Roll No.: _____ Enrolment No._____

PARUL UNIVERSITY

PARUL INSTITUTE OF PHARMACY AND RESEARCH

B.PHARM SEVENTH SEMESTER

FIRST INTERNAL THEORY EXAMINATION: 2021-22

Subject Name: Instrumental Method of Analysis
Subject Code: BP701T **Date: 18/07/22**
Total Marks: 30 **Time: 7:45 AM TO 9:00 AM**

Instructions:
1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.2 Long Answers: (Any One)

1) Derive Beers Lamberts Law equation and discuss the deviation of Beers Lamberts Law. **10**

2) Write down basic principle of UV-Visible spectrophotometry, draw neat and clean instrumentation of spectrophotometer, and explain each parts in detail. **10**

Q.3 Short Answers: (Any Two)

1) Write a short note on Column chromatography. **05**
2) Write a short not on Capillary Electrophorosis. **05**
3) Explain development Techniques in Paper chromatography. **05**

ALL THE BEST

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Q.1 **Multiple Choice Questions:**

(1) In Column chromatography, the stationary phase is made of _____ and the mobile phase is made of _____ **01**
a) Solid, liquid b) Liquid, liquid c) Liquid, gas d) Solid, gas

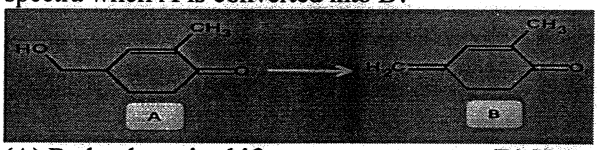
(2) In which of the following ways, absorption is related to transmittance? **01**
a) Absorption is the logarithm of transmittance
b) Absorption is the reciprocal of transmittance
c) Absorption is the negative logarithm of transmittance
d) Absorption is a multiple of transmittance

(3) UV Spectroscopy is mainly used for **01**
a) Conjugated systems b) Isolated systems
c) Functional group detection d) Molecular mass determination

(4) π-π^* transition is seen with ____ functional group. **01**
a) Alkene b) Nitro c) Carboxylic Acid d) Amide

(5) Which force is involved in the Chromatography? **01**
(a) Hydrogen bonding (b) London force
(c) Electric static force (d) All of the above

(6) Given below are two cyclic enones A and B. What happens to the UV-Visible spectra when A is converted into B? **01**



(A) Bathochromic shift (B) Hypsochromic shift
(C) Bathochromic shift and hypochromism (D) Hypsochromic shift

(7) A combination of paper chromatography and electrophoresis involves… **01**
a) Partition chromatography (b) Electrical mobility of the ionic species
(c) Both (a) and (b) (d) None of these

(8) Beer's law states that the intensity of light decreases with respect to ----- **01**
a) Concentrations (b) composition (c) volume (d) Distance

(9) What is the unit of absorbance which can be derived from Beer Lambert's law? **01**
a) L mol^{-1} cm^{-1} b) L gm^{-1} cm^{-1} c) Cm d) No unit

(10) Which technique separates charged particles using electric field? **01**
a) Hydrolysis b) Electrophoresis
c) Protein synthesis d) Protein denaturing