Time: 2 ½ Hours  
N.B. 1) All questions are compulsory.  
2) Figures to the right indicate maximum marks  

Total Marks: 60

Q. 1 A) Attempt any two of the following:  
i) Discuss the classification of drugs based on their therapeutic action.  
ii) Explain with examples different types of excipients present in the tablets.  
iii) What are various sources of impurities in pharmaceutical products?  
iv) 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. 
   OR

B) Explain the importance of FDA in pharmaceutical industries.

Q. 2 A) Attempt any two of the following:  
i) Explain the use of UV spectroscopy in the analysis of drugs.  
ii) Discuss the pharmacokinetic parameters used to determine bioavailability of a drug.  
iii) Describe the limit tests carried out to identify any two acid radical impurities.  
iv) 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. 
   OR

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

Q. 3 A) Attempt any two of the following:  
i) Discuss the role of Analytical Chemistry in forensic science.  
ii) Describe the test for detecting the presence of blood stains in forensic samples.  
iii) How is arsenic from stomach wash detected?  
iv) Explain the following terms with two examples different types of excipients present in the tablet dosage form of drugs. Compare between solid and liquid dosage forms.

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

B) Explain the detection of LSD and cannabis.

Q. 4 A) Attempt any two of the following:  
i) Distinguish between deodorants and antiperspirants.  
ii) How are cosmetic materials evaluated?  
iii) Describe the method for the determination of water content in cosmetics.  
iv) 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? 
   OR

B) List the components of hair tonic. Describe a method for determination of resorcinol in hair tonic.
Q.5 Attempt any four of the following:

(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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