

- N.B. :** (1) All questions are compulsory.
 (2) Use of Log table or non programmable calculator is permitted.

1. (a) Attempt any Two of the following 8
- (i) Explain importance of Quality Control section in pharmaceutical industries
 - (ii) Give importance of dosage forms of drugs. Discuss any two dosage forms in detail.
 - (iii) How are impurities introduced in drugs during storage?
 - (iv) What are different routes of drug administration? Discuss any one route in detail.
- (b) What are drugs ? How are the drugs classified on the basis of their pharmacological action ? 4
- OR**
- (b) Explain the methods that are generally used for testing the quality of finished product in pharma industry. 4
2. (a) Attempt any Two of the following 8
- (i) What is proximate analysis ? Explain its need.
 - (ii) How is I.R Spectroscopy used in the analysis of drug?
 - (iii) What is bio-availability ? Discuss the pharmacokinetic parameter used to determine the bioavailability of drug.
 - (iv) What are limit tests? Give limit test for arsenic.
- (b) How is in-vitro dissolution test carried out for a tablet? 4
- OR**
- (b) Explain plate diffusion method for antimicrobial testing of pharmaceutical product. 4
3. (a) Attempt any Two of the following 8
- (i) Discuss the role of Analytical Chemistry in forensic science.
 - (ii) What are narcotics ? Give the laboratory method for determination of narcotics in body fluids.
 - (iii) How are the pesticides determined in post-mortem samples?
 - (iv) Explain the methods for estimation of barbiturates in biological fluids.

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(b) Describe the test for detecting the presence of blood in a forensic sample. 4

OR

(b) What are CNS stimulants ? Give laboratory method for detection of stimulants in body fluids. 4

4. (a) Attempt any Two of the following 8

(i) Give the components of face powder. Describe a method for the determination of boric acid in face powder.

(ii) How is resorcinol in hair tonic estimated?

(iii) Explain the process for estimation of glycerol in vanishing cream.

(iv) What are cosmetics ? Give various functions of cosmetics. Give sources of contamination of cosmetics.

(b) Explain the term 'deodorants'. Describe a laboratory method for the determination of zinc in deodorant. 4

OR

(b) How will you determine the ash content of lipstick ? 4

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5. Attempt any Four of the following

(i) Explain the following terms:

(a) Misbranded drug (b) Adulterated drug

(ii) What is pharmaceutical formulation ? Explain any two types of pharmaceutical formulation.

(iii) State and explain different factors causing the deterioration of drugs.

(iv) What is stability of the drug ? Explain the importance of the study of drug stability.

(v) Describe the method for determination of arsenic in stomach wash.

(vi) How are metabolites of drugs determined from urine and blood of addicts?

(vii) What is an antiperspirant ? Give the general components of an antiperspirant.

(viii) How is water estimated in cosmetic samples?
