



UNIVERSITY OF THE PUNJAB

Seventh Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig.

Roll No. in Words.

PAPER: Physical Chemistry (Sp. Theory-II)
Course Code: CEHM-404 Part-I (Compulsory)

MAX. TIME: 15 Min.
MAX. MARKS: 10

Signature of Supdt.:

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. 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 right answer, cutting and overwriting is not allowed. (1x10=10)

- 1- Which one of the following is correct for lyophilic sols?
(a) irreversible (b) formed by inorganic substances
(c) self-stabilized (d) all
- 2- Medicines that instruct you to shake the bottle well before use are most likely
(a) Solution (b) Suspensions (c) Colloids (d) none of these
- 3- Which of the following statement is true regarding K_m ?
(a) It is the measure of stability of ES (b) It is the measure of stability of the affinity of an enzyme
(c) A high k_m indicates weak substrate binding (d) All of above
- 4- Solution is said to be ideal if it obeys
(a) Gas laws (b) Faraday's laws (c) Raoult's law (d) None of these
- 5- Chemical adsorption is
(a) monolayer (b) Multilayer (c) both a and b (d) none of these
- 6- Following is an example of emission process
(a) Fluorescence (b) Phosphorescence (c) both, a and b (d) none
- 7- Conversion of spin state takes place in
(a) Fluorescence (b) Phosphorescence (c) both, a and b (d) none
- 8- In Freundlich adsorption isotherm plot of $\log x/m$ versus $\log P$ is linear with slope.
(a) $1/n$ (b) n (c) $\log k$ (d) k
- 9- Frequency of absorption usually than frequency of corresponding emission.
(a) Greater (b) Lower (c) Equal (d) none
- 10- The colouring matter is removed by animal charcoal during purification of sugar. In this case sugar act as
(a) adsorbate (b) adsorbent (c) absorbance (d) catalyst



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PAPER: Physical Chemistry (Sp. Theory-II)

Course Code: CEHM-404 Part – II

MAX. TIME: 2 Hrs. 45 Min.

MAX. MARKS: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers to the following questions.

(10x2=20)

1. What is Raoult's law?
2. Write steps followed by Eyring-Rideal mechanisms.
3. Differentiate between Swelling and Syneresis.
4. Define the term Sintering?
5. What is autocatalysis?
6. What are surfactants? Give two examples.
7. Define Quantum yield.
8. What is Schulze-Hardy Rule?
9. What are photochemical reactions?
10. Why is detergent superior to soap?

Q.3. Give brief answers to the following questions.

(3x10=30)

1. Explain Langmuir Adsorption Isotherm for non-dissociative adsorption.
2. Discuss thermodynamics of solution process.
3. Describe the phenomenon of Phosphorescence. What is the quantum yield and discuss its significance in photochemistry?