

**FOURTH YEAR B.PHARM. EXAM**  
**PAPER IV – MODERN METHODS OF PHARMACEUTICAL**  
**ANALYSIS**

***Q.P. Code: 564270***

**Time: Three Hours****Maximum: 100 marks****I. Elaborate on:****(2X20=40)**

1. a. Write in detail about the principles involved in chromatography  
b. Write the principle and working principle of HPLC with a neat diagram
2. a. Write the principles involved in UV spectroscopy  
b. Explain the principle and working principle of IR spectroscopy

**II. Write notes on:****(8X5=40)**

1. Explain the principle involved in Fluorimetry.
2. Flame Spectrophotometer
3. a. Photo Multiplier tube    b. Photo Voltaic cell
4. Glass electrode
5. Gel filtration
6. Principle involved in NMR Spectroscopy
7. Different type of development techniques in paper chromatography
8. Give a brief account on ISO 9000, TQM

**III. Short Answers on:****(10X2=20)**

1. Explain HETP
2. Principle of Separation in GSC
3. Isocratic elution
4. Self quenching
5. Diffusion current
6. Nernst global
7. Methods of detection in TLC
8. ODS
9. Examples of Maxima suppressors
10. Isobestic Point

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