

Jamia Hamdard
Department of Chemistry
School of Chemical & Life Sciences
M.Sc. Chemistry/Semester II
Paper Code: MCHCC--201
Paper Title: Physical Chemistry-II

Time: 2½ hours

Maximum Marks 60

Abbreviations Used; CLO- Course Outcome, PLO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

Section A**Very Short Type Questions** (Answer all)

(10x1.5=15 Marks)

Q. No	Question	BTL	CLO	PLO
1.	What are anionic surfactant?	1	1	1
2.	What is chemical dynamics?	2	2	1
3.	What is statistical Thermodynamics?	2	3	1
4.	What is rate Law expression?	2	4	1
5.	What is Phase Space?	1	4	1
6.	What is occupation number?	2	4	1
7.	What is configuration?	2	2	1
8.	What is Reverse Micelle?	2	3	1
9.	Give four examples of Microemulsion?	2	3	1
10.	What is the unit of Partition function?	2	4	1

Section B**Long Type question** (Attempt any two out four)

(10x2=20 marks)

Q. No	Question	BTL	CLO	PLO
1.	Explain any three methods to determine order of reaction.	6	1	3
2.	Explain Kassel and Rice and Ramsperger Theory	5	2	3
3.	Derive Thermodynamic functions in terms of partition function.	5	2	3
4.	Explain the concept of Micellisation? How will you determine CMC using conductance and surface tension?	6	3	3

Section C**Short Type questions.** (Attempt all questions)

(5x5=25 marks)

Q.NO	Questions	BTL	CLO	PLO
1.	Explain Slater Treatment? OR Derive Eyring equation.	3	1	2
2.	Explain Flash Photolysis? OR Explain the use of NMR in determination of order of reaction of fast reaction?	4	2	2
3.	What are different types of System Assembly & Ensemble? OR Explain Boltzmann distribution Law.	3	3	2
4.	Explain the concept of solubilization in surfactant solutions. OR Explain the structure of Micelle in Aqueous solution.	3	4	2
5.	What is nanoemulsion? Give it's applications. OR Differentiate between Micelles, Reverse Micelles and Lamellar Micelles	4	3	3

.....X.....