

(2½ Hours)

[Total Marks : 60

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

1. (a) Attempt any Two of the following 8
- (i) What are drugs ? How are drugs classified on the basis of their pharmacological action?
 - (ii) With the help of proper examples, explain different types of excipients present in the tablets.
 - (iii) What are different routes of drug administration? Discuss any one route in detail.
 - (iv) Explain the importance of Research and Development department in pharmaceutical industries.

- (b) Explain the terms: (a) Adulterated drug (b) Spurious drug 4

OR

- (b) What is pharmaceutical formulation? Discuss in detail any two types of pharmaceutical formulation. 4

2. (a) Attempt any Two of the following 8
- (i) How is U.V. Spectroscopy useful for analysis of drugs?
 - (ii) What are limit tests? Discuss in detail limit test for Iron.
 - (iii) What are proximate assays? Discuss its applications with examples.
 - (iv) Give the significance of long term and short term stability studies of drugs.

- (b) Describe plate diffusion method for anti microbial testing of pharmaceutical product. 4

OR

- (b) What is bio-availability? Explain the need of determination of bio-availability of drugs. 4

3. (a) Attempt any Two of the following 8
- (i) Describe method for determination of cyanide in stomach wash.
 - (ii) What are CNS depressants? How are barbiturates isolated, identified and estimated in forensic samples?

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- (iii) How are metabolites of drugs determined from blood and urine samples ?
- (iv) How are saliva and semen analysed from samples in forensic laboratories ?

(b) Explain the role of Analytical chemistry in forensic science 4

OR

(b) What are hallucinogens? How is LSD identified and estimated from the given sample ? 4

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

- (i) Give the method of estimation of hexachlorophene from deodorants.
- (ii) What are cosmetics? What properties should they possess?
- (iii) How is I.R. Spectroscopy useful in analysis of non-volatile matter of creams and lotions?
- (iv) Give the components of face powder. How is Barium estimated from face powder ?

(b) How is resorcinol analysed from hair tonic ? 4

OR

(b) Explain the method for determination of ash content in lipstick . 4

5. (a) Attempt any four of the following 12

- (i) How are the impurities introduced in drugs during storage?
- (ii) What are various dosage forms of drugs ? Explain with reference to liquid and semi-solid forms.
- (iii) Define disintegration. Describe different methods for disintegration studies of pharmaceutical products.
- (iv) What are commonly found acid radical impurities ? Describe the limit test for any one of it.
- (v) How is amphetamine estimated ?
- (vi) How are pesticides determined in post-mortem samples ?
- (vii) Distinguish between deodorants and antiperspirants.
- (viii) Describe the method for estimation of glycerol in vanishing cream.