 ✓

No. of Pages : 2

FINAL EXAMINATION

Instruction for the Candidates: 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. 1 is compulsory (10 questions of 2 marks each).
2. Question No. 2 has 3 questions, 10 marks each. (Answer any 2 out of 3).
3. Question No. 3 has 9 questions, 5 marks each. (Answer any 7 out of 9).

Q.1. Answer all the questions

(10*2M = 20 Marks)

1. Fill in the blanks.

- (i) _____ is known as the Father of Pharmacy in India.
- (ii) Greek word 'Pharmakon' means _____.

2. Discuss any two factors affecting skin penetration of anti-acne topical cream.
3. What is first-pass metabolism? Mention any two routes of drug administration which bypass first-pass effect.
4. **Suggest a suitable method/ technique for mixing powders for the following conditions:**
 - (i) Particle size reduction is desired along with mixing of dry powders.
 - (ii) Incorporation of small amount of potent drug in the final blend.
5. Enlist any four applications of surfactants in pharmaceutical dosage forms.
6. **Match the pairs for ointment bases.**

i.	Another name for greaseless base.	a.	Absorption base
ii.	Highly occlusive and water immiscible base.	b.	Water-soluble base
iii.	Water-removable (o/w) base.	c.	Water-miscible base
iv.	Hydrophilic ointment is an example of (w/o) _____ base.	d.	Hydrocarbon base

i) _____, ii) _____, iii) _____, iv) _____

7. Distinguish between deflocculated and flocculated suspension.
8. **Comment on the following statement.**
Solubility of cresol in water is 2%v/v, but in soap solution it is 50%v/v.

9. **Solve the problem.**
Calculate the displacement value of zinc oxide in theobroma oil suppositories containing 40% zinc oxide and prepared in a 1g mold. Weight of 10 suppositories is 14.7 g.
10. **Multiple choice questions.**
(i) Which of the following drug/s should be avoided by a pregnant woman to prevent teratogenicity in growing foetus?
a) Tetracycline b) Barbiturates c) Methotrexate d) All of the above
(ii) Antagonism means
a) Genetically determined abnormal or unusual response to a drug.
b) Interaction between 2 drugs causing a reduction in effectiveness of each other.
c) Repeated administration of drug at short interval.
d) Interaction between 2 drugs causing a greater effect than the sum of individual effects of each drug.

Q.2. Long Answers (Answer 2 out of 3) (2*10M = 20 Marks)

- Classify different types of suppositories. Write in detail, different types of suppository bases with suitable examples.
- Define the term prescription. With a model format, discuss various parts of prescription and give their significance. Discuss the common errors in a prescription.
- Classify emulsions based on their route of administration citing one example under each class. How do you identify oil-in-water and water-in-oil type of emulsion? Write a note of physical instability of emulsions and how to you overcome it.

Q.3 Short Answers (Answer 7 out of 9) (7*5M = 35 Marks)

- Classify & define semi-solid dosage forms. Enlist methods of preparation of pastes.
- How do you calculate dose for drug X to be administered to patients in the age group of 1-6 months and 2-20 years of age.
- Write a note on the evaluation of suppositories.
- As a formulation scientist, discuss a formulation strategy (provide types of additives with suitable examples) for developing a monophasic liquid dosage form of water-insoluble API for paediatrics (p.o.).
- Discuss the progress journey of Indian Pharmacopoeia, in detail.
- Discuss the principle and methods involved in formulating effervescent granules.
- Solve the given problems.**
i. In what proportions should 40%, 20%, 10% and 5% (w/w) of hydrocortisone creams be mixed to obtain 15%w/w hydrocortisone cream?
ii. Convert 80% v/v alcohol into proof spirit and proof strength considering 57.1%v/v strength of alcohol corresponds to 100 proof spirit.
- What are the causes of chemical incompatibilities encountered in pharmacy? Discuss any three in detail, citing suitable examples.
- Prior to commercialization, what are the tests to be carried out for approval of topical semi-solid DF? How can you evaluate the *in vitro* release rate of medicament from the base?