CLUSTER UNIVERSITY SRINAGAR

University Entrance Examination Time: 1 HOUR

Integrated Biochemistry (50 x 1= 50 MARKS) Time One Hour

Note: Each wrong answer will lead to the deduction of 0.25 marks from the total score of the candidate.

1. Which of the following does not have catalytic activity
   a. Enzyme b. Ribozyme c. Nanozyme d. None of these
2. Which of the following is a Monosaccharide
   a. Galactose b. Maltose c. Sucrose d. Lactose
3. Autoclaving involves
   a. High temperature b. High pressure c. Both a & b d. None of these
4. 1% solution involves
   a. 1 g of solute in 1 litre of solution b. 10 g of solute in 1 litre of solution
   c. 10 g of solute in 100 ml solution d. None of these
5. Chiral carbon has
   a. Two dissimilar groups attached b. Three dissimilar groups attached
   c. Four dissimilar groups attached d. Two similar and two dissimilar groups attached
6. Substrate level phosphorylation in Kreb's cycle yields
   a. NADH b. GTP c. ATP d. $FADH_2$
7. One glucose molecule upon fermentation yields (not yield)
   a. Eight ETP molecule b. Two ETP molecules
   c. Four ETP molecules d. Thirty six/Thirty eight ETP molecules
8. Glucose and Mannose are
   a. C2 epimers b. C3 epimers c. C4 epimers d. C6 epimers
9. Glutamic Acid is represented by
   a. E b. G c. L d. Q
10. Which of the following is not an aromatic amino acid is
    a. Isoleucine b. Tryptophan c. Histidine d. None of these
11. Changing pH of a solution from pH 5 to pH 6 would involve addition of
    a. Acetic acid b. Sodium Hydroxide c. Ammonium chloride d. Both b & c
12. Which of the following was/is used in pH probes (electrodes)
    a. KCL b. KOH c. NaOH d. $Mgcl_2$
13. **'S'** denotes
    a. Sedimentation quotient b. Specific heat c. Svedberg unit d. Solubility product
14. Co transport is
    a. Active transport b. Passive transport c. Simple Diffusion d. All of these
15. F_0 - F_1 particle has
    a. ATP are activity b. ATP Synthase activity c. Both of above d. None of these

16. Copper deficiency can be because of
    a. Grave's disease b. Wilson's disease c. Addison's disease d. Manke's disease
17. Messelson Stahl experiment involved
    a. P^{32} b. S^{35} c. N^{15} d. C^{14}
18. One (1) Angstrom equals
    a. .001 cm b. .001 mm c . .001 µm d. .1 nm
19. Viruses can be best described as
    a. Living b. Non-living c. Cellular d. Acellular
20. Which of the following is not a carrier for human Malarial parasite
    a. Anopheles b. Culex c. Aedes d. More than one of these
21. Which of the following is not a research technique?
    a. Northern Blotting b. Southern Blotting
    c. Eastern Blotting d. Western Blotting
22. Ovulation is triggered by peaking of
    a. Estrogen b. Luteinizing Hormone
    c. Progesterone d. Follicle stimulation Hormone
23. Chromatography involves
    a. Association of proteins b. Aggregation of proteins
    c. Separation of proteins d. Digestion of proteins
24. If you wanted to increase the rate of an enzyme. Catalyzed reaction, what would you do
    a. Decrease the amount of substrate by one third zero order kinetics
    b. Increase the pH by 4 levels on the pH scale
    c. Decrease the amount of enzyme by half
    d. Increase the temperature by 10 C
25. Which is not a major class of lipids in Bio-membranes (Plasma membranes)
    a. Mucin b. Glycolipids c. Phospholipids d. Cholesterol
26. Good work practices include
    a. smelling chemicals b. sometimes washing hands before/after lab work
    c. Using damaged equipment and glassware d. None of these
27. Improved or increased function of any biological quality in a hybrid offspring is Called
    a. Heterosis b. Hybrid Vigor c. out breeding Enhancement d. All of these
28. Which is not a known carcinogen?
    a. Iron b. Tobacco c. Asbestos d. All of these
29. Which of the following can be considered as an application of Biochemistry
    a. Biotechnology b. Nanotechnology c. Food technology d. All of these
30. Metabolic equivalents of Energy are not produced in
    a. Plastids b. Ribosomes c. Mitochondria d. Cytoplasm

31. Urea cycle takes place in
    a. Kidneys b. Spleen c. Liver d. Muscle
32. Which of the following is NOT a Laboratory safety rule
    a. You should never mix acids with bases
    b. You should tie back your long hair
    c. You should never add water to acid
    d. All of the above are valid safety rules
33. How many decimeters are there in 15 centimeters?
    a. 150 dm b. 1.5 dm c. 0.15 dm d. None of these
34. ELISA is
    a. Qualitative technique b. Qualitative & Sensitive technique
    c. Qualitative & Quantitative technique d. All of these
35. All Professors are researchers. Some Scientists are Professors. 'Which of the given conclusion is valid, strictly inferring from the preceding statement
    a. All scientists are researchers
    b. All professors are researchers
    c. Some researchers are scientists
    d. No conclusion follows
36. Which one of the following is TRUE if a cell is kept in a hypotonic solution?
    a. Water moves out of the cell b. Size of the cell remains same
    c. No moment of water takes place d. Size of the cell increases
37. Which of the following is least stable in laboratory conditions?
    a. Carbohydrates b. DNA c. RNA d. Proteins
38. Enzymes are sensitive ti
    a. Temperature b. Substrate c. pH d. all of these
39. Antibody responsible for primary (first) response is
    a. lgA b. lgE c. lgM d. lgG
40. Which organ / tissue is not a part of immune system
    a. Pancreas b. Spleen c. Thymus d. Payer's patches
41. Which of the following is not a feature/hallmark of cancer cell
    a. Resisting cell death b. Reversing angiogenesis
    c. Metastatis d. Genome Instability
42. Which of the following is not found in cells
    a. A-DNA b. B-DNA c. C-DNA d. Z-DNA
43. Which of the following diseases does not involve a virus
    a. Hepatitis E b. Cervical Cancer c. AIDS d. Tuberculosis
44. Carrot is a rich source of Vitamin
    a. A b. C c. D d. E
45. Which cause of Swine Flu is basically a type of
    a. Bacteria b. Spore c. Virus d. Yeast

46. HIV infection primarily affects

a. Red Blood Cells b. T-lymphocytes

c. B-lymphocytes d. Germinal cells

47. Okazaki fragments occur during

a. synthesis b. Replication c. Transcription d. Polymerase chain Reaction

48. Normal fertilization in humans occur in

a. Ovary b. Fimbriae c. Fallopian tube d. Uterus

49. Which of the following is not a research funding agency in India

a. DBT b. CDC c. ICMR d. ICAR

50. Bringing research done as bench work to effective medicine on bedside forms the core of

a.Personalized medicine b. Translational medicine

c. Transcriptional medicine d. It is not possible

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