



# CHEMISTRY

## BOOKS - SAI CHEMISTRY (TELUGU ENGLISH)

### SURFACE CHEMISTRY

#### Mcqs

1. Which of the following is the most effective in causing coagulation of ferric hydroxide sol?

A.  $KCl$

B.  $KNO_3$

C.  $K_2SO_4$

D.  $K_3[Fe(CN)_6]$

**Answer: d**



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2. Which of the following use in hardening of leather?

A. Light sensitive silver bromide in gelatine

B. Sodium lauryl sulphate

C. Alum

D. Tannin

**Answer: d**



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**3. Assertain (A):** van der waal's force are responsible for chemisorption.

**Reason: (R):** High temprature is favourable for

chemisorption.

The correct answer is

A. (A) is false, but (R) is true

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

C. Both (A) and (R) are correct and (R) is not the correct explanation of (A)

D. (A) is true, but (R) is false

**Answer: a**



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#### 4. Match the following



A. A(IV),B(I),C(II),D(III)

B. A(III),B(I),C(V),D(III)

C. A(III),B(I),C(II),D(IV)

D. A(IV),B(I),C(V),D(III)

**Answer: a**



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5. Gelly is a colloidal solution of

A. solid in liquid

B. Liquid in solid

C. Liquid in liquid

D. Solid in solid

**Answer: b**



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6. Which one of the following gives a straight line of Freundlich adsorption isotherm?

A.  $\log \frac{x}{m}$  vs  $\log P$

B.  $\frac{x}{m}$  vs  $\frac{1}{P}$

C.  $\log \frac{x}{m}$  vs  $\log \frac{1}{P}$

D.  $\frac{x}{m}$  vs  $P$

**Answer: a**



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7. A micelle formed during the cleansing action by soap is

- A. A discrete particle of a soap
- B. Aggregated particles of soap and dirt
- C. A discrete particle of dust
- D. An aggregated particle of dust and water

**Answer: b**



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8. Which one of the following is most effective in causing the coagulation of an  $As_2S_3$  sol?

A.  $KCl$

B.  $AlCl_3$

C.  $MgSO_4$

D.  $K_3[Fe(CN)_6]$

**Answer: b**



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9. Which of the following graphs freundlich adsorption isotherm?

A. 

B. 

C. 

D. 

**Answer: b**



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**10. Assertion (A):** A catalyst increases the rate of a reaction.

**Reason (R):** In the presence of a catalyst, the activation energy of the reaction increases.

- 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 not true
- D. (A) is not true but (R) is true

**Answer: c**



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**11. Which one of the following is not correct?**

A. Milk is a natural occurring emulsion

B. Gold sol is a lyophobic

C. Chemical adsorption decreases as temperature increases  
is unilayered

D. Milk is a natural occurring emulsion

**Answer: b**



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**12.** The dispersed phase, dispersion medium and nature of colloidal solution (lyophilic or lyophobic) of gold sol respectively are

- A. Solid ,solid, lyophobic
- B. Liquid,liquid,lyophobic
- C. Solid,liquid,lyophobic
- D. solid,liquid,lyophilic

**Answer: c**



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**13.** Which of the following will give answer with negative sign?

A.  $\begin{matrix} Y\text{-axis} & X - \text{axis} \\ P & T \end{matrix}$

B.  $\begin{matrix} Y\text{-axis} & x\text{-axis} \\ \log_{10} P & T \end{matrix}$

C.  $(Y\text{-axis} , x\text{-axis}), (\log_{10} P), 1. T) : \}$

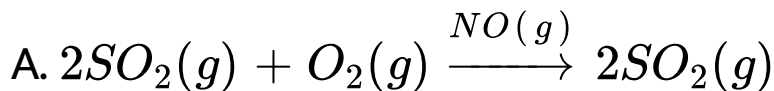
D.  $(Y\text{-axis} , x\text{-axis}), \left( \log_{10} P \log_{10}, \frac{1}{T} \right)$

**Answer: c**

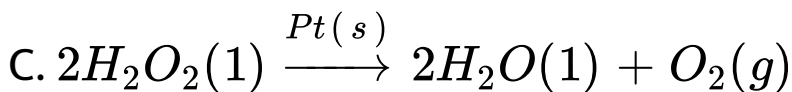


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**14.** Which of the following is an example for heterogeneous catalysis reaction?



B. Hydrogen of aqueous sucrose solution  
in the mineral acid



D. Hydrolysis of liquid in the presence of aqueous mineral acid

**Answer: c**



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**15.** Which of the following is lyophobic colloidal solution?

A. Aqueous starch solution

B. Aqueous protein solution



C. Gold sol

D. Polymer solution in some organic solvents

**Answer: c**



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**16.** In Dewar's method of separation of noble gases, the mixture of the noble gases is kept in contact with coconut charcoal at 173 K. Which

one of the following gaseous mixture is not adsorbed on to the charcoal?

A. Ar,Kr

B. Xe,Ar

C. He,Ne

D. Xe,Kr

**Answer: c**



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17. In the graph drawn between  $\log K$  and  $1/T$ , intercept equalst o

A. 

B. 

C. 

D. 

**Answer: c**



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18. Which one of the following equations represents Freundlich adsorption isotherm?

A.  $\frac{x}{m} = kp$

B.  $\frac{x}{m} = kp^{\frac{1}{n}}$

C.  $\log \frac{x}{m} = kp^{\frac{1}{n}}$

D.  $\log \frac{x}{m} = kn \log p$

**Answer: b**



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19. Which one of the following statements is not correct?

A. Physical adsorption decreases with increase in the temperature

B. Physical adsorption is multilayered

C. Activation energy of physical adsorption is very high

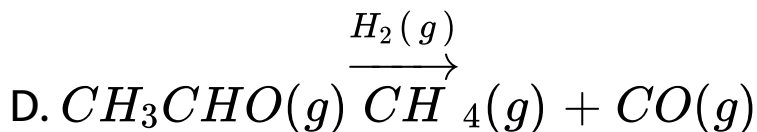
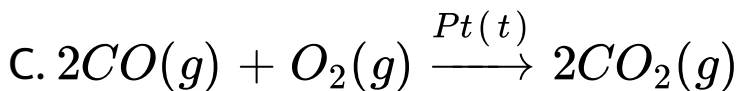
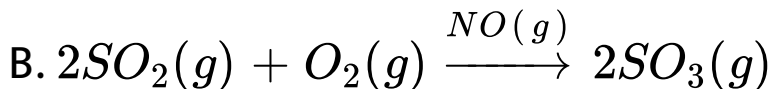
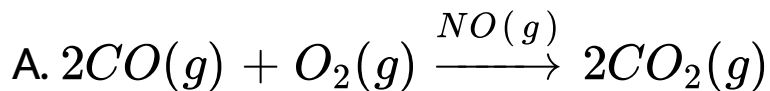
D. Enthalpy change of physical adsorption is about  $20\text{KJmol}^{-1}$

Answer: c



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20. Which one of the following reaction is an example of heterogeneous catalysis?



**Answer: c**



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**21.** What is the role of a catalyst in a reversible reaction?

- A. It increase the rate of forward reaction
- B. It decrease the rate of backward reaction
- C. It alters the equilibrium constant of the  
reaction

D. It allows the equilibrium to be achieved quickly

**Answer: d**



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22. Charcoal is often used in gas masks because of its high capacity for adsorbing molecules of

A. Ideal gas



B. Ne

C. Odoriferous gas

D. pure gas

**Answer: c**



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**23.** The use of a catalyst in chemical reaction...

activation energy of the reaction

A. Increases

B. Decreases

C. Do not affect

D. Increases slightly

**Answer: b**



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**24.** A catalyst increase the rate of reaction because it

A. Increases the activation energy

B. Decreases the energy barrier for  
reaction

C. Decreases the collision diameter

D. Increases the temperature coefficient

**Answer: b**



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