

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY (Answer any TWO)**2 X 20 = 40 Marks**

1. Explain the bioassay of the following:
(a) Chorionic gonadotropin.
(b) Vasopressor activity.
(c) Urokinase.
2. Explain the various techniques of microbiological assay of antibiotics with any one suitable example.
3. Give an account on the validation of HPLC analytical method as per ICH guidelines.

SHORT ESSAY (Answer any FIVE)**5 X 10 = 50 Marks**

4. Write methodology of sterility testing.
5. Write the quality control tests for any two radiopharmaceuticals.
6. What is the principle of Differential Thermal analysis? How does it differ from Differential Scanning Calorimetry? Explain Differential Thermogram and application of Differential Thermal analysis specifically to formulation development.
7. Write the principle and the technique of microbiological assay of vitamins by turbidimetry by taking any one vitamin as example.
8. Explain the production and chemical nature of pyrogen and LAL test.
9. Explain the applications of mass spectrometry to the quantitative analysis.

SHORT NOTES**2 X 5 = 10 Marks**

10. Endotoxin and exotoxin.
11. Refractive index.

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