

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[B.PHARM 0823]**

**AUGUST 2023**

**Sub. Code: 4270**

**B.PHARMACY DEGREE COURSE (NON-SEMESTER EXAMINATIONS)  
FOURTH (FINAL) YEAR (Regulation 2009-2010)  
PAPER IV – MODERN METHODS OF PHARMACEUTICAL ANALYSIS**

*Q.P. Code: 564270*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Explain in detail the construction of Infrared Spectrophotometer.  
b) Write the Pharmaceutical applications of FTIR.
2. a) Write on Principle electrodes and application of potentiometer.  
b) Compare different types of Electro analytical methods.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write notes on TLC.
2. Compare Gas chromatography and HPLC.
3. Write notes on Column Chromatography.
4. Write the principle instrumentation and application of Nephelometry.
5. Explain sampling techniques in IR.
6. Compare FTIR and DIR.
7. Explain the types of columns used in HPLC.
8. What are the pharmaceutical applications of XRD?

**III. Short answers on:**

**(10 x 2 = 20)**

1. Define Bathochromic Shift.
2. Define Hypsochromic Shift.
3. Define tailing factor.
4. Expand HETP.
5. Write Van Deem ter equation.
6. Define Limit of Quantitation.
7. List the advantages of HPTLC.
8. Define diffusion current.
9. Name Detectors used in IR spectroscopy.
10. Define Total Quality Management.

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