SEMESTER	I	QP CODE	1914	REG NO.							

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P.R. GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA

PG ODD SEMESTEREND EXAMINATIONS-[redacted]-2023

M. Sc., : ORGANIC CHEMISTRY & ANALYTICAL CHEMISTRY

PAPER 4 : PHYSICAL CHEMISTRY

DATE	19.04.2023	SESSION	FN	MAX. MARKS	75	TIME	3 HRS

SECTION –A (4×15=60)

Answer all the Questions Each Question Carries 15 Marks **4×15=60 marks**

1. A) Explain determination of partial molar volume by Graphical method

   (Or)

   B) What is chemical potential? Write the influence of temperature and pressure on chemical potential.

2. A) Describe the free radical polymerization; add a note on light scattering method. (Or)
   B) Discuss on the acid base catalysis

3. A) Describe
   i. Hamet equation ii. Kinetics of parallel reactions

   (Or)

   B) What is Kinetic fast reaction? Explain the pressure jump method .

4. A) i. Derive Stern- Volmer equations
   ii. Delayed fluorescence

   (Or)

   B) What is quantum yield? Explain the experimental determination of Quantum yield with a note on low and high quantum yield.

SECTION –A (5×3=15)

Write any FIVE questions each question carries 3 marks **(5×3=15 marks)**

5. Phase rule
6. Activity Coefficient
7. Classification of surfactants
8. Mass average molecular weight
9. Taft equation
10. Collision theory
11. Photo stationery state
12. Photo chemical equilibrium