B.Sc. (Part-II) (Semester-IV)
Examination, March-2021
Physical Chemistry (Paper-VII)
Sub. Code: 63703

Day and Date: Wednesday, 07-10-2020   **Total Marks: 50**

Time: 01.00 p.m. to 22.00 p.m.

Instructions: 1)   **Attempt any twenty five MCQ questions from thirty MCQ questions**

2)   **Each questions carry two marks**

3)   **Paste the correct answer option in the right square bracket**

==

1.   Reciprocal of conductance is.........

a] Resistance   b] Conductivity

c] Specific resistance   d] All of these

2.   The equation $\lambda^0 = \lambda^0_+ + \lambda^0_-$ represents.........

a] Hittorf's law   b] Kolhlrausch law

c] Ohm's law   d] Einstein law

3.   Definition of entropy is …

a] $ds = \dfrac{dqrev}{T}$ b] $ds = -\dfrac{dqrev}{T}$

c] $ds = \dfrac{dqirev}{T}$ d] $ds = -\dfrac{dqrev}{T}$

4.   Entropy is expressed in….

a] 0 Kb] J. K^{-1}

c] $^\circ$ C   d] All of these

5.   Which of the following is the half life time of third order reaction…..

a] $t_{1/2} = 2/ka^2$ b]$t_{1/2} = 3/2ka^2$

c] $t_{1/2} = ka^2$ d] $t_{1/2} = 4/3ka^2$

6.   The reaction in which three reactant molecule take part are called

a] termolecular reaction   b] bimolecular reaction

c] Uni molecular reaction   d]all of these

7.   Disorder increases with increase in temperature from

a] liquid to solidb] solid to liquid

c] liquid to gas   d] E = Gas to liquid

8. Which of the following is correct for third order reaction

    a] $\frac{dx}{dt} = K(a-x)^2$ b] $\frac{dx}{dt} = K(a-x)^1$

    c] $\frac{dx}{dt} = K(a-x)^3$ d] $\frac{dx}{dt} = K(a-x)^4$

9. If the reaction is faster then, its …..

    a] activation energy is lower   b] activation energy is higher

    c] activation energy remains constant   d] none of these

10. Entropy change is zero in the…

    a] Irreversible process   b] Isobaric process

    c] reversible process   d] Isochoric process

11. The substance which unable to conduct electric current is called …..

    a] conductorb] insulator

    c] non electrolyted] none of these

12. On dilution specific conductivity……………

    a] increases   b] decreases

    c] almost same   d] both a and b

13. The process carried out at constant temperature is…….

    a] Isobaric   b] Isothermal

    c] Isochoric   d] none of these

14. The velocity constant of third order reaction is expressed in

    a] $dm^3. Mol^{-1}.sec^{-1}$ b] $Mol^{-2}. (dm^3)^3. sec^{-1}$

    c] sec^{-1} d] min^{-1}

15. The mixing process is accompanied by…….

    a] Increase in entropy   b] Decrease in entropy

    c] both 'a' and 'b'   d] none of these

16. The Arrhenius equation related……

    a] Temperature and Pressure b] Temperature and Volume

    c] Pressure and Volumed] Rate constant 'K' and temperature

17. Transition state theory is also known as ………..

    a] Gases theory of reaction   b] Activated complex theory of reaction

    c] Both 'a' and 'b'd] None of these

18. TheEquivalent conductance in Uni-univalent electrolyte is …….

    a] equal   b] not equal

    c] almost samed] different

19. The slope of the plot In K vs 1/T is…..

    a] $\mu = \frac{-Ea}{R}$ b] $\mu = \frac{-Ea}{RT}$

c] $\mu = \dfrac{Ea}{R}$ d] $\mu = \dfrac{Ea}{RT}$

20. Specific conductivity is expressed ……………

    a] mhos b] S.m^{-1}

    c] ohm^{-1} d] mhos^{-1}

21. Number of molecules or atoms whose concentration changes during the reaction is…..

    a] Chemical Kinetics b] Order of reaction

    c] Both 'a' and 'b'   d] none of these

22. Ebonite is an example of............

    a] Electrolyte b] Conductor

    c] Insulator   d] Semiconductor

23. Constitutive property is the property which depends on ….

    a] Their nature   b] Arrangement of atoms

    c] both 'a' and 'b'   d]None of these

24. The fluidity is the…..

    a] Coefficient of viscosity   b] Reciprocal of coefficient

    c] both 'a' and 'b'   d] None of these

25. $\nabla S = \dfrac{\nabla Hf}{\nabla f}$, where $\nabla Hf =$

    a] Latent heat of fusion b] latent heat of vaporization

    c] latent heat of transition d] None of these

26. Due to surface tension, liquids tend to minimise their……

    a] Surface area   b] Volume

    c] Both 'a' and 'b'   d] None of these

27. Transport number of anion depend upon the space transport number of...... attached to it

    a] Neutral ion b] Anion

    c] Negative Ion   d] Cation

28. The SI unit of viscosity is

    a] NM^{-2} b] NM^{2}

    c] N. cm^{-2} d] N. cm^{2}

29. Parachor is defined as the molecular volume of a liquid, when its……is unity

    a] Dipole b] Viscosity

    c] Surface tension   d] None of these

30. Entropy is a …….function

    a] pure b] impure

    c] State d] None of these