



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / First Semester – Spring 2022

Paper: Chemistry-I (Physical Chemistry)

Course Code: CHEM-101

Roll No.

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1 Derive a relation between standard Gibbs free energy and equilibrium constant.

2 What is difference between coarse suspension and colloidal solution?

3 Discuss Freundlich adsorption isotherm.

4 What is co-efficient of viscosity? How can it be determined experimentally?

5 Derive an expression for entropy of mixing of two ideal gases.

6 Briefly describe the ultra-filtration for purification of colloidal system.

Q.2. Answer the following questions.

(3x10=30)

i. What is vapor pressure? Discuss the effect of temperature on vapor pressure using Clausius-Clapeyron equation

ii. Derive and discuss kinetic equation for zero order reaction.

iii. What is adsorption? Discuss factors affecting the adsorption.