

# A

23137

120 MINUTES

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1. Class of carbohydrate which cannot be hydrolyzed further, is known as:  
A) Disaccharides                      B) Oligosaccharides  
C) Proteoglycan                      D) Monosaccharide
2. For a protein with 100 amino acids, how many possible sequences are there?  
A)  $100^{20}$                       B)  $2^{100}$                       C)  $100^2$                       D)  $20^{100}$
3. The function of enzyme mitochondrial aconitase in TCA cycle:  
A) Polymerization                      B) Degradation  
C) Assembly                      D) Isomerisation
4. The first action spectrum based on photosynthesis was demonstrated using aerobic bacterium illuminated with different components of light split by a prism. This experiment was done by:  
A) Jan Ingenhousz                      B) T. W. Engelmann  
C) Julius Robert Mayer                      D) Van Helmont
5. 2 Nitrogen atoms in urea produced in the urea cycle are contributed by:  
A) Ammonia and aspartic acid  
B) Nitrate and asparagine  
C) Nitrite and ammonia  
D) Ammonia only
6. A hereditary disease caused due to an error in amino acid metabolism:  
A) Homocystinuria                      B) Albinism  
C) Phenyl ketonuria                      D) Branched-chain ketoaciduria
7. The research on nerve cells was first carried out on:  
A) *Drosophila melanogaster*                      B) *C. elegans*  
C) *Giant squid*                      D) *Octopus*
8. The local anaesthetic drugs such as amides and esters act by ----- the ion channels.  
A) Inactivating                      B) Opening  
C) Closing                      D) Mutating
9. Fascia, the thin casing of connective tissue that surrounds and holds every organ, blood vessel, bone, nerve fibre and muscle in place. What is it made of?  
A) Collagen                      B) Keratin  
C) Microtubules                      D) Muscle fibres

10. Choose the statement which is **not** true regarding myofibrils:
- A) The A band is also known as the light band
  - B) Light bands contain actin
  - C) Myosin is parallel to the longitudinal axis of myofibril
  - D) Anisotropic bands contain myosin
11. The rate determining step of Michaelis-Menten:
- A) The complex formation step
  - B) The complex dissociation step to produce products
  - C) The product formation step
  - D) None of these
12. In a biosensor which of the following involves subtracting a 'reference' baseline signal from the sample signal:
- A) Signal processor
  - B) Amplifier
  - C) Detector
  - D) Transducer
13. The immobilized enzyme used in the large scale production of high fructose corn syrup:
- A) Glucose isomerise
  - B) Hydantoinase
  - C) Aspartate 4-decarboxylase
  - D) Invertase
14. The equation which shows the relationship between free energy change ( $\Delta G$ ) and the change in entropy ( $\Delta S$ ), under constant temperature and pressure (where T stands for temperature and H for enthalpy):
- A)  $\Delta G = T\Delta H - \Delta S$
  - B)  $\Delta G = T\Delta H/\Delta S$
  - C)  $\Delta G = \Delta H/T\Delta S$
  - D)  $\Delta G = \Delta H - T\Delta S$
15. Which material is the subject matter covered by the Budapest Treaty for the purpose of patenting procedure?
- A) Microorganisms
  - B) Fishes
  - C) Nematodes
  - D) Birds
16. What is common to the techniques (1) in vitro fertilisation, (2) Cryopreservation and (3) Tissue culture?
- A) All are in situ conservation methods
  - B) All are ex situ conservation methods
  - C) All require ultra modern equipments and large area.
  - D) All are methods of conservation of extinct organisms.
17. Which among the following is produced by Zero emission cars?
- A) Water
  - B) Carbon monoxide
  - C) Carbon dioxide
  - D) Hydrogen and Oxygen

18. Biological Oxygen Demand (BOD) is a measure of:
- Amount of oxygen required by aquatic plants at night
  - Industrial wastes poured into water bodies
  - Extent to which water is polluted with organic compounds
  - Amount of Carbon monoxide dissolved in water.
19. Which of the following statements is true for trickling filter sludge?
- It is more difficult to thicken (dewater) than activated sludge
  - It is bulky, with higher sludge volume index.
  - It has a comparatively low sludge volume index
  - It has a comparatively low sludge solid concentration.
20. Identify the **wrong** match from the following pairs:
- Detergents - Lipase
  - Textile - Amylase
  - Alcohol - Nitrogenase
  - Fruit juice - Pectinase
21. Under the PFA rules, Toned milk should contain ----fat and ---- SNF.
- 1.5 %, 9%
  - 2 %, 7 %
  - 3 %, 8.5 %
  - 4 %, 9.2 %
22. What is the role of sequestrants in food preservation?
- They contain antifungal agents
  - Form a complex ion with metals like copper, iron etc
  - Added for coloring food materials
  - They keep the food oxidized for long time
23. The term mitochondria was coined by:
- Altman
  - deDuve
  - Schleiden & Schwan
  - Carl Benda
24. The stain used to visualise chromosomes:
- Methylene Blue
  - Acetocarmine
  - Grams Iodine
  - Malachite green
25. An example of Primary active transport:
- $\text{Na}^+ \text{K}^+ \text{ATP ase}$
  - $\text{Na}^+ \text{-H}^+ \text{ exchange}$
  - $\text{Cl}^- \text{HCO}_3^- \text{ exchange}$
  - $\text{Na}^+ \text{Ca}^{2+} \text{ exchange}$
26. Lomasomes are vesicle like membranous bodies mainly found between the cell wall and plasma membrane of-----.
- Bacteria
  - Fungi
  - Plants
  - All of these
27. Gap junctions are absent in ----cells.
- Sperm
  - Muscle
  - Cardiac
  - Brain

28. The enzyme that catalyzes the transposition of an IS element is called:  
 A) Transposase                      B) Integrase  
 C) Transcriptase                      D) Polymerase
29. Hybrid dysgenesis is caused by which of the following transposable element?  
 A) LINE                                  B) Non-composite transposon  
 C) P-element                          D) Ac-element
30. The shape of a kinetochore:  
 A) Disc-shaped                      B) Cylindrical  
 C) Spherical                          D) Triangular
31. Which of the following ensure stable binding of RNA polymerase at the promoter site?  
 A) DNA photolyase                  B) Sigma factor  
 C) DNA glycosylase                  D) RecA
32. In the case of thymine dimer which type of ring compound is formed:  
 A) Cyclohexane                      B) Cyclobutane  
 C) Cyclopropane                      D) Cycloheptane
33. The base which undergoes spontaneous damage under physiological conditions:  
 A) Thymine    B) Cytosine    C) Uracil        D) Guanine
34. Arrange the following sequence of extracellular signaling in the correct order:  
 1. Transport of signal to a target  
 2. Start of signal transduction pathways  
 3. Signaling cell synthesizes and releases signaling molecules  
 4. Binding of the signal to the specific receptor  
 A) 2, 3, 4, 1    B) 3, 1, 4, 2    C) 1, 3, 4, 2    D) 1, 2, 3, 4
35. Choose the correct statements on nitrogenase enzyme used for nitrogen fixation:  
 1. Nitrogenase mediated nitrogen fixation is an energetically expensive process.  
 2. The gene encoding Nitrogenase is under a constitutive promoter  
 3. Nitrogenase is highly sensitive to oxygen  
 4. Endogenous availability of cofactors of nitrogenase is very low.  
 A) 1 & 2 only    B) 1 & 3 only    C) 2 & 3 only    D) 2 & 4 only

36. Give the names of enzymes required - in plant : somatic cell hybridization to prepare protoplast, in animal cell culture: to prepare cell suspension
- Amylase and phospholipase
  - Cellulase and trypsin
  - Lipase and dipeptidase
  - Catalase and galactosidase
37. Bacterial *aadA* gene, which is used a selectable marker for chloroplast transformation, is responsible for conferring resistance to-----.
- spectinomycin and chloramphenicol
  - streptomycin and ampicillin
  - ampicillin and hygromycin
  - spectinomycin and streptomycin
38. If a manufacturing company shows non compliance with CGMP regulations:
- Any drug manufactured by that company will be considered “adulterated”
  - No actions will be taken if the drugs are safe
  - The company will be closed instantly after inspection
  - It means that there is necessarily a problem with the quality of the drug
39. Which one of the following agents or toxins requires registration with U.S. Department of Agriculture, Animal and Plant Health Inspection Service under the Agriculture Bioterrorism Protection Act ?
- 5.0 mg staphylococcal enterotoxin
  - The plasmid that expresses the protective antigen of *Bacillus anthracis*
  - Complete genetic code for Epstein barr virus
  - Escherichia coli* live culture, which produces Shiga-like toxin
40. What is the approximate respiratory ID<sub>50</sub> (number of organisms required to produce infection in half of individuals exposed for *Mycobacterium tuberculosis*?)
- |                  |           |
|------------------|-----------|
| A) Fewer than 10 | B) 100    |
| C) 1,000         | D) 10,000 |
41. The prevention or treatment of diseases through methods such as genetic testing, abortion of defective embryos, and germ-line therapy is known as
- |                      |                      |
|----------------------|----------------------|
| A) Positive eugenics | B) Negative eugenics |
| C) Reverse genetics  | D) Pro eugenics      |
42. How many possible two digit numbers can be formed by using the digits 2,4 and 7 with the condition that repetition of digits is allowed?
- |       |      |      |      |
|-------|------|------|------|
| A) 10 | B) 9 | C) 8 | D) 7 |
|-------|------|------|------|

43. The multiplicative inverse of the complex number  $4 - 3i$  is:  
 A)  $\frac{4}{25} + i\frac{3}{25}$     B)  $\frac{4}{5} + i\frac{3}{5}$     C)  $\frac{4}{25} - i\frac{3}{25}$     D)  $\frac{4}{5} - i\frac{3}{5}$
44. The S.D of 30 items in a data set is  $\frac{5}{3}$ . If every item in the data set is multiplying by 6 then, the variance of the group will be:  
 A)  $\frac{5}{3}$     B) 30    C) 100    D) 10
45. Let A and B be two non empty subsets of a set X such that A is not a subset of B, then:  
 A) A is a subset of complement of B  
 B) B is a subset of A  
 C) A and B are disjoint sets  
 D) A and the complement of B are non-disjoint
46. The mode of a Chi Square distribution with 6 degrees of freedom is:  
 A) 6    B) 12    C) 4    D) 8
47. In UNIX, which character is known as a root directory?  
 A) &    B) &^    C) ^    D) /
48. Statement I: Intellectual property is a category of property that includes intangible creations of the human intellect.  
 Statement II: IPR does not include trade secrets and moral rights.  
 A) Both I & II are correct.  
 B) Both I & II are incorrect.  
 C) I is correct, but II is incorrect  
 D) II is correct, but I is incorrect
49. Which of the following were awarded with GI tag?  
 1. Dharwad Pedha    2. Tirupathi Laddu  
 3. Hyderabadi Haleem    4. Bengal Rasagolla  
 A) 1 & 2 only    B) 2 & 4 only  
 C) 1 & 3 only    D) 1, 2, 3 & 4
50. Identify the family of monomeric G-protein which regulates the growth of the cell:  
 A) Ras    B) Rho    C) Ran    D) Rab
51. Which of the following could be coded by a tumor-suppressor gene?  
 A) A protein that helps prevent progression through cell cycle  
 B) A protein that helps prevent apoptosis  
 C) A protein that codes for transcription factor  
 D) A protein that forms a growth factor in signalling pathway

52. Which of the following about Rb tumor suppressor protein is correct?
- A) It binds E2F transcription factor and prevents cell from entering S phase until a mitogenic signal is received
  - B) It is activated when phosphorylated by Cdk
  - C) It is a transcription factor
  - D) When a mitogenic signal is received, it binds the transcription factor E2F and thus stimulates the cell to enter S phase
53. Where are the parental genotypes mentioned in a Punnett square?
- A) Left column and top row
  - B) Left column and right column
  - C) Top row and bottom row
  - D) Right column and bottom row
54. In *Drosophila* males there is complete linkage. What is the reason behind this?
- A) The genes are very closely located
  - B) Coupling theory
  - C) Lack synapsis
  - D) Unknown reason
55. In case of mixing his<sup>+</sup> leu<sup>-</sup> bacterial strain with his<sup>-</sup> leu<sup>+</sup> bacterial strain we can see that the auxotroph behaves as prototroph for these two genes. This is because:
- A) One is synthesizing one amino acid and giving it to the other type
  - B) They fuse to form similar diploid bacteria
  - C) Both will have the same genetic composition at the end by means of conjugation
  - D) They share the RNA by extracellular processes
56. Which of the following is **incorrect** regarding the terminologies of phylogenetics?
- A) The connecting point where two adjacent branches join is called a node
  - B) Node represents an inferred ancestor of extant taxa
  - C) At the tips of the branches are long lost species or sequences
  - D) The lines in the tree are called branches
57. -----is a catalyst.
- A) Molecular clock
  - B) Ribozyme
  - C) Polysome
  - D) Lysozyme
58. Which of the following has the self-repairing mechanisms?
- A) DNA and RNA
  - B) DNA, RNA and protein
  - C) Only DNA
  - D) DNA and proteins
59. The nuclease enzyme in *E. coli* that initiates the repair of double stranded DNA breaks by homologous recombination:
- A) DNA glycosylase
  - B) DNA ligase
  - C) DNA polymerase
  - D) MutH,-MutL-MutS

60. The phase of cell cycle in which titre of Cdk2/cyclinE is high-----.
- A) G<sub>2</sub>/M transition                      B) G<sub>2</sub>  
 C) M    D) G<sub>1</sub>/S transition
61. The viruses were cultivated by Alfred Hershey and Martha Chase on a medium containing radioactive -----.
- A) Potassium (K)                      B) Uranium (U)  
 C) Phosphorous (P)                      D) Nitrogen (N)
62. Franklin Conrat demonstrated that RNA is the genetic material in:
- A) TMV                      B) CMV                      B) HIV                      D) AMV
63. A molecule of amylopectin contains 1200 glucose residues and is branched after every 40 residues. How many reducing ends are there:
- A) 0                      B) 1                      C) 2                      D) 5
64. Luciferase genes are used as reporter gene for screening. Choose the correct statement for them.
- A) They are obtained from fire flies only  
 B) The detection requires provision of substrate which produces light  
 C) Enzymes such as beta-galactosidase requires substrate X-gluc to produce light  
 D) Lucifearse genes are preferred over fluorescent proteins
65. Sometimes successive rounds of screening of a genomic library are carried out and an ordered collection of clones is done in a linear fashion, then the process is called:
- A) Chromosome jumping                      B) Chromosome sorting  
 C) Chromosome walking                      D) Transposon tagging
66. Active transcription of GAL1 and GAL10 promoters is suppressed in the presence of:
- A) glucose                      B) galactose                      C) maltose                      D) fructose
67. The polymerase used in PCR based mutagenesis:
- A) Deep vent R polymerase                      B) pfu polymerase  
 C) Taq polymerase                      D) RNA dependent RNA polymerase
68. What is the Holliday junction?
- A) The site of strand break  
 B) The site of heteroduplex DNA formation  
 C) Formation of a crossing over complex  
 D) The site of strand invasion

69. If  $\log_4\left(\frac{1}{4}\right) = x$ , then  $x$  is:  
 A)  $-1$                       B)  $2$                       C)  $-2$                       D)  $0$
70. Which one is a human amnion derived cell line?  
 A) HeLa                      B) WISH                      C) L                      D) MRC-5
71. Which of the following statement is **incorrect** for culture and maintenance of mammalian cells in vitro?  
 A) Transformed cell lines need an exogenous supply of serum for growth  
 B) The cells that are obtained directly from an organism is primary culture  
 C) Trypsin is added to cell culture dish to maintain cell viability and health  
 D) HEPES is generally used for pH balance in animal culture media
72. All the statements regarding RFLP and RAPD are true **except**:  
 A) RAPD is a quick method compared to RFLP  
 B) RFLP is more reliable than RAPD  
 C) Species specific primers are required for RAPD  
 D) Radioactive probes are not required in RAPD
73. Which among the following gives the best outcome for the creation of transgenic animal when DNA is microinjected to fertilized egg?  
 A) After the fusion of male and female pronuclei  
 B) Before the fusion of male and female pronuclei  
 C) At the time of fusion of male and female pronuclei  
 D) Any time can be selected for microinjection
74. In plant tissue culture system, what is the function of elicitors?  
 A) Induce cell division and callus formation  
 B) Stimulate production of secondary metabolites  
 C) Induce the formation of somatic embryoids  
 D) Induce somaclonal variations
75. During recombinant insulin synthesis, the bond between insulin polypeptide and galactosidase can be removed by using:  
 A) cyanogen bromide                      B) chymotrypsin  
 C) carboxy peptidase                      D) amylase
76. Freedom II, the first virus resistant transgenic crop against cucumber mosaic virus is a transgenic squash variety commercialised in 1995. It carries genes coding for-----.  
 A) Antiviral proteins                      B) Si RNA  
 C) Virus coat protein genes                      D) Virus late protein genes

77. The G-protein coupled receptor Rhodospin is composed of a transmembrane apoprotein opsin and -----.
- A) 11-cis-retinal                      B) 10-cis-retinal  
C) 11-trans-retinal                     D) 10-trans-retinal
78. The region of electromagnetic spectrum used in NMR to promote resonance is:
- A) Microwave                            B) Radio frequency  
C) Infrared                                D) UV-rays
79. The unit of absorbance which can be derived from Beer Lambert's law:
- A)  $L \text{ mol}^{-1} \text{ cm}^{-1}$                       B)  $L \text{ gm}^{-1} \text{ cm}^{-1}$   
C) cm                                         D) No unit
80. The centrifugation technique is used to separate mitochondria from other organelles in the cell extract:
- A) Rate-zonal centrifugation  
B) Differential centrifugation  
C) Density gradient centrifugation  
D) Isopycnic centrifugation
81. The half life of a radio isotope is -----.
- A) Half the time taken for complete decay  
B) Half the time taken for half the decay  
C) Time taken for complete decay  
D) Time taken for half the decay
82. The part of the compound microscope which helps in gathering and focusing light rays on the specimen to be viewed:
- A) Condenser lens                        B) Magnifying lens  
C) Objective lens                         D) Eyepiece lens
83. The respiratory chain of bacteria is associated with the:
- A) Mesosome                                B) Cell wall  
C) Cytoplasm                                D) Mitochondrial membrane
84. Chrysolaminarin is the reserved food of :
- A) Bacillariophyta                        B) Rhodophyta  
C) Chlorophyta                              D) Phaeophyta
85. Which of the following is a family of bacteriophage lambda?
- A) Siphoviridae                            B) Corticoviridae  
C) Microviridae                            D) Pedoviridae

86. What is the mechanism of action of Polymyxins for inhibiting the growth of the microbes?
- Inhibition of cell-wall synthesis
  - Disrupting cytoplasmic membrane
  - Inhibition of nucleic acid and protein synthesis
  - Inhibition of specific catalytic enzymes
87. The Principal function of Class I and Class II Major Histocompatibility complex S proteins is to:
- Mediate Immunoglobulin class switching
  - Stimulate the production of interleukins
  - Transduce the signal into T-cell following antigen binding
  - Present antigen for recognition by T-cell antigen receptor
88. Which of the following is a major focus of a technique of tissue engineering called autologous chondrocyte transplantation (ACT)?
- Cartilage
  - Bone
  - Skin
  - Stem Cells
89. Name the part of processed antigen that binds to the MHC molecule and recognized by T-cells:
- Immunoglobulin
  - Agrelope
  - Epitope
  - Chaperone
90. Identify the second generation thrombolytic drug from the following drugs:
- Urokinase
  - Alteplase
  - Retavase
  - Tenecteplase
91. The radioactive element is used in Radio immuno assay (RIA):
- Tritium
  - Carbon 14
  - Iodine 125
  - All of these
92. Which of the following do **not** incorporate in the genome and replicates in the cytoplasm?
- Poxvirus
  - Baculovirus
  - Adenovirus
  - Retrovirus
93. Which of the following is not considered as a functional food?
- Probiotics
  - Dietary Fibre
  - Pharmaceuticals
  - Omega 3 PUFA
94. Identify the non essential aminoacids which can be synthesised in the body
- Threonine
  - Tryptophan
  - Tyrosine
  - Glutamine
- 1 & 2 only
  - 2 & 3 only
  - 3 & 4 only
  - 4 only

95. K. Itakura and collaborators chemically synthesized DNA sequence for the two insulin chains A and B. these were incorporated in two separate pBR322 vectors and peptide chains were synthesized then combined in vitro to produce active insulin in the year----.
- A) 1972            B) 1975            C) 1977            D) 1980
96. Various measures taken to prevent any risks to normal organisms from transgenic organisms are known as:
- A) Biosafety    B) Patent            C) Bio-patent    D) Bio-piracy
97. After cleaving the sequence, the nature of the ends created by the type II endonuclease is-----.
- A) The ends created are always single stranded  
 B) The ends created are always double stranded  
 C) Either the ends are single stranded or they are double stranded  
 D) One end is single stranded and one end is double stranded
98. Choose the correct statement for the infectious particle of lambda phage.
- A) It is a single stranded genome  
 B) It is a circular double stranded genome  
 C) The ends are blunt with cos (cohesive) sequences  
 D) The ends are created by cleavage at cos sites during phage packaging
99. What do you mean by Extracorporeal medical procedure in tissue engineering?
- A) Outer layer of the tissue    B) Outside of the body  
 C) Inner layer of the tissue    D) Inside of the body
100. The various steps for construction of libraries are-----.
1. Fragmentation of DNA            2. Isolation of genomic DNA  
 3. Amplification                      4. Ligation and introduction into the host  
 5. Vector preparation
- The correct order of construction of libraries in the order of start to end is:
- A) 1, 2, 3, 5, 4    B) 2, 1, 5, 4, 3    C) 2, 5, 4, 1, 3    D) 5, 2, 1, 3, 4
101. Choose the **incorrect** statement for oligo-dT cellulose:
- A) It is used for separation of polyadenylated mRNA from other species of RNA  
 B) oligo-dT are covalently attached to the solid support via OH bonds  
 C) A solution containing RNA is passed through the column  
 D) Poly A tail attaches to the oligo-dT by ionic bonds
102. The chromosomal alteration which causes retinoblastoma:
- A) Deletion in chromosome 11  
 B) Translocation between chromosome 9 and 22  
 C) Deletion in chromosome 13  
 D) Translocation between chromosome 8 and 21

103. Name the chemical carcinogen which causes prostate cancer:  
 A) Radon      B) Arsenic      C) Cadmium      D) Asbestos
104. In Myasthenia gravis, a long term neuromuscular junction disease, ----- autoantibodies are positive.  
 A) Autoproprioceptor      B) Autochemoreceptor  
 C) Autocortisol receptor      D) Autoacetylcholine receptor
105. The first recombinant vaccine approved for human use targeted the surface antigen of:  
 A) Corona virus      B) Ebola virus  
 C) DENV1      D) Hepatitis B virus
106. The type of biosensor used for therapeutic applications:  
 A) Hydrogel based biosensor      B) Nano-based biosensors  
 C) Piezo-electric biosensor      D) Silicone biosensor
107. The drug which is used to isolate hybridoma cells from the media, by blocking deNovo pathway for nucleotide biosynthesis:  
 A) Amphetamine      B) Opium  
 C) Aminopterin      D) Hypoxanthine
108. The most commonly used monoclonal antibody for treatment of breast cancer:  
 A) Imdevimab      B) Casirivimab      C) Erbutir      D) Herceptin
109. In the two compartment model of pharmacokinetic analysis, name the organ that make up the peripheral compartment:  
 A) Kidneys      B) Liver      C) Lungs      D) Pancreas
110. Which of these absorption methods involves engulfing of the extracellular drug?  
 A) Endocytosis      B) Passive diffusion  
 C) Facilitated diffusion      D) Ion-Pair transport
111. Which of the following is the most common variation in the human genome?  
 A) Defective gene splicing      B) Nucleotide base insertion  
 C) Premature stop codon      D) Single nucleotide polymorphisms
112. CYP2D6 polymorphism can affect:  
 A) Drug interaction potential      B) Drug delivery  
 C) Toxicity      D) Drug absorption
113. The drug which is **not** classified in the criteria based on the pharmacological effect:  
 A) Antihistamines      B) Antiseptics  
 C) Analgesics      D) Antipyretics

114. ADME in pharmacokinetics means:  
A) Affinity, dosage, marketing, efficacy  
B) Agonism, dependence, mobility, efficiency  
C) Absorption, distribution, metabolism, excretion  
D) Absorption, deficiency, mean, efflux
115. The term used to signify a preparation that appears identical to the preparation of an active drug but which has no biological activity:  
A) Dummy drug B) Placebo C) Peptidomemetic D) Gazebo
116. Which of the following is one of the rules in Lipinski's rule of five?  
A) A molecular weight equal to 500  
B) No more than five hydrogen bond acceptor groups  
C) No more than 10 hydrogen bond donor groups  
D) A calculated logP value less than +5
117. Which of the following statements best describes an induced fit?  
A) The process by which a binding site alters shape such that it is ready to accept a drug  
B) The process by which a drug adopts the correct binding conformation before entering a binding site  
C) The process by which binding of a drug to a binding site alters the shape of the binding site  
D) The process by which a binding site alters the shape of the drug into the binding conformation before binding
118. Find the next number in the sequence 1, 5, 14, 30,55, ----.  
A) 91 B) 85 C) 80 D) 65
119. The microorganism used for the production of recombinant humulin by Sanofi and Eli Lilly:  
A) *Entamoeba histolytica* B) *Escherichia coli*  
C) *Clostridium butyricum* D) *Pseudomonas aeruginosa*
120. Which among the following drugs inhibit platelet aggregation by inhibiting the enzyme cyclooxygenase and formation of thromboxane A<sub>2</sub> ?  
A) Aspirin B) Abciximab C) Clopidogrel D) Warfarin
-