1. Point out the wrong statement:

Physical adsorption is characterized by

(a) Attraction due to weak Vander Waal's forces

(b) Irreversible nature of adsorption

(c) Multimolecular adsorption layers

(d) Decrease in adsorption with increase in temperature

2. Adsorption is multilayer in the case of

(a) Physical adsorption

(b) Chemisorption

(c) Both

(d) None of both

3. Physical adsorption

(a) Involves the weak attractive interaction between the adsorbent and adsorbate

(b) Involves the chemical interactions between the adsorbent and adsorbate

(c) Is irreversible in nature

(d) Increases with increase of temperature

4. In chemical adsorption, how many layers are adsorbed

(a) One

(b) Two

(c) Multi

(d) Zero

5. Adsorption is

(a) Endothermic

(b) Exothermic

(c) Either (a) or (b)

(d) None of these

6. The stability of lyophilic colloids is due to

(a) Charge on their particles

(b) A layer of dispersion medium on their particles

(c) The smaller size of their particles

(d) The large size of their particles

7. Which characteristic is true in respect of colloidal particle

(a) They always have two phases

(b) They are only in liquid state

(c) They can't be electrolysed

(d) They are only hydrophilic

8. An example of an associated colloid is

(a) Milk

(b) Soap solution

(c) Rubber latex

(d) Vegetable oil

9. Colloidal solutions of gold prepared by different methods have different colours owing to

(a) The difference in the size of the colloidal particles

(b) The fact that gold exhibits a variable valency of + 1 and + 3

(c) Different concentrations of gold

(d) Presence of different types of foreign particles depending upon the method of preparation of the colloid

11. Consider a liquid contained in a vessel. The liquid solid adhesive force is very weak as compared to the cohesive force in the liquid. The shape of the liquid surface near the solid shall be
(a) Horizontal
(b) Almost vertical
(c) Concave
(d) Convex

12. Oil spreads over the surface of water whereas water does not spread over the surface of the oil, due to
(a) Surface tension of water is very high
(b) Surface tension of water is very low
(c) Viscosity of oil is high
(d) Viscosity of water is high

13. Mercury does not wet glass, wood or iron because
(a) Cohesive force is less than adhesive force
(b) Cohesive force is greater than adhesive force
(c) Angle of contact is less than 90o(d) Cohesive force is equal to adhesive force

14. It is easy to wash clothes in hot water because its
(a) Surface tension is more
(b) Surface tension is less
(c) Consumes less soap
(d) None of these

15. On mixing the salt in water, the surface tension of water will
(a) Increase
(b) Decrease
(c) Remain unchanged
(d) None of the above

16. The property of surface tension is obtained in
(a) Solids, liquids and gases
(b) Liquids
(c) Gases
(d) Matter

17.  Two pieces of glass plate one upon the other with a little water in between them cannot be separated easily because of
(a) Inertia
(b)  Pressure
(c) Surface tension
(d)  Viscosity

18. The temperature at which the surface tension of water is zero
(a) 0°*C*
(b) 277 *K*(c) 370°*C*
(d) Slightly less than 647 *K*

19. Water does not wet an oily glass because
(a) Cohesive force of oil > adhesive force between oil and glass
(b) Cohesive force of oil > cohesive force of water
(c) Oil repels water
(d) Cohesive force for water > adhesive force between water and oil molecules

20. The spherical shape of rain-drop is due to
(a) Density of the liquid
(b) Surface tension
(c) Atmospheric pressure
(d) Gravity

22. When there is no external force, the shape of a liquid drop is determined by
(a) Surface tension of the liquid
(b) Density of liquid
(c) Viscosity of liquid
(d) Temperature of air only

23. Coatings used on raincoat are waterproof because
(a) Water is absorbed by the coating
(b) Cohesive force becomes greater
(c) Water is not scattered away by the coating
(d) Angle of contact decreases