



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Eighth Semester – 2019

Paper: Physical Chemistry (Sp. Theory-I)

Course Code: CHEM-422 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. _____ are not elastic.
a) Emulsion b) Gels c) Both a & b d) None.
2. Barium sulphate in water is _____.
a) Insoluble b) Soluble c) Sparingly Soluble d) None.
3. CMC is temperature _____.
a) Dependent b) Independent c) Inversely proportional d) None of above
4. In case of Non-Ionic surfactant ΔH_{mix} is _____.
a) Positive b) Negative c) Endothermic d) Both a & c
5. The flow of solvent through a semipermeable membrane from pure solvent to solution is called
(a) diffusion (b) osmosis (c) effusion (d) non of these
6. If liquid entrapped in Gel is water then it is called _____.
a) Hydrogel b) Nano gel c) Benzo gel d) None.
7. P-nitrophenol absorbs at _____ in slightly basic medium in U-V region.
a) 200nm b) 400 nm c) 600nm d) None
8. Wetting ability is high if the contact angle is _____.
a) Also high b) Low c) Moderate d) None.
9. Substances having same Atomic number but different Atomic masses are called as:
a) Isotopes b) Radioactive c) Atom d) None.
10. Which scientist discovered Radioactivity?
a) J.J Thomson b) Madame Curie c) Henry Becquerel d) Rutherford



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No. 02: Short Answers.

(2x10=20)

1. what is phase Inversion method?
2. what is semipermeable member discuss nature and use.
3. What is difference b/w osmotic pressure and osmotic gradient?
4. What is the role of emulsion in cosmetics?
5. What is CMG? Give factor on which it depends?
6. What is stellar energy?
7. What is radioactive equilibrium?
8. What is decay constant? Write its unit.
9. What are abnormal colligative properties?
10. Derive an equation to calculate half- life of a radioactive substance.

Q. No. 03. Attempt all the Questions.

(10x3=30)

1. Derive laws of osmotic pressure? Explain Thermodynamic treatment of osmotic pressure? 10
2. Write a short note on Bombardment theory. Discuss advancement and limitation of the theory? (10)
3. (a) What is atomic bomb? Explain. (04)
(b) Discuss radiation Hazards in detail. (06)