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2022

M.Pharm. 1st Semester (End-Term) Examination

Pharmacology

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

(New Regulation w.e.f. 2017-18)

Full Marks - 75

Time - Three hours

The figures in the margin indicate full marks
for the questions.

- I. Answer *all* : (10 × 2 = 20)
1. What is fluorescence?
 2. What is Potentiometry?
 3. What are advantages of atomic absorption spectroscopy over flame emission spectroscopy?
 4. What is an ion exchange resin?
 5. What is DTA?
 6. What reference material is used in DSC?
 7. What are the detectors used in HPLC?
 8. What is meant by X-ray diffraction?
 9. Name the stationary phases used in TLC.
 10. What causes chemical shifts in NMR spectroscopy?

[Turn over

II. Answer any *seven*.

(7 × 5 = 35)

11. Discuss the various types of interferences in Atomic absorption spectroscopy.
12. Describe Rotating crystal technique in detail.
13. Briefly discuss the theory of UV-visible spectroscopy.
14. Write a short note on: Quantum numbers and their role in NMR.
15. Write an explanatory note on DSC.
16. Briefly explain about Ultra High Performance Liquid Chromatography.
17. Explain the procedure of Moving boundary electrophoresis.
18. Write notes on: Principle and applications of Affinity chromatography.
19. Add a note on Application of Potentiometry.

III. Answer any *two*.

(2 × 10 = 20)

20. What is infrared spectroscopy? Discuss the basic principle of IR spectroscopy. Write a note on sample handling in IR-spectroscopy.
 21. Write down the principle, instrumentation and application of Column chromatography.
 22. Explain the principle involved in Mass Spectroscopy. Discuss about MALDI and APCI.
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