

**Time: 2 ½ Hours**

**Total Marks: 60**

- N.B.** 1) All questions are compulsory.  
2) Figures to the right indicate maximum marks

**Q. 1 A)** Attempt any **two** of the following:

**(8)**

- Discuss the classification of drugs based on their therapeutic action.
- Explain with examples different types of excipients present in the tablets.
- What are various sources of impurities in pharmaceutical products?
- Explain dosage form of drugs. Compare between solid and liquid dosage forms.

**B)** Give the methods which are commonly used for testing quality of finished product.

**(4)**

**OR**

**B)** Explain the importance of FDA in pharmaceutical industries

**(4)**

**Q. 2 A)** Attempt any **two** of the following:

**(8)**

- Explain the use of UV spectroscopy in the analysis of drugs.
- Discuss the pharmacokinetic parameters used to determine bioavailability of a drug.
- Describe the limit tests carried out to identify any two acid radical impurities.
- Explain the plate diffusion method used for testing the antimicrobial activity of pharmaceutical products.

**B)** What is stability of drug? Explain the importance of its study.

**(4)**

**OR**

**B)** What are proximate assays? Discuss the types of ash values carried out in analysis of crude drugs.

**(4)**

**Q.3A)** Attempt any **two** of the following:

**(8)**

- Discuss the role of Analytical Chemistry in forensic science.
- Describe the test for detecting the presence of blood stains in forensic samples.
- How is arsenic from stomach wash detected?
- Explain the following terms with two examples of each: Narcotics, Stimulants.

**B)** Describe the method for determination of pesticides in post mortem samples.

**(4)**

**OR**

**B)** Explain the detection of LSD and cannabis.

**(4)**

**Q.4 A)** Attempt any **two** of the following:

**(8)**

- Distinguish between deodorants and antiperspirants.
- How are cosmetic materials evaluated?
- Describe the method for the determination of water content in cosmetics.
- Explain the process of estimation of nonvolatile matter in creams and lotions using IR spectroscopy.

**B)** How will you determine acetone soluble component in lipstick?

**(4)**

**OR**

**B)** List the components of hair tonic. Describe a method for determination of resorcinol in hair tonic.

**(4)**

**Q.5** Attempt any **four** of the following:

**(12)**

- (i) Explain what is meant by misbranded drug and spurious drug.
- (ii) What are the official methods of quality control?
- (iii) How is HPLC applied in analysis of pharmaceutical formulations?
- (iv) Write a note on impurity profiling.
- (v) What is analytical toxicology? Give its significance.
- (vi) How is amphetamine estimated?
- (vii) What are cosmetics? Discuss the various properties of cosmetics.
- (viii) Discuss the method used for the estimation of titanium in face powder.

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