Q1 - 25 July - Shift 2

For micelle formation, which of the following statements are correct?

(A) Micelle formation is an exothermic process.

(B) Micelle formation is an endothermic process.

(C) The entropy change is positive.

(D) The entropy change is negative.

(A) A and D only (B) A and C only

(C) B and C only (D) B and D only

Space for your notes:

Q2 - 26 July - Shift 2

Given below are two statements : one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A : Finest gold is red in colour, as the size of the particles increases, it appears purple then blue and finally gold.

Assertion R : The colour of the colloidal solution depends on the wavelength of light scattered by the dispersed particles.

In the light of the above statements, choose the most appropriate answer from the options given below;

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is NOT the correct explanation of A

(C) A is true but R is false

(D) A is false but R is true

Space for your notes:

Q3 - 27 July - Shift 2

Given below are two statements: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**

Assertion (A) : Dissolved substances can be removed from a colloidal solution by diffusion through a parchment paper.

Reason (R) : Particles in a true solution cannot pass through parchment paper but the collodial particles can pass through the parchment paper.

In the light of the above statements, choose the correct answer from the options given below:

(A) Both **(A)** and **(R)** are correct and **(R)** is the correct explanation of **(A)**

(B) Both **(A)** and **(R)** are correct but **(R)** is not the correct explanation of **(A)**

(C) **(A)** is correct but **(R)** is not correct

(D) **(A)** is not correct but **(R)** is correct

Space for your notes:

Q4 - 28 July - Shift 1

Statements about Enzyme Inhibitor Drugs are given below :

(A) There are Competitive and Non-competitive inhibitor drugs.

(B) These can bind at the active sites and allosteric sites.

(C) Competitive Drugs are allosteric site blocking drugs.

(D) Non-competitive Drugs are active site blocking drugs.

Choose the correct answer from the options given below :

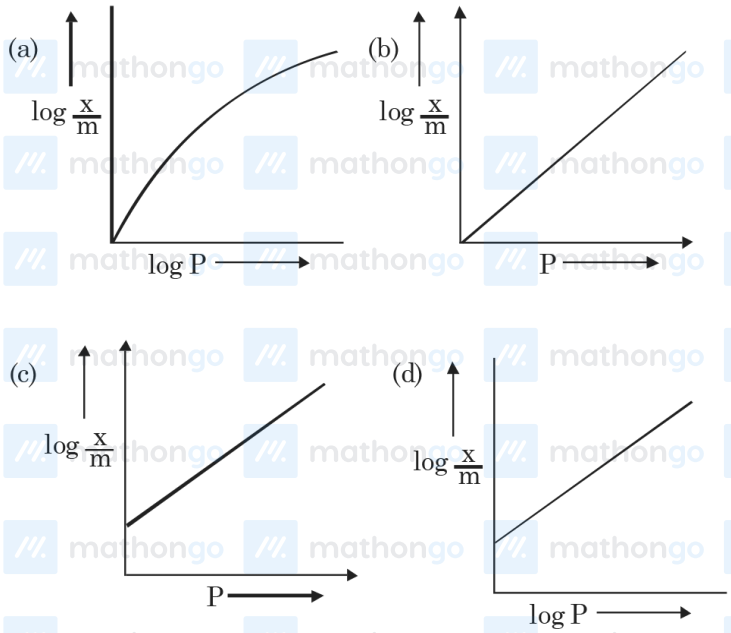
(A) (A), (D) only (B) (A), (C) only

(C) (A), (B) only (D) (A), (B), (C) only

Space for your notes:

Q5 - 28 July - Shift 2

Among the following the number of curves not in accordance with Freundlich adsorption isotherm is _____.



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Q6 - 29 July - Shift 1

100 mL of 5% (w/v) solution of NaCl in water was prepared in 250 mL beaker. Albumin from the egg was poured into NaCl solution and stirred well. This resulted in a/ an :

(A) Lyophilic sol (B) Lyophobic sol

(C) Emulsion (D) Precipitate

Space for your notes:

Q7 - 29 July - Shift 2

Given below are the critical temperatures of some of the gases :

Gas	Critical temperature (K)
He	5.2
CH_4	190
CO_2	304.2
NH_3	405.5

The gas showing least adsorption on a definite amount of charcoal is :

(A) He (B) CH_4

(C) CO_2 (D) NH_3

Space for your notes:

Answer Key

Q1 (C) **Q2** (A) **Q3** (C) **Q4** (C)

Q5 (3) **Q6** (A) **Q7** (A)

Q1 (C)

For micelle formation, $\Delta S > 0$ (hydrophobic effect) This is possible because, the decrease in entropy due to clustering is offset by increase in entropy due to desolvation of the surfactant, Also $\Delta H > 0$

Q2 (A)

(A)

Q3 (C)

Assertion (A): Correct.

Reason(R): Incorrect.

Particles of true solution pass through parchment paper thus answer is (C).

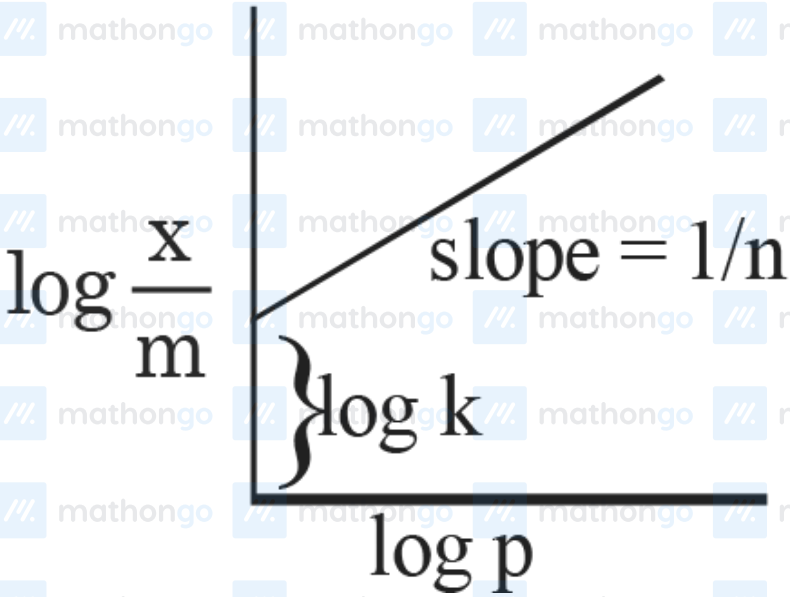
Q4 (C)

Enzyme inhibitors can be competitive inhibitors (inhibit the attachment of substrate on active site of enzyme) and non-competitive inhibitor (changes the active site of enzyme after binding at allosteric site.)

Q5 (3)

$$\frac{X}{m} = KP^{\frac{1}{n}}$$

$$\log \frac{x}{m} = \frac{1}{n} \log p + \log k$$



Q6 (A)

Standard method for the preparation of lyophilic sol. (Discussed in lab Manual)

Q7 (A)

More the critical temp. of gas greater is the ease of liquefaction hence greater is the adsorption.