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| **INTERNATIONAL ISLAMIC UNIVERSITY ISLAMABAD**  **Faculty of Basic & Applied Sciences**  *Department of Bioinformatics & Biotechnology* |
| Admission Test Fall 2009 BS Bioinformatics and Biotechnology |
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| **7/26/2009** |

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1. The peanut family is
   1. Curciferae
   2. compositae
   3. Anacardiaceae
   4. Liliaceae
2. Genetically engineered plants and animals are called
   1. Transgenic
   2. Clone
   3. Both
   4. None of theses
3. Biotechnology deals with
   1. Manipulation of microbes for industrial use
   2. Cloning of genes
   3. Tissue culture
   4. None of these
4. It is possible to breed plants and animals of desired characteristics by
   1. Ikebana
   2. Anther culture
   3. Genetic engineering
5. A broad definition of gene will be
   1. A unit of heredity
   2. A part of DNA
   3. Unit of mutation
   4. All of three
6. Proteins in cells are manufactured by
   1. Ribosome
   2. Dictyosome
   3. Nucleosome
   4. All of above
7. Genes are regarded as
   1. The unit of evolution
   2. The vehicle of heredity
   3. Amino acids
   4. Macromolecules
8. ………………….gave the concept for survival of fittest
   1. Darwin
   2. Lamarck
   3. Meischer
   4. None of above
9. Dialysis is used to correct the function of
   1. Kidney
   2. Lungs
   3. Liver
   4. Gall bladder
10. Pituitary gland is situated in
    1. Neck
    2. The base of Heart
    3. The base of brain
    4. The abdomen
11. The rod like nucleoprotein structure on which genes are arranged in liner order are called
    1. Kinetochore
    2. Centriol
    3. Nucleosome
    4. chromosome
12. A sudden change in genetic material is called
    1. Mutation
    2. Translocation
    3. Function
    4. genetics
13. The cyclic flow of nutrients between biotic and abiotic components are called
    1. Nutrients cycle
    2. Biogeochemical cycle
    3. Ecocycle
    4. cycleS
14. Millk tasts sour when kept opened due to presence of
    1. Carbonic acid
    2. Citric acid
    3. Lactic acid
    4. Malic acid
15. Why would you predict that half of human babies will be male and another half will be female
    1. Segregation of X and Y chromosome during meiosis
    2. Segregation of X chromosome during female meiosis
    3. All eggs contain X chromosome
    4. On average half of eggs produce females
16. A human male carrying an allele for a trait on X chromosome is
    1. Heterozygous
    2. Homozygous
    3. Hemizygous
    4. Monozygous
    5. holozygous
17. Which of the following types of mutation is most likely to lead to premature termination of translation
    1. Insertion of single base
    2. Deletion of 3 bases
    3. Deletion of entire gene
    4. Single base change in promoter region
18. A dominantly inherited trait affects a child and his grandmother, but neither parent. This best illustrates the example of
    1. A variable expressivity
    2. New mutation
    3. Non-penetrance
19. The density of SNPs in human genome is
    1. 1/300
    2. 1/10
    3. 1/500
    4. 1/1000
    5. 1/20
20. An optimum alignment of two similar sequences is usually that which
    1. Minimize gap and maximize mismatches
    2. Minimize matches and maximize mismatches
    3. Maximize matches and minimize gaps
    4. Maximize matches and minimize mismatches
21. You have predicted many genes in a sequence. Which of the following observations will be best proof of your prediction
    1. Sequence
    2. Sequence composition
    3. ESTs
    4. Similarities with other genomes
22. Microsatellite repeats in human genome are not dispersed through out the chromosome
    1. true
    2. false
23. The first transposons was discovered in
    1. Wheat
    2. Maiz
    3. Barley
    4. rice
24. A primary importance of bacteria to mankind is
    1. Production of secondary metabolite
    2. Production of enzyme
    3. Production of Chemicals
    4. For food
25. Which of the following fermentation have the best quality control
    1. Batch Fermentation
    2. Fed-batch fermentation
    3. Continuous Fermentation
26. Optimal temperature for Bacterial Growth is
    1. 25 centigrade
    2. 30 centigrade
    3. 33 centigrade
    4. 37 centigrade
27. Acetate is produce by E.coli is
    1. Stimulatory to growth
    2. Inhibitory to growth
28. ………………………….. is the most common recombinant protein approved for human use in USA and Europe
    1. Insulin
    2. Amylase
    3. Interferon
    4. Lactic acid
29. Bioterrorism agents can be spread through
    1. Air
    2. Water
    3. Both of above
    4. None of above
30. Genetically a wheat plant is
    1. Hexaploid
    2. tetraploid
    3. Diploid
    4. heploid
31. In meiotic prophase chromosomes are doubled at
    1. Haplotene
    2. Diplotene
    3. Pachytene
    4. Diakinesis
32. Red color to blood is given by
    1. Hemoglobin
    2. Albumin
    3. Myoglobin
    4. Gamma globulin
33. By nature Secretin is a
    1. Enzyme
    2. Harmon
    3. Apoenzyme
    4. None of above
34. Which of these is polymer
    1. Vinyl chloride
    2. Urea
    3. Nylon
    4. Poly vinyl chloride
35. A gas that obeys gas law is known as
    1. Ideal gas
    2. Real gas
    3. Heavier gas
    4. Lighter gas
36. A catalyst is a substance which
    1. Alters the state of equilibrium
    2. Is required in large amount to alter state of equilibrium
    3. Alters the speed of reaction
    4. None of above
37. The main constituent of natural gas is
    1. Methane
    2. Ethane
    3. Propane
    4. butane
38. Which of the following is the Mendelian Dihybrid ratio
    1. 1:1:1:1
    2. 9:3:3:1
    3. 7:1:1:7
    4. 1:7:7:1
39. Human nerve cells originate from
    1. Ectoderm
    2. Mesoderm
    3. Endoderm
    4. Ectoderm and Mesoderm
40. The initiation of polypeptide chain in protein synthesis is induced by
    1. Lysine
    2. Glycine
    3. Methionine
    4. Leucine
41. A gene promoter is defined as
    1. Site for RNA binding
    2. Direction of transcription
    3. Copying the strand
    4. All of above
42. Electron transport system is located in
    1. Mitochondria
    2. Cristae
    3. Cytosole
    4. All of above
43. A phosphate bond contains an energy
    1. 7.3 k cal
    2. 8.3 k cal
    3. 10 k cal
    4. 11.7 k cal
44. Most of Energy during aerobic respiration is produced by
    1. Glycolysis
    2. Kreb Cycle
    3. Electron transport chain
    4. Oxidative phosphorylation
45. DNA replication is
    1. Continuous and conservative
    2. Discontinuous and semi conservative
    3. Semi discontinuous and semi conservative
    4. Conservative and semi discontinuous
46. Which o f the following is a test cross
    1. Tt X Tt
    2. Tt X TT
    3. Tt X tt
    4. TT X tt
47. In soil water available for plants is
    1. Capillary water
    2. Gravitational Water
    3. Hygroscopic Water
    4. Chemical Bound water
48. The essential oils are those which
    1. Are essential to plants itself
    2. Are used as lubricants
    3. Produce perfumes
    4. Are essential for human beings
49. Exchange of segments between non-homologous chromosomes is
    1. Inversion
    2. Duplication
    3. Translocation
    4. Deletion
50. Which of the following is the macronutrient
    1. Manganese
    2. Copper
    3. Magnesium
    4. Zinc
51. A unicellular organism is one which
    1. Can live inside of another organism
    2. Consists of only one cell
    3. Can only survive in an environment with oxygen
    4. Consume other organisims
52. Cytology is the study of
    1. Cells
    2. Chemical reactions
    3. Energy
    4. The origin of life
53. Who was the first person to see a cells
    1. Theodore Schwann
    2. Rudolf Virchow
    3. Matthias Schleiden
    4. Robert Hook
54. Which of these biologists suggested that all animals are composed of cells
    1. Theodore Schwann
    2. Rudolf Virchow
    3. Matthias Schleiden
    4. Robert Hooke
55. Main Frame computers were ………………………..computers
    1. Analog
    2. Super
    3. Hybrid
    4. Digital
56. The main disadvantage of the first generation computers was that they were……………………………
    1. Unreliable
    2. Non portable
    3. Large in Size
    4. All of above
57. In 1842 Charless Babbage introduced the idea of ……………………………………….
58. Difference Engine
59. Analytical Engine
60. Computer Engine
61. Mechanical Engine
62. To made it possible to integrate large number of circuit elements into very small surface………………….is called then
    1. Silicon, chip
    2. Silicon, fragile glass
    3. Sulphur, Chip
    4. Sulphur, fragile glass
63. Robotics come under …………………………………………………..
    1. 2nd Generation Computers
    2. 3rd Generation Computers
    3. 4th Generation Computers
    4. 5th Generation Computers
64. The internal architectural design of computers differ from one system model to another
    1. True
    2. False
    3. Sometimes True
    4. None of above
65. A chemical reaction is
    1. a way of writing how many atoms a molecule contains
    2. the reaction a person has after exposure to a chemical
    3. the breaking of bonds and/or the formation of new bonds
    4. something which does not occur in cells
66. The molecules which existed before a chemical reaction are called the
    1. Products
    2. Reactants
    3. pre-reaction compounds
    4. they do not have a special name
67. Integrated components that work together to perform the steps called for in the program being executed, it is called …………………………………
    1. CPU
    2. ALU
    3. CU
    4. System
68. Scanners are basically …………………….. devices

a. Input Devices

b. Output Devices

c. Storage devices

d. None of the above

1. Set of one or more programs designed to carry out operations for a specified applications is called ……………………………………..
   1. Firmware
   2. Utility Software
   3. Application Software
   4. System Software
2. A digital communication system which interconnects different sites, computer installations and user terminals and may also enable local area networks to communicate with each other is known as …………………………..
   1. LAN
   2. WAN
   3. Ethernet
   4. DSL
3. Special purpose systems in which a single vendor supplies not only the machine itself, but also all of the needed software are called………………………………
   1. Firm ware system
   2. Utility System
   3. Turnkey System
   4. Turkey System
4. A measure of the size of the word, usually specified in units such as characters or bits is called …………………………………
   1. Bit Length
   2. Byte Length
   3. Character Length
   4. Word Length
5. If A= (1,2,3) then the no. of elements in power set of A are
   1. 16
   2. 8
   3. 3
   4. 6
6. (a+b)2 = ……………….
   1. A2 +b2 +2a2 b2
   2. A2 +b2 -2ab
   3. A2 +b2
   4. A2 +b2 +2ab
7. Sum of three angles of a triangle is
   1. 360
   2. 180
   3. 320
   4. none
8. If I were you, I……………that coat, it’s too much expensive.
   1. Did not buy
   2. Wouldn’t buy
   3. Am not going to buy
   4. Shall not buy
9. Where………………..born? “in London”
   1. Are you
   2. Were you
   3. Have you been
   4. Did you
10. Take an umbrella with you when you got out. It………………rain later.
    1. Will
    2. Can
    3. Would
    4. perhaps
11. I saw…………………………………..his trick.
    1. At
    2. Upon
    3. Through
    4. to
12. A knife is to cut……………………………..
    1. With
    2. Of
    3. Off
    4. along
13. He plough his field so that he…………………….good crop.
    1. Gets
    2. May get
    3. Will get
    4. Might get
14. She………………..a letter since morning
    1. Is writing
    2. Has been writing
    3. Will be writing
    4. Has written
15. We should not use ………………………..language
    1. Foul
    2. Fowl
16. Muslims do not drink…………………………
    1. Vine
    2. wine
17. We must play
    1. Fare
    2. Fair
18. If you do as I tell you………………..
    1. Would succeed
    2. Succeed
    3. Might succeed
    4. Will succeed
19. “How ………………………..? “ No body knows”
    1. Happened the accident
    2. Did happen the accident
    3. Did the accident happen
    4. Was the accident happen
20. You can not stop me………………………..what I want.
    1. Do
    2. Did
    3. That I do
    4. doing
21. The rain………………………..before I reach home.
    1. Had stopped
    2. Will have stopped
    3. Will have stopped
    4. Would have stopped
22. The time once………………………can not be recalled.
    1. Went
    2. Goes
    3. Gone
    4. go
23. The northern mountains of Pakistan ………………..are considered to be the roof of the world
    1. Karakorum
    2. Hindu Kush
    3. Himalaya
    4. None of above
24. Pakistan population swelled to……………………..million according to 1998 census
    1. 120.58
    2. 130.58
    3. 140.58
    4. None of above
25. All green plants are autographs which prepare their food photosynthesis which affects……………………
    1. Environment
    2. Animals
    3. Human beings
    4. All of above
26. The organs combine to form
    1. Organism
    2. Cells
    3. Tissue
    4. system
27. Le-Chattlier’s principal predicts effect of changes of \_\_\_\_\_\_ on equilibrium of a chemical reaction.
    1. Concentration
    2. Temperature
    3. Pressure
    4. All of above
28. Ideal solutions \_\_\_\_\_\_\_\_ Raoult’s Law.
    1. Obey
    2. disobey
29. A Number of moles of solute dissolved per kg of the solvent is called
    1. Molarity
    2. Molar ratio
    3. Molar fraction
    4. Molality
30. Molecular formula of maltose is
    1. C3H6O3
    2. C12H22O11
    3. C6H12O6
    4. None of above
31. A catalyst increases rate of \_\_\_\_\_\_\_\_\_\_\_ reaction
    1. Forward
    2. Backward
    3. Both A and B
    4. None of above
32. The internal architectural design of computers differs from one system model to another.

a) True

b) False

c) Sometimes True

d) None of the above

97. Transformation of Human Readable data into binary codes is performed by…………………………….

a) Input Interface

b) Input Unit

c) Output Interface

d) Output Unit

1. All decimal digits are represented in BCD by …………………..bits

a) 4

b) 6

c) 8

d) 10

1. RAM is a non-volatile memory.

a) True

b) False

c) Sometimes true

d) None of the above

1. Integrated components that work together to perform the steps called for in the program being executed, it is called …………………………………

a) CPU

b) ALU

c) CU

d) System