(LL 4270) AUGUST 2017 **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) Explain the principle of NM What ar e the conditions for nuclei to exhibit nuclear magnetic resonance?
   b) Explain the terms chemically equivalent protons, shielding and deshielding, splitting of signals.

2. a) Explain the components of a Gas-Liquid Chromatography assembly and explain its working.
   b) What are the different types of columns used in GLC? Explain.

II. Write notes on: **(8 x 5 = 40)**

1. Describe the components of a Nephelomete
2. What are the factors that affect fluorescence?
3. Describe the construction and working of a hollow cathode lamp.
4. Explain the construction and working of the standard calomel electrode.
5. Explain the principle of counter current extraction.
6. Explain 'Dead Stop End Point Titrations'.
7. Outline the basic concept of Total Quality Management.
8. Discuss how we may arrive at a formula to determine the number of vibrational degrees of freedom for a linear molecule and a non linear molecule.

III. Short answers on: **(10 x 2 = 20)**

1. Name two solvents frequently used in Reverse phase HPLC.
2. Differentiate between Isocratic system and gradient elution system.
3. What are the conditions for the absorption of Infra-Red radiation?
4. What is molecular ion peak?
5. What is a Guard Column used in HPLC?
6. What is Gel filtration?
7. What is equivalent conductance?
8. What is half wave potential on a polarogram?
9. Give two applications of Turbidometric assays.
10. What is X-ray diffraction?

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