Dr.G.R.Damodaran College of Science

(Autonomous, affiliated to the Bharathiar University, recognized by the UGC)Re-accredited at the 'A' Grade Level by the **NAAC** and ISO 9001:2008 Certified
CRISL rated 'A' (TN) for MBA and MIB Programmes

II MSC [2016-2018]
SEMESTER III
ELECTIVE III: SYSTEMS BIOLOGY-358V1
Multiple Choice Questions.

1. Which is the basic unit of all living things?
   A. Water.
   B. Air.
   C. Food.
   D. Cell.
   ANSWER: D

2. Groups of similar cells combine to form _____.
   A. tissues.
   B. organs.
   C. system.
   D. cells.
   ANSWER: A

3. A group of tissues that perform a single function make up _____.
   A. tissues.
   B. organs.
   C. system.
   D. cells.
   ANSWER: B

4. A group of organs working together with a specific function make up a _____.
   A. A. tissues.
   B. B. organs.
   C. C. system.
   D. D. cells.
   ANSWER: C

5. Which one of the following is a new field in biology that aims at system-level understanding of biological systems?
   A. Cell biology.
   B. Molecular biology.
   C. Systems biology.
   D. Developmental biology.

ANSWER: C

6. Living systems are _____ in nature.
A. dynamic.
B. static.
C. fixed.
D. transparent
ANSWER: A

7. Who designed the structure of DNA and when?
A. Nobert and Wiener, 1953.
B. Watson and Crick, 1953.
C. Nobert and Wiener, 1973.
D. Watson and Crick, 1973.
ANSWER: B

8. Who proposed the concept of homeostasis?
A. Watson
B. Nobert
C. Wiener
D. Canon
ANSWER: D

9. Systems biology focuses on _____.
A. DNA.
B. RNA.
C. proteins.
D. system.
ANSWER: D

10. Which one of the following aims at understanding the complete biological network of a system and the different components involve in the biological process?
A. System structure identification.
B. System behavior identification.
C. System control.
D. System design.
ANSWER: A

11. Which one of the following aims at understanding the behavior of the system?
A. System structure identification.
B. System behavior identification.
C. System control.
D. System design.
ANSWER: B

12. Which one of the following aims at understanding the regulation of the biological process in the biological system?
A. A. System structure identification.

B. B. System behavior identification.
C. C. System control.
D. D. System design.
ANSWER: C

13. Which one of the following aims at establishing a technology to understand the biological system?
A. System structure identification.
B. System behavior identification.
C. System control.
D. System design.
ANSWER: D

14. Which field deals with integrative approach?
A. Cell biology.
B. Molecular biology.
C. Systems biology.
D. Developmental biology.
ANSWER: C

15. Genetic circuit deals with _____.
A. composition.
B. structure.
C. integrated function.
D. gene.
ANSWER: C

16. Which field deals with the study of the process by which organisms grow and develop?
A. Cell biology.
B. Molecular biology.
C. Systems biology.
D. Developmental biology
ANSWER: D

17. The progressive restriction of future developmental capacity is _____.
A. determination.
B. maternal effect.
C. differentiation.
D. transdetermi nation
ANSWER: A

18. How does a zygote's cytoplasm affect cell determination?
A. It has no effect.
B. It slows down determination.
C. The cytoplasm initiates differential transcription.
D. It speeds up determination.
ANSWER: C

19. Differentiation of cells is controlled at both the _____ and the _____ levels.

A. transcriptional, translational.
B. transcriptional, DNA repair.
C. cell cycle control, translational.
D. mitotic, meiotic.
ANSWER: A

20. The lungs, nose, and trachea are part of which organ system?
A. Digestive.
B. Respiratory.
C. Muscular.
D. Circulatory.
ANSWER: B

21. Which of the following is not part of the integumentary system?
A. Nails.
B. Hair.
C. Skin.
D. Teeth.
ANSWER: D

22. The homologous genes present in organisms from two different species that originated from a common ancestor are called _____.
A. Orthologous.
B. Paralogous.
C. Analogous.
D. Xenologous.
ANSWER: A

23. The major genes related to hereditary breast cancer are _____.
A. BRCA1 and BRCA2.
B. BRCA2 and CDH1.
C. PTEN and STK11.
D. BRCA1 and TP53.
ANSWER: A

24. The total number of stages in sporulation of Bacillus subtillis _____.
A. 8.
B. 7.
C. 5.
D. 9.
ANSWER: B

25. The fertilized egg, give rise to hundreds of different cell types. This generation of cellular diversity is known as _____.
A. differentiation.
B. morphogenesis.
C. reproduction.
D. evolution.

ANSWER: A

26. The arrangement of organs in an ordered way is called as _____.
A. differentiation.
B. morphogenesis.
C. reproduction.
D. evolution.
ANSWER: B

27. Which disease occurs due to deficiency in the nerves that control the movement of food along the gut?
A. Alzheimers disease.
B. Parkinsons disease.
C. Hirschsprungs disease.
D. Goodpastures disease.
ANSWER: C

28. Which one of the following organism has an ability to regenerate entire tissues?
A. Lion.
B. Tiger.
C. Crocodile.
D. Lizards.
ANSWER: D

29. How does the cell become different from each other?
A. Morphogenesis
B. Differential gene expression.
C. Reproduction.
D. Evolution.
ANSWER: B

30. Insulin gene is expressed in _____ cells.
A. nerve.
B. eye lens.
C. pancreas.
D. muscle.
ANSWER: C

31. Which type of cells differentiates into any type of cell in the body?
A. Meiotic.
B. Mitotic.
C. Pluripotent.
D. Totipotent.
ANSWER: D

32. Which type of cells develops into few types of cells?
A. Meiotic.
B. Mitotic.
C. Pluripotent.

D. Totipotent.
ANSWER: C

33. Which technique is used to study the differential expression of a gene?
A. Microarray.
B. Transgenic.
C. Knock-out.
D. All the above.
ANSWER: A

34. Which one of the following is used in molecular biology for detection of a specific DNA sequence in DNA samples?
A. Southern blotting.
B. Northern blotting.
C. Western blotting.
D. Eastern blotting.
ANSWER: A

35. Which one of the following is used in molecular biology to study gene expression by detection of RNA in a sample?
A. Southern blotting.
B. Northern blotting.
C. Western blotting.
D. Eastern blotting.
ANSWER: B

36. Which one of the following is used in molecular biology for detection of protein in a sample?
A. Southern blotting.
B. Northern blotting.
C. Western blotting.
D. Eastern blotting.
ANSWER: C

37. Which one of the following is the non-hierarchical clustering method?
A. Single linkage.
B. Complete linkage.
C. Centroid linkage.
D. Self organizing maps.
ANSWER: D

38. Self organizing maps are data visualization technique invented by _____.
A. Taiwan, 1882.
B. Teuvo Kohonen, 1882.
C. Taiwan, 1982.
D. Teuvo Kohonen, 1982.
ANSWER: D

39. The tool which uses the self organizing maps is _____.

A. GenScan.
B. Gopasi.
C. Procluster.
D. Genecluster.
ANSWER: D

40. Which one of the following deals with microarray data?
A. NCBI.
B. EMBL.
C. DDBJ.
D. Stanford.
ANSWER: D

41. Which field of omics deals with RNA?
A. Genomics.
B. Proteomics.
C. Transcriptomics.
D. Metabolomics.
ANSWER: C

42. Comparing the treated sample and untreated sample at different timings even at different conditions is _____ type of comparisons.
A. spatial.
B. temporal.
C. active.
D. passive.
ANSWER: B

43. _____ color represents control DNA, where either DNA or cDNA derived from the normal tissue hybridized to the target DNA.
A. Green.
B. Red.
C. Yellow.
D. Black.
ANSWER: A

44. _____ color represents sample DNA, where either DNA or cDNA derived from the diseased tissue hybridized to the target DNA.
A. Green.
B. Red.
C. Yellow.
D. Black.
ANSWER: B

45. _____ color represents a combination of control and sample DNA, where both hybridized equally to the target DNA.
A. Green.
B. Red.

C. Yellow.
D. Black.
ANSWER: C

46. _____ color represents areas neither the control nor sample DNA hybridized to the target DNA.
A. Green.
B. Red.
C. Yellow.
D. Black.
ANSWER: D

47. The number of complexes in ETC is _____.
A. 3.
B. 5.
C. 2.
D. 6.
ANSWER: B

48. FAD (flavin adenine dinucleotide) is the hydrogen acceptor when _____.
A. a reduction produces a C-C bond.
B. an oxidation produces a C=C double bond.
C. an oxidation removes hydrogen to produce a C=O double bond.
D. an oxidation adds oxygen to produce a C=O double bond.
ANSWER: B

49. The reaction the converts glucose to two 3-carbon compounds is called _____.
A. citric acid cycle.
B. glycolysis.
C. chemiosmosis
D. electron transport chain.
ANSWER: B

50. When glucose is oxidized to two pyruvate molecules, the net gain of ATP molecules is _____.
A. 4 ATP.
B. 8 ATP.
C. 2. ATP.
D. 6. ATP.
ANSWER: C

51. In the electron transport chain, which of the following is a mobile electron carrier?
A. CoQ.
B. Cytochrome b.
C. Cytochrome a.
D. FMN.
ANSWER: A

52. The beta oxidation of stearic acid, an 18 carbon fatty acid, produces _____.
A. 40 ATP.

B. 148 ATP.
C. 146 ATP.
D. 124 ATP.
ANSWER: C

53. Which is the most abundant type of blood cell in your body?
A. Basophils.
B. Eosinophils.
C. Neutrophils.
D. Erythrocytes.
ANSWER: D

54. Which of the following is not a type of epithelial cell?
A. Cuboidal cell.
B. Squamous cells.
C. Mast cells.
D. All of the above.
ANSWER: C

55. Supporting cells are associated with _____.
A. bone.
B. smooth muscle.
C. loose connective tissue.
D. neurons.
ANSWER: D

56. Glycolysis is the name given to the pathway involving the conversion of _____.
A. glycogen glucose-6-phosphate.
B. glycogen or glucose to fructose.
C. glycogen or glucose to pyruvate or lactate.
D. glycogen or glucose to pyruvate or acetyl CoA.
ANSWER: C

57. The conversion of one molecule of glucose to two molecules of pyruvate results in the net formation of _____.
A. six molecules of water.
B. two molecules of ATP.
C. thirty-eight molecules of ATP.
D. thirty-nine molecules of ATP.
ANSWER: B

58. The enzymes of glycolysis are located in the _____.
A. mitochondria.
B. nucleus.
C. cytoplasm.
D. lysosomes.
ANSWER: C

59. To enter or leave a cell, substances must pass through _____.
A. a microtubule.
B. a ribosome.
C. the nucleus.
D. the plasma membrane.
ANSWER: D

60. The process of breaking down triacylglycerol into free fatty acids and glycerol is called _____.
A. beta oxidation.
B. lipogenesis.
C. lipolysis.
D. both a and c are correct.
ANSWER: C

61. Most of the free fatty acids are transported in the blood _____.
A. inside the red blood cells.
B. as lipoproteins.
C. bound to albumin.
D. bound to antibodies.
ANSWER: C

62. Which type of system passes or exchanges heat and matter with its surroundings?
A. Open.
B. Closed.
C. Isolated.
D. Both a and c are correct.
ANSWER: A

63. Which type of system passes or exchanges heat but not matter with its surrounding?
A. Open.
B. Closed.
C. Isolated.
D. Both a and c are correct.
ANSWER: B

64. Which type of system passes or exchanges neither heat nor matter with its surrounding?
A. Open.
B. Closed.
C. Isolated.
D. Both a and c are correct.
ANSWER: C

65. _____ is the imitation of some real thing, state of affairs, or process.
A. Simulation.
B. Docking.
C. Modeling.
D. Designing.
ANSWER: A

66. The complex behavior of the cell and the cellular metabolism cannot be determined or predicted unless a computer model of the cell is constructed and _____ simulation is undertaken.
A. in vitro.
B. in vivo.
C. in silico
D. combined.
ANSWER: C

67. _____ number of proteins is present in E. coli.
A. 225, 000.
B. 500,000.
C. 525,000.
D. 550,000.
ANSWER: A

68. Which model describes the global dynamics of molecule concentrations?
A. Macroscopic.
B. Mesoscopic.
C. Microscopic.
D. Dynamic.
ANSWER: A

69. Which model describes the global dynamics of individual molecules?
A. Macroscopic.
B. Mesoscopic.
C. Microscopic.
D. Dynamic.
ANSWER: B

70. Which model describes the protein folding?
A. Macroscopic.
B. Mesoscopic.
C. Microscopic.
D. Dynamic.
ANSWER: C

71. What would be a likely explanation for the existence of pseudogenes?
A. Gene duplication.
B. Gene duplication and mutation events.
C. Mutation events.
D. Unequal crossing over.
ANSWER: B

72. Why did the first organisms that had their genomes sequenced have comparatively small genome sizes?
A. Organisms that could be kept easily in the lab were the focus of early research.
B. Until the advent of automated DNA sequencers, researchers had to use organisms with small genomes because the procedure was very time-consuming.

C. Only organisms that reproduced rapidly were selected and these had small genomes.
D. It was only coincidental that the first organisms to be sequenced had small genome sizes.
ANSWER: B

73. Groups of distinctly different genes that often occur together in a cluster are called _____.
A. single-copy genes.
B. segmental duplications.
C. multigene families.
D. tandem clusters.
ANSWER: C

74. Chloroplast DNA is _____.
A. separate from nuclear DNA.
B. coded by the nucleus.
C. paternally inherited.
D. a subset of nuclear DNA.
ANSWER: A

75. The maximum size of a cell is limited by _____.
A. its need for enough surface area for exchange with its environment.
B. the number of organelles that can be packed inside.
C. the materials needed to build it.
D. the amount of food it needs to survive.
ANSWER: A

76. Which of the following molecules does not form part of DNA?
A. Purine.
B. Pyrimidine.
C. Deoxyribose.
D. Amino acid.
ANSWER: D

77. The transcription of DNA to a molecule of messenger RNA occurs _____.
A. on the ribosomes.
B. in the cytosol.
C. in the nucleus.
D. only during cell division.
ANSWER: C

78. The process of translation requires the presence of _____.
A. mRNA, tRNA and ribosomes.
B. mRNA, ribosomes and RNA polymerase.
C. DNA, mRNA and RNA polymerase.
D. chromatin, DNA and amino acids.
ANSWER: A

79. The mode of action of a steroid hormone involves _____.
A. binding to a cell membrane receptor.

B. activation of protein kinases.
C. binding to calmodulin.
D. modifying gene transcription.
ANSWER: D

80. Mutations are errors in DNA that _____.
A. are always harmful.
B. only occur in the presence of carcinogens.
C. increase tumor growth.
D. occur spontaneously at a low rate.
ANSWER: D

81. Which of the following is not a dietary antioxidant?
A. Vitamin C.
B. Lipoic acid.
C. Vitamin K.
D. Beta-carotene.
ANSWER: C

82. Which method is not used for isolating genes by using differences in the amount of expression from clone method?
A. The Northern hybridization method.
B. The RT-PCR method.
C. The subtraction method.
D. The division method
ANSWER: D

83. Who developed cDNA microarray?
A. Dr Patrick.
B. Dr. Roosevelt.
C. Dr Maxam.
D. Dr Gilbert.
ANSWER: A

84. Increased genetic diversity following extended time in a tissue culture is a problem called _____.
A. gene alteration.
B. temporal modification.
C. somaclonal variation.
D. culture shock.
ANSWER: A

85. A mass of dividing, undifferentiated cells in a tissue culture is called _____.
A. a shield.
B. a callus.
C. an embryoid.
D. an aggregate.
ANSWER: B

86. Cell suspension cultures require _____.
A. organogenesis.
B. electroporation.
C. aggregation.
D. disaggregation.
ANSWER: D

87. To use a plant tissue culture as a chemical factory for vitamins, one can choose _____.
A. suspension cultures.
B. callus cultures.
C. organ cultures.
D. anther pollen cultures.
ANSWER: A

88. Endosperm formation begins with _____.
A. the establishment of the suspensor.
B. the fusion of the antipodals.
C. the fertilization of the polar nuclei.
D. the syncytial development of the embryo.
ANSWER: C

89. After subsequent hybridization and washing procedures, cDNA microarrys are scanned at the _____ for control channel.
A. ~440 nm.
B. ~540 nm.
C. ~330 nm.
D. ~630 nm.
ANSWER: B

90. After subsequent hybridization and washing procedures, cDNA microarray is scanned at the _____ for experimental channel.
A. ~440 nm.
B. ~540 nm.
C. ~330 nm.
D. ~630 nm.
ANSWER: D

91. In hierarchical clustering, which linkage corresponds to a minimum pairwise distance between genes in two different groups?
A. Single linkage.
B. Complete linkage.
C. Average linkage
D. Centroid linkage
ANSWER: A

92. In hierarchical clustering, which linkage corresponds to a maximum pairwise distance between genes in two different groups?
A. Single linkage

B. Complete linkage
C. Average linkage
D. Centroid linkage
ANSWER: B

93. In computational analysis of microarray data, _____ analysis is used to identify genes that are differentially expressed in different tissues.
A. single-gene.
B. multi-gene.
C. tri-gene.
D. hepta-gene.
ANSWER: A

94. In computational analysis of microarray data, _____ analysis is used to identify global pattern of expression of genes.
A. single gene
B. multi gene
C. tri-gene
D. hepta-gene
ANSWER: B

95. cDNA probes are _____ nucleotides in length.
A. greater than 200.
B. 100-200.
C. 25-80.
D. lesser than 25.
ANSWER: A

96. Oligonucleotide probes are _____ nucleotides in length.
A. greater that 200.
B. 100-200.
C. 25-80.
D. lesser than 25.
ANSWER: C

97. Which technique analyzes the global genetic alterations in cells?
A. Comparative genomic hybridization.
B. FISH.
C. DNA sequencing.
D. Microsatellite marker analysis.
ANSWER: A

98. _____ is the process of determining the genes of an individual by examining its DNA sequence with the use of biological assays?
A. Genotyping.
B. Phenotyping.
C. Hierarchical clustering.
D. k-means clustering.

ANSWER: A

99. _____ is used as an indicator of a biological state.
A. biomarker.
B. marker.
C. normal state.
D. diseased state.
ANSWER: A

100. Which one of the following method is used to study the interaction between two proteins?
A. Pull-down assay.
B. Fourier transform spectroscopy.
C. Gel mobility shift assay.
D. All the three.
ANSWER: A

101. Which one of the following method is used to study the interaction between proteins and DNA?
A. Pull-down assay.
B. Fourier transform spectroscopy.
C. Gel mobility shift assay.
D. Sequencing.
ANSWER: C

102. Which one of the following method is used to study the interaction between proteins and ligands?
A. Pull-down assay.
B. Fourier transform spectroscopy.
C. Gel mobility shift assay.
D. Sequencing.
ANSWER: B

103. A ligand is _____ which can bind to a specific site on a protein.
A. an atom.
B. a molecule.
C. an ion.
D. an atom, a molecule or an ion.
ANSWER: D

104. Which one of the following is an example of substitution mutation?
A. Psoriasis.
B. Sickle cell anemia.
C. Dengue Fever.
D. Swine Flu.
ANSWER: B

105. Sickle cell anemia is caused by a substitution in the _____ gene, which alter a single amino acid in the protein product.
A. alpha-globin.
B. beta-globin.

C. gamma-globin.
D. alpha, beta and globin gene.
ANSWER: B

106. In which kind of mutation a piece of DNA that is abnormally copies one or more times?
A. Insertion.
B. Deletion.
C. Duplication.
D. Frameshift.
ANSWER: C

107. A gene family is a _____.
A. set of dissimilar genes.
B. set of related genes.
C. set of known genes.
D. set of unknown genes.
ANSWER: B

108. Hemoglobin is expressed in _____.
A. RBC.
B. WBC.
C. RBC and muscle cells.
D. Muscle cells.
ANSWER: A

109. Myoglobin is expressed in _____.
A. nerve cells.
B. brain cells.
C. muscle cells.
D. blood cells.
ANSWER: C

110. Globin gene family consists of a number of clusters of _____ genes.
A. related.
B. dissimilar.
C. known.
D. unknown.
ANSWER: A

111. Myoglobin is located in the _____ chromosome.
A. 11.
B. 16.
C. 22.
D. 10.
ANSWER: C

112. Human alpha-globin codes for _____ amino acids.
A. 141.

B. 146.
C. 148.
D. 143.
ANSWER: A

113. Human beta-globin codes for _____ amino acids.
A. 141.
B. 146.
C. 148.
D. 143.
ANSWER: B

114. Human beta-globin gene is located in _____ chromosome.
A. 11.
B. 16.
C. 22.
D. 10.
ANSWER: A

115. The loss of gene function is also called as _____.
A. transgenic.
B. knock-out.
C. hybridization.
D. transfection.
ANSWER: B

116. The gain of gene function is also called as _____.
A. transgenic.
B. knock-out.
C. hybridization.
D. transfection.
ANSWER: A

117. If an inhibitor binds to another site on the enzyme, the binding is described as _____.
A. competitive.
B. non-competitive.
C. un-competitive.
D. irreversible inhibitors.
ANSWER: B

118. If the inhibitor binds the inhibitor binds only to the substrate-enzyme complex, the binding is described as _____.
A. competitive.
B. non-competitive.
C. un-competitive.
D. irreversible inhibitors.
ANSWER: C

119. If an inhibitor binds reversibly at the same site as the substrate, the inhibition is referred to as _____.
A. competitive.
B. non-competitive.
C. un-competitive.
D. irreversible inhibitors.
ANSWER: A

120. Fitting a ligand from a 3D structure database into the binding site of a target protein is called _____.
A. modeling.
B. docking.
C. threading.
D. comparative modeling.
ANSWER: B

121. In Lipinski rule of five, the number of hydrogen bond acceptors should be less than _____.
A. 5.
B. 10.
C. 15.
D. 20.
ANSWER: B

122. What is meant by lead compound in medicinal chemistry?
A. A drug containing the element lead.
B. A leading drug in a particular area of medicine.
C. A compound that acts as the starting point for drug design and development.
D. A drug which is normally the first to be prescribed for a particular ailment.
ANSWER: C

123. Which of the following needs to be established before the search for a lead compound takes place?
A. The pharmacophore.
B. Structure-activity relationship.
C. A bioassay.
D. Patents.
ANSWER: A

124. The screening of compound using computer is called as _____ screening.
A. In silico.
B. In vitro.
C. In vivo.
D. Ex vivo.
ANSWER: A

125. Ligand and protein structure is unknown, _____ technique can be used.
A. High throughput screening.
B. Quantitative structure activity relationship.
C. structure activity relationship.

D. Structure based design.
ANSWER: A

126. Ligand is known and protein structure is unknown, _____ technique can be used.
A. High throughput screening.
B. Quantitative structure activity relationship.
C. De novo-design.
D. Structure based design.
ANSWER: B

127. Ligand is unknown and protein structure is known, _____ technique can be used.
A. High throughput screening.
B. Quantitative structure activity relationship.
C. De novo-design.
D. Structure based design.
ANSWER: C

128. Ligand and protein structure is known, _____ technique can be used.
A. High throughput screening.
B. Quantitative structure activity relationship.
C. De novo-design.
D. Structure based design.
ANSWER: D

129. In Lipinskis rule of five, the molecular weight of the drug should be less than _____ g/mol.
A. 200.
B. 300.
C. 400.
D. 500.
ANSWER: D

130. In Lipinskis rule of five, the calculated lipophilcity should be less than _____.
A. 2.
B. 3.
C. 4.
D. 5.
ANSWER: D

131. In Lipinskis rule of five, the number of hydrogen bond donors should be less than _____.
A. 2.
B. 3.
C. 4.
D. 5.
ANSWER: D

132. _____ is the first step in the drug discovery process.
A. Target identification.
B. Target validation.

C. Lead finding.
D. Lead optimization.
ANSWER: A

133. _____ is the second step in the drug discovery process.
A. Target identification.
B. Target validation.
C. Lead finding.
D. Lead optimization.
ANSWER: B

134. _____ approves drug.
A. NCBI.
B. EMBL.
C. DDBJ.
D. FDA.
ANSWER: D

135. _____ is endogenous catalysts converting one or several substrates into one or several products.
A. Substrate.
B. Enzyme.
C. Receptor.
D. Transporter.
ANSWER: B

136. _____ is membrane-bound or soluble protein or protein complexes exerting a physiological effect after binding of a ligand.
A. Antagonist.
B. Agonist.
C. Receptor.
D. Transporter.
ANSWER: C

137. _____ is a receptor ligand preventing the action of an agonist in a direct or indirect manner.
A. Antagonist.
B. Agonist.
C. Substrate.
D. Transporter.
ANSWER: A

138. _____ is a protein transporting molecules or ions through the cell membrane against a concentration gradient.
A. Antagonist.
B. Agonist.
C. Substrate.
D. Transporter.
ANSWER: D

139. _____ is a docking tool for virtual screening.
A. ICM.
B. HOOK.
C. LEGEND.
D. LUDI.
ANSWER: A

140. _____ is a program for de novo design.
A. LigandFit.
B. Gold.
C. Fred.
D. SPROUT.
ANSWER: D

141. _____ algorithm can be applied to the generation of combinatorial libraries.
A. Morgan.
B. Generic.
C. Genetic.
D. High-throughput.
ANSWER: C

142. _____ number of rules are there under the Lipinskis Rule of Five.
A. Three.
B. Four.
C. Five.
D. Two.
ANSWER: B

143. In phase I of the clinical trials the safety of the new drug is examined and the dosage is determined by administering the compound to _____healthy volunteers.
A. 10-100.
B. 20-100.
C. 10-50.
D. 20-50.
ANSWER: B

144. Number of patients to be tested in phase III clinical trials_____.
A. more than 1000.
B. more than 2000.
C. less than 1000.
D. less than 500.
ANSWER: A

145. In humans, carbon dioxide that is excreted passes from the blood directly enters into the _____.
A. liver.
B. alveoli.
C. trachea.
D. kidney.

ANSWER: B

146. Mechanism of action of an enzyme is _____.
A. agonist and antagonist.
B. reversible and irreversible.
C. blockers and openers.
D. alkylating agents.
ANSWER: B

147. Mechanism of action of ion channel is _____.
A. agonist and antagonist.
B. reversible and irreversible.
C. blockers and openers.
D. alkylating agents.
ANSWER: C

148. Which field of science that deals with the collection, interpretation, and storage of information about gene and protein activity within particular cell or tissue of an organism in response to toxic substances?
A. Pharmacogenomics.
B. Toxicogenomics.
C. Metagenomics.
D. Pharmacokinetics.
ANSWER: B

149. What is the term used for drugs that are similar in structure to a known drug and which are used for the same purpose?
A. Copy cat drugs.
B. Derivative drugs.
C. Analogue drugs.
D. Me-too drugs.
ANSWER: D

150. What does the term bioavailability mean?
A. Plasma protein binding degree of substance.
B. Permeability through the brain-blood barrier.
C. Fraction of an uncharged drug reaching the systemic circulation following any route administration.
D. Amount of a substance in urine relative to the initial dose.
ANSWER: C

Staff Name
Subhashini R .