Paper Code – 5015

M.Sc. Semester-III (Physical Chemistry) Old Course
July-Septermber-2021
CHN-604(C) BIO PHYSICAL CHEMISTRY

કુલ સમય :– : ૩૦ મીનીટ **કુલ પ્રશ્નો : ૩૫** **વિદ્યાર્થીએ ટીક કરવાના પ્રશ્નો : ૧૮**

નોંધ : વિદ્યાર્થીએ માત્ર ૧૮ પ્રશ્નો જ ટીક કરવાના રહેશે. જો વધારે ટીક કરેલ હશે તો પ્રથમ ૧૮ પ્રશ્નો જ ગણતરીમાં લેવામાં આવશે.

1. A plant cell wall is mainly composed of
A. Protein B.Cellulose C.Lipid D.Starch

2. For an exergonic chemical reaction
A. Free energy is negative B. Free energy is zero C.Free energy is positive D. Both A and C

3. An endergonic chemical reaction is
A.Non spontaneous B. Sponteneous C.neutral D.none of these

4. Full form of DNA IS_____
A.Deoxyribonucleic acid B. Dyeoxyribonucleic acid C.Deoxyribonucleic Aceticacid D.Dyeoxyribonucleic Acid

5. RNA is known as _____
A. Ribonucleic acid B. Ribozyme C. Both (A) and (B) D. None of these

6. The properties of integral membrane proteins can be studied by
A. Atomic force microscopy B. cryo-sectioning and electron microscopy C. Freeze-fracture technique and electron microscopy D. All of above

7. The resting potential membrane is determined by
A. potassium ion gradient B. sodium ion gradient C. Bicarbonate ion gradient D. carbonate ion gradient

8. Which one of the following having highest redox potential
A. Ubiquinone B.O_2 C.FMN D.NAD

9. Which one of the following accepts only one electrone
A. cytochrome B. coenzyme C.FMN D.FAD

10. Cleaving of peptide chain is done by
A. Trypsin B. Tyrosine C. Tryptophan D .Arginine

11.Which of the following forces is favorable for protein folding
A.Hydrophobic interactions B.Hydrogen bonding C.Vanderwalls force D. Ionic bonding

12.A process by which aprotein structure assumes its functional shape or conformation is
A. Denaturing B.Folding C.synthesis D.Hydrolysis

13.Hydrophobic effect is responsible for
A.Protein folding B.Cell membrane and vesicle formation C.Seperation of mixture of oil and water D.All of these

14.proteins are
A.Bio polymers B.Aminoacids are the monomers C. Formed by aminoacids undergoing condensation reactions D.All of these

15.Enzymes are
A.proteins B.Bio chemical catalyst C.Deteregents D.Both A. and B.

16. At PH below the isoelectric points protein molecules have _____ charge?
A. Negative B. Positive C. Neutral D. Both A & B

17. Effect of valinomycin on Oxidative phosphorylation does not involve _____?
A. PH gradient across the inner mitochondrial membrane decrease B. Rate of flow of electron increase C. Weight of oxygen consumption increase D. Net yield of ATP decrease

18. The term cell was given by?
A. Robert Hooke B. Tatum C. Schwann D. DeBary

19. A cell without a cell wall is termed as
A. Tonoplast B. Protoplast C. Symplast D. Apoplast

20. Reactions that lose heat are termed as
A. Endothermic B. Exothermic C. Chemical D. Physcial

21. Hydrolysis of ATP is which type of reaction?
A. Physical B. Mechanical C. Endergonic D. Exergonic

22.Cellular metabolism is a _____ metabolism.

A. Non-equilibrium B. Equilibrium C. Standard D. Reversible

23. Protein catalysts are called_____

A. Enzymes B. Ribozymes C. Ribosomes D. None of these

24.RNA catalysts are called_____

A. Enzymes B. Ribozymes C. Ribosomes D. None of these

25. The non-protein constituents of conjugated proteins are called_____

A. Enzymes B. Cofactors C. Amino acids D. Nucleosides

26. Enzymes have no effect on which of the following in the chemical reaction

A. Activation energy B. Speed C. Thermodynamics D. Completion time

27. Chymotrypsin is a _____

A. Starch B. Polymer C. Buffer D. Enzyme

28. The process of synthesis of glucose is referred as _____

A. Gluconeogenesis B. Neogenesis C. Glycolysis D. None of these

29. Which technique separates charged particle using electric fields?

A. Hydrolysis B. Electrophoresis C. Protein synthesis D. Protein denaturing

30. Which method is used to determine molecular weight of polymer?

A. Diffusion B. Viscosity C. Light scattering D. All of these

31. what is the equation of standard free energy change?

A. $\Delta G^0 = .\Delta H^0 - T\Delta S^0$ B. $.\Delta G^0 = .\Delta H^0 + T\Delta S^0$ C. $.\Delta G^0 = .\Delta S^0 - T\Delta H^0$ D. $-\Delta G^0 = .\Delta H^0 - T\Delta S^0$

32. ATP is known as _____

A. Adenoisine triphosphorus B. Adhesive triphosphous C. Adhesive triphosphate D. Adenosine triphosphate

33. ADP is also known as_____

A. Adenosine diphosphate B. Adenosine diphosphorus C. Adhesive dihosphous D. Adhesive diphosphorus

34. Which are the bio-polymer from following_____

A. Cellulose B. Myglobin C. DNA D. All of given

35. From the following which are the diffraction method for determination of molecular weight of polymer?

A. Light scattering B. X-ray diffraction C. Diffusion D. Both (A) and (B)