

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

(LM 4270)

FEBRUARY 2018

Sub. Code: 4270

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

*Q.P. Code: 564270*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Derive Beer-Lambert's law. Explain reasons for deviation from the law.  
b) Draw, label and explain working of a double beam UV spectrophotometer.
2. Write on principle, electrodes, types of titrations and applications of a potentiometer.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Explain quenching and its types.
2. Write on HPTLC.
3. Give principle and applications of gel chromatography.
4. Write theory of polarography with its application.
5. Narrate amperometric titration curves.
6. Explain flame emission spectroscopy.
7. Concepts of ISO 9000.
8. Validation of analytical procedures.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Chemical shift.
2. Use of electrochemical cell.
3. R<sub>f</sub> and R<sub>x</sub> values.
4. Detectors of gas chromatography.
5. Polarographic Maxima.
6. Radio immunoassay.
7. Electrophoresis application.
8. Specific conductance.
9. Stationary phases of paper chromatography.
10. Detection in TLC.

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