BT301 MID+FINAL M.C.Q.S MEGA FILE

ALL DATA FROM QUIZES + GRAND QUIZES

GROUP: BIOTECH BRAINY BUNCH

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Midterm Portion

1- Adjacent nucleotides are joined together by ------. **(Phosphodiester bond)**
2- Dr. Winston Salser was the Chairman of ----- company. **(Amgen)**
3- Freckles are controlled primarily by the single ---- gene. **(MC1R)**
4- Genetic mutation occurs in --------. **(DNA)**
5- -------- give the most important clue of structure of DNA before 1953? **(Erwin Chargaff)**
6- A famous specific book written by Robert Hooke that brought microscopy into scientific limelight was -------. (**Micrographia)**
7- The sequences within a gene that encode proteins sequence are called -----. **(Exons)**
8- The most common secondary structure is --------. **(Alpha helix)**
9- What is incorrect about plasmids? **(Serves as the transformation vehicles)**
10- In 1878, isolated non protein component of nucleon and discovered nucleic acids and isolated 5 bases: A, T, G, C and U. **(Albrecht Kossel)**
11- The recognition sequence of the Haelll restriction enzyme is ------. **(GGCC)**
12- We sequence the Genome to-------. **(Identify genes, gene location and gene regulation, All of the above)**
13- In human about ------ genes while in bacteria about-------. **(23000 & 2000)**
14- Messenger RNA is always ------- stranded when formed from DNA. (**Single)**
15- Enzymes that remove nucleotides one at a time from the end of a DNA molecule are called---------. **(Exonucleases)**
16- The DNA modifying enzyme capable of making DNA complementary to RNA is? **(DNA polymerase)**

17- Terminal deoxynucleotidyltransferase s an enzyme purified from ------- used in homopolymer tailing? **(Calf thymus)**
18- Liposomes are the vesicles that are made up of --------. (**Phospholipids)**
19- The process by which DNA gel is transferred to a membrane is termed as ------. **(Electrophoresis)**
20- Bacteria are small organisms carry high coding density than ------. **(Animals and plants)**
21- Sumerians and Babylonians used anaerobic respiration of yeast to make beer in ------. **(6000 BC)**
22- In auto- radiography we use ------ film to visualize the radioisotope. **(X-rays)**
23- Dr. Winston Salser was the Chairman of ----- company. **(Amgen)**
24- Freckles are controlled primarily by the single ---- gene. **(MC1R)**
25- Genetic mutation occurs in --------. **(DNA)**
26- The technique in which DNA is labeled using complementary sequences and then analyzed using audio radiograph is called------- **(Southern blotting)**
27- Runaway plasmids don't have control to --------- **(copy number)**
28- Which of the following is a mismatch? **(Template- double stranded DNA)**
29- In his famous transformation experiment in 1928. Frederick Griffith performed experiments on ------- strains. **(Streptococcus pneumoniae)**
30- The percentage of nucleic acid in relation to the protein is about----- for influenza virus. **(1%)**
31- An enzyme known as ------introduces nicks into super-coiled loops of DNA. **(DNase)**
32- The ----- have blunt ended DNA molecules while ----- have cohesive ends. **(Adaptors, linkers)**
33- Amino acids have ------- **(Both amino group and carboxyl group)**
34- Which one of the following represents a palindromic sequence in DNA? **(GTTCCAAG)**
35- The agent used to denature proteins and give the negative charge during western blotting is known as ----- **(Sodium Dodecyl sulfate)**
36- The enzyme used to digest many containing proteins during the isolation of genomic DNA from E. coli is called --------- **(Proteinase K)**
37- The genome of polio virus is about ----- nucleotides long. **(7500)**
38- LINEs possess ----- ORFs which encode all the functions needed for retro transposition. **(two)**
39- The genome size of ----- is 120kb. **(pisum sativum)**
40- Which of the following is not the component of DNA? **(Thymine)**
41- ------- is the enzyme which helps to prevent recirculation of DNA. **(Alkaline phosphatase)**
42- The repeating units of proteins are-----. **(amino acids)**
43- If copy number is low then plasmids are called as -----. **(stringent plasmids)**
44- First system to be characterized from E. coli k12 was? **(type 1)**
45- The temperature required for the denaturation of DNA double helix is -----. **(94)**

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46- Linkers have? **(one end sticky and other end is blunt)**
47- Nick produced by DNA strand is repaired by---- **(DNA ligase)**
48- T4 DNA ligase works more efficiently to join fragments of ---- ends? **(Blunt ends)**
49- The---- backbones of alternating deoxyribose and phosphate groups are outside the double helix facing the surrounding water. **(hydrophilic)**
50- One circle or OC DNA has ----- stranded intact. **(One)**
51- Among the following, the electrophoresis cannot be used for them ------. **(Separation of lipids)**
52- The SINE commonly contains the restriction sites for the endonuclease------. **(Alu 1)**
53- Genomics is the study of genomes. Genome refers to the ----. **(entire set of genes of an organism)**
54- The change In the frequency of a gene variant in a population due to random sampling of organisms is called-----. **(genetic drift)**
55- The stop codon is-----. **(UAA)**
56- The use of salt for preserving food especially meal was started in ------. **(400 BC)**
57- The RNA molecule which takes part in the formation of ribosomes is------. **(rRNA)**
58- Father of genetics was the ----- **(Mendel)**
59- The substance which causes of the precipitation of DNA is------. **(Ethanol)**
60- Circular DNA molecule that replicates separately from the host chromosome are ----. **(Plasmid)**
61- The most commonly used enzyme for joining the blunt and DNA molecules. **(T4 DNA ligase)**
62- The size of the human genome is -----. **(3000 MB)**
63- The branch of Biotechnology that embraces all methods of genetic modification by recombinant DNA and cell fusion techniques is called --------. **(Modern biotechnology)**
64- Which of the following can be used as a vector for cloning? **(Plasmids, YACs and BACs)**
65- The system which recognizes a particular target sequence and does not require co factor is ----. **(Type 11)**
66- The process of copying of mobile DNA element and insertion into new site in genome-------. **(Transposition)**
67- Messenger RA is always -------- stranded when formed from DNA. **(single)**
68- Large polypeptides chains usually fold into two or ore globular clusters known as ------. **(domains)**
69- The electrophoresis apparatus consists of ------. **(electrophoresis unit and gel separator)**
70- Those plasmids to which phenotypic traits have not been ascribed are called-----. **(Cryptic plasmids)**
71- Which of the following terms refers to the order in which amino acids are linked together in a protein? **(primary)**
72- The function of messenger RNA is that--------. **(it is a direct copy of gene)**
73- All of the following are considered weak interactions I proteins except ------. **(ionic bond)**

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74- The DNA polymerase enzyme used in PCR reaction is extracted from--------. **(thermos aquaticus)**
75- Blunt end ligation is done by using--------? **(T4 DNA ligase)**
76- The technique used for amplify the DNA is --------. **(PCR)**
77- The fragment length that is generated by different restriction enzyme is -------. **(different)**
78- A segment of DNA which is responsible for the synthesis of mRNA or protein is called-----. **(gene)**
79- In a nucleotide, the ------ changes the type of nucleotides. **(nitrogenous base)**
80- The length of one turn of DNA is ------. **(3.4 A)**
81- DNA ligase which seals single stranded nicks, is encoded by? **(E. coli and phage T4)**
82- Which system cleaves the DNA randomly? **(type 1)**
83- The peptide bond that joins two consecutive amino acids is a -----. **(Covalent bond)**
84- Beta pleated sheets are examples of ----. **(secondary structure)**
85- In RNA, uracil pairs with -----. **(adenine)**
86- A probe is a -----. **(chemically synthesized DNA)**
87- In 1893, the industrial production of citric acid took place using------. **(Aspergillus Niger)**
88- The building blocks of nucleic acids are ----. **(nucleotides)**
89- A genetic disease in which the fatty substances accumulate in cells and certain organs is -----. **(Gautier's disease)**
90- Which method was used before 1970s for cleaving the DNA? **(mechanical shearing)**
91- How many different amino acids are there? **(20)**
92- The sugar in RNA is -----. **(ribose)**
93- Which of the following is the correct definition of genetics? **(study of genes and traits defined by genes)**
94- There are ---- types of prokaryotic transposons. **(two)**
95- Basic steps in gene manipulation are? **(cutting and joining DNA molecules)**
96- Molecule which play a key role in transferring the information during he protein synthesis are----. **(RNA)**
97- Bacteria typically contain ---- chromosomes. **(single circular)**
98- Among the following, ----- is the purine base of nucleic acids. **(adenine)**
99- A process by which the pieces of DNA are broken and recombined to produce new combinations of alleles is called-----. **(recombination)**
100- Restriction host protects its own DNA from restriction by modifications such as. **(methylation of certain bases that consults recognition sites)**
101- A --- Woman named Claudia Costilla was the first to get her trachea replaced which was made of her own cells. **(Colombian)**
102- Blunt end ligation is di=one by using ----? **(T4 DNA ligase)**
103- The primary structure of protein represents----- **(linear sequence of amino acids joined by peptide bond)**
104- pSC101 is a natural plasmid from-----? **(Salmonella panama)**

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105- The host range of plasmid is determined by-----. **(Ori-region)**
106- An icosahedron is a regular 12 corned polyhedron having ---- triangular faces. **(20)**
107- Plasmids are extra chromosomal DNA which can divide independently as they have----. **(recombining site)**
108- Roche acquired genetics for ------ billion. **($46.8)**
109- In 1928, Alexander Fleming discovers penicillin from---------. **(Penicillium notatum)**
110- Topological stresses on the DNA can be removed by------? **(Topoisomerases)**
111- What should be the complementary strand of 3'….ATGGCTTGA…5'? **(5'…. TACCGAACT….3')**
112- The first step in PCR is -------. **(denaturation)**
113- Production of RNA from DNA is called--------. **(transcription)**
114- pBR322 is used as cloning vehicle which contains ------ resistant genes. **(ampicillin and tetracycline)**
115- What is the composition of nucleotide? **(base+ sugar+ phosphate)**
116- ----- Genes have changed very little over time. **(Variable)**
117- Most of ------ genes are without introns and are polycistronic. **(bacterial)**
118- In 1676, ----- observed water closely and observed tiny microscopic single called organisms. **(Antoine Van Leeuwenhoek)**
119- In 1982, ------ tendered an IPO raising $42.3 million. **(Amgen)**
120- Which technique is used to amplify the DNA-------. **(PCR)**
121- Which of the following is wrongly paired? **(nucleic acid-hydrogen bond)**
122- The alternate form of gene is-----. **(allele)**
123- Alpha helix has------. **(3.6 amino acid residues/turn)**
124- The function of messenger RA is that -----. **(it is a direct copy of a gene)**
125- A suitable system for the nomenclature of restriction enzymes was proposed by-----in 1973. **(Nathan & Smith)**
126- Plasmids which were not constructed in vitro for the sole purpose of cloning are called? **(Natural cloning)**
127- The first step in genome analysis is to------. **(assemble the genome sequence)**
128- A probe is labeled to------ **(Improve location identification)**
129- The nucleotide that is present in RNA and absent In DNA is ------ **(Uracil)**
130- Linkers have------ **(both ends cohesive)**
131- If we incubate a target DNA with particular restriction enzyme for larger period of time, then it will generate? **(mixture of small and large fragments)**
132- There are ---- types of deoxyribonucleic acid that makes the structural units of DNA. **(four)**
133- The most common type of gel used for the separation of DNA is ------ **(agarose)**
134- The number of repeats in Microsatellites is up to -----bp. **(13)**
135- Deoxyribose is a ----- sugar derivative. **(pentose)**
136- Long terminal repeats consists of ---- bp. **(250-600)**

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137- The branch of biotechnology concerned with the modification of the genetic composition of plants to enhance existing traits or add new ones is---------. **(Green biotechnology)**

138- In Chain termination method, we rely on ------ capabilities of DNA polymerase enzyme. **(Four)**

139- The methylation of Guanine at N-7 position in Maxam-Gilbert method is done by using ---------. **(Dimethyl sulphate)**

140- If the amino acid sequence changes from Cysteine to ------it can increase the stability of the expressed protein. **(Lysine)**

141- Among the following, ------ act as chain termination in the Chain termination method. **(Dideoxynucleotides)**

142- The high expression of the insulin leads to the accumulation of aggregation of target protein known as --------. **(Inclusion bodies)**

143- The rate of synthesis of a particular protein will depend on the--------. **(Steady- state of mRNA)**

144- The principle of Chain termination method relaxes on --------- **(Use of dNTPs for chain termination)**

145- The loss of plasmids due to defective partitioning is called--------- **(Segregative instability)**

146- Which of the following is called as Dideoxynucleotides chain termination method? **(Sanger's method)**

147- Chain termination method was developed by Sanger et al. in --------- **(1977)**

148- Among the following, ---------- is a chemical nucleotide sequencing method. **(Maxam- Gilbert method)**

149- If the amino acid sequence changes from Cysteine to --------it can increase the stability of the expressed protein. **(Lysine)**

150- A chaperone protein ------ is produced simultaneously with the growth hormone such as insulin and can help in avoiding the production of the inclusion bodies. **(Hsp 70)**

151- The chemical use for strand cleavage in Maxam- Gilbert method is ------ **(Piperidine)**

152- The whole genome sequence is now known for --------- **(Humans)**

153- The combination of chain terminator and ------- vectors to produce single stranded DNA is very powerful. **(M13)**

154- In metagenomics, the ---------- presence in the environment is evaluated by extracting DNA from environmental samples. **(Plant)**

155- Structural instability of plasmids may arise by deletions or arrangements of **(DNA)**

156- Some of ------ proteins are involved in the proper folding of target proteins. **(Chaperone)**

157- Dideoxynucleotide triphosphate (ddNTP) is different from Deoxynucleotide triphosphate (dNTP) in having ---------- **(H in place of OH in 3' position of dNTP)**

158- The rate of synthesis of a particular protein will depend on the **(Steady- rate of mRNA)**

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159- The data accumulated as a result of DNA sequencing was mainly used by scientists with in the different disciplines of --------- **(Life sciences)**

160- If Alanine or Phenylalanine is placed with -------- then this Taq DNA Polymerase cannot distinguish between normal deoxynucleoside triphosphate and didoxynucleoside triphosphate. **(Histidine)**

161- Urea was synthesized in 1828 by -------- **(Fredrick Wohler)**

162- Long terminal Repeats (LTRs) consists of ------ bp. **(250-600)**

163- Which among the following have the highest mutation rate? **(Unicellular eukaryotes)**

164- Messenger RNA is always----- stranded when formed from DNA. **(Single)**

165- Yeast genome was completely sequenced in ------ **(1996)**

Final Term

1. In ancient days, salt was used to preserve------- **(Meat)**
2. Nucleotides consists of-------- main components. **(2)**
3. When the R groups are arranged in a beta pleated sheets. **(outer side)**
4. Plasmids are extra chromosomal DNA which can divide independently as they have------- **(origin site)**
5. If we remove cell wall from bacterial or plant cell then remaining cell is called----- **(Protoplast)**
6. Happy mapping in genome mapping is an entirely------- technique. **(in vitro)**
7. When distances in genome mapping are calculated in terms of nits then this map is known---------- **(Physical map)**
8. Ti plasmid is found in -------- **(Agrobacterium tumefaciens)**
9. The inability of two plasmids to coexist in a cell is due to -------- of the plasmids. **(incompatibility)**
10. cDNA lacks the --------- sequences which are present in genomic DNA. **(intronic)**
11. The term RT-PCR is used for ------ PCR. **(Reverse Transcriptase)**
12. The host organism that contains target clone is called as----- colonies. **(transferred or recombinant)**
13. For the expression of foreign proteins------ must be present. **(Strong promoter)**
14. In ------, microbial population is studied by extracting DNA from environmental samples. **(Metagenomics)**
15. Double stranded DNA during DNA sequencing process can be determined by using----- **(real time PCR)**
16. Technique used to identify individuals by characteristics of their DNA sequences is called------ **(DNA profiling and fingerprinting)**
17. Somatostatin protein is prevented from degradation by------? **(Beta galactosidase)**
18. RFLP stands for **(Restriction fragment length polymorphism)**

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19. Real time PCR also known as **(Q- PCR)**
20. SNP stands for **(Single nucleotide polymorphism)**
21. The site of E. coli genome is ----- Mb. **(4)**
22. 100-300kb DNA fragment can be cloned-------- **(PACs)**
23. The rate of synthesis of a particular protein will depend on the steady-rate of---- in the cell. **(mRNA)**
24. Bone marrow cells taken from Claudia were transferred into cartilage cells to form a new trachea which is commonly known as----- **(Claudia trachea)**
25. The genome size of the nanoarchaeum equitana is ----- **(0.49)**
26. In case of mammals or fungi, the genome size of mitochondria ranges from 15- ----- kb. **(20)**
27. DNA microarray was used for the first time in 1977 for the genome expression of the ------- cells. (**Yeast)**
28. Structure of DNA was discovered by Watson and ------ in 1953. **(Crick)**
29. A type of plasmid which contains fragment of phage DNA including its cos sites is ------ **(cosmid)**
30. One of the applications of chromosome walking and jumping is in the cloning of humans------ gene **(Cystic fibrosis)**
31. The shorter bond length is ------ (**between peptide C-H)**
32. A single circular chromosome composed of DNA with associated proteins is typically present in --------- **(bacteria)**
33. A type of PCR reaction in which segments of DNA that are amplified are random is -------- **(RAPD)**
34. Particular transcript of mRNA in a cell is degraded by ------- to lower the expression of particular gene**. (mRNA)**
35. Sequence- tagged sites(STS) are mainly used to map the ------- **(DNA)**
36. Colonies with the recombinant Bacterial Artificial Chromosomes (BACs) are------- **(White)**
37. --------- was the first mapping technique used in physical mapping? (**RFLP mapping**)
38. Physical mapping was devised to check -------- between physical and linkage mapping? **(Similarity)**
39. AFLP detects genomic restriction fragments and in that respect members to-------- technique? **(PFLP mapping)**
40. Which of the following technique is used for Haploid genome mapping? **(RH Mapping)**
41. What should be the GC content of the primers used for RAPDs? **(50-80%)**
42. For the detection of single base nucleotide substitution, which of the following mapping should be used? (**SNP mapping**)
43. In order to differentiate the rare mutations from SNPs the allele frequencies should be? **(0.1%)**
44. In sequenced rag site mapping, which of the following is not used? **(Southern blotting)**

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45. Which of the following technique resembles with Amplified fragment length polymorphism technique that detects genomic restriction fragments? **(RFLP)**
46. In which of the following technique fluorescence microscopy is used to find out the fluorescent probe bound to the chromosomes? **(FISH)**
47. Which of the following is a cytogenic technique of genome mapping? (**FISH)**
48. Any Fragment in the genome can be used for STS mapping if it is-------? **(Unique sequence)**
49. Maps that provide the specified detail about the number of bases and distances that exists between genetic markers are-------- **(Linkage maps**)
50. Which of the following Mapping technique is based on the analysis of approximately Haploids DNA samples using the polymerase chain reaction? **(RH mapping**)
51. In STS mapping, which of the following is not used**? (Southern blotting)**
52. What should be the approximate length of the primers used for RAPDs? **(22-30 bps)**
53. RFLP mapping is based on restriction site ---- between----- chromosomes? **(Variation, homologues)**
54. Which of the following statements are true regarding FISH? **(It is a cytogenic technique, its uses fluorescents probes & fluorescent probes bind directly to the chromosomes, All of these)**
55. Which of the following is used as a Landmark for physical map integration of genome? **(Genetic markers, Morphological markers & numbers of nucleotides, All of these)**
56. RH mapping can be used to identify-----? **(Distances between different sites within a gene)**
57. Nuclein was discovered in **(1869)**
58. Types of rib nucleotides are **(4)**
59. Virus is composed of **(DNA/RNA $ protein coat)**
60. Small fragment of DNA **(Polyacrylamides)**
61. Western blotting detect **(Proteins)**
62. Genome research help for **(Agriculture, bioprocessing, DNA forensic)**
63. Mitochondria generate in human cell **(13)**
64. Highly condensed chromatin is known as **(heterochromatin)**
65. LTR consist of ------ bp **(250-600bp)**
66. ---------is a particularly attractive alternative cloning host. **(Bacillus subtilis)**
67. Strain identification is written as **(EcoK)**
68. DNA bind with histone to form------ **(stable structure)**
69. Capsid is made of **(protein called proteomers)**
70. Variable length of DNA up to about 5kbp, can be cloned in---- **(Bacteriophage M13)**
71. A shutter vector is ------- **(A vector that can be used with two/more systems)**
72. A type of PCR reaction in which segments of DNA that are amplified are random is ------ **(RAPD)**
73. The nuclear genome of Yeast consists of ----- chromosomes. **(15)**

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74. Sequences that are read beyond 400 bp contains an average of **(3.2% error)**
75. A term used to describe an approach which allows the isolation of gene sequences which is known as------ **(chromosome walking)**
76. The complete set of metabolites found in each cell is known as the ----- **(Metabolome)**
77. The molecular weight of pBR322 vector is ----- **(4361 bp)**
78. Technique used to identify individuals by characteristics of their DNA sequences is called---- **(DNA profiling & finger printing)**
79. A single circular chromosome composed of DNA with associated proteins is typically **(Bacteria)**
80. Where the R- groups are arranged in a beta pleated sheets**? (outer side)**
81. The replication of Lambda phage DNA molecule is associated with which step in the infection cycle of a bacteriophage? **(First step)**
82. Phage display is the technology that allows the expression of ----- on the surface of phage particles. **(Exogenous polypeptides)**
83. Robert Koch and Louis Pasteur developed the first vaccines in ----- **(1885)**
84. PSC101 contain ------resistance **(Tetracycline)**
85. pBR322 is an example of -----constructed cloning vehicle **(In vitro)**
86. in pBR322 replicon element is **pMB1**
87. pBR322 have -----target sites for different restriction enzymes **40**
88. pBR322 have high copy number and -----weight **Low**
89. pBR325 encodes ----resistance in addition to that resistance has psc101 plasmid. **Chloramphenicol**
90. pAT153 another derivative of **pBR322**
91. plasmids which loss during cell division is called **Runaway plasmid**
92. Wild type is not suitable as a cloning vector because it has ----restriction enzymes sites **Too many**
93. Charon4A is a replacement vector is this statement **True**
94. Charon 60 is a replacement vector is this statement **False**
95. Charon 60 has ----- restriction site **1**
96. Charon 4A and 16 are both derivatives of ------ **Lambda VU**
97. Charon 60 can be cloned **5kbp**
98. lacZ gene encode for enzyme **βGal**
99. first step in the cloning is **Isolation of DNA**
100. in case phage-λ Packaging yields about ----- of vector DNA **106 plaques/ µg**
101. At each cos site nicks are introduce ----- far apart on opposite strand of DNA **12bp**
102. Cos sits are **Cohesive site**
103. Gene D is include in the --- process **Capsulation**
104. M13 is a filamentous bacteriophage with----- **ssDNA**
105. Which of the following vector replicate without killing its host **M13**
106. M13 can clone DNA of variable length about **5kbp**

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107. In x gal containing medium blue colonies represent the cloned DNA colonies, statement is **False**
108. Cosmid can clone around ------length of DNA **45kbp**
109. Modified cosmid vector produced by ----- in 1981 **Bates and Swift**
110. A modified procedure for cosmid is derived by **Ish-Horowicz and Burke**
111. Cosmid c2XB is derived by **Bates and Swift**
112. -----vectors are combination of plasmid and ʎ phage sequences **Plasmid**
113. BACs can clone ----------length of DNA fragment **100-300 kbp**
114. YACs vectors replicate in ------like normal chromosome **Yeast**
115. YACs can clone ----------length of DNA fragment **150-200kbp**
116. Vectors that can replicate and are stably maintained in two or more unrelated host organisms are called **Shuttle vectors**
117. Expression vector are used to control **Expression**
118. In Ecoli p1 phage can clone -----length of DNA **70-100 kb**
119. The second strategy is to selectively amplify the target sequence directly from the source DNA by using **PCR**
120. ---- represent the genomic makeup of an organism **Genomic library**

Genome size of human is **2.8x106**

121. Drosophila melanogaster have size of DNA 1.8x105 this statement is **True**
122. Average fragment size can be controlled by---------- **Mechanical shearing**
123. High molecular weight genomic DNA is digested with------- ***Sau*3AI**
124. For construction of genomic libraries ----vectors are required **High capacity cloning**
125. ------is prepared by reverse-transcribing cellular RNA **cDNA**
126. Which lack the non-coding sequence **cDNA**
127. Introns are rare in bacteria but occur in genes of higher **Eukaryotes**
128. cDNA library is representative of the ---population from which it was derived **RNA**
129. A serious disadvantage of the hairpin method is that cleavage with S1 nuclease results in the loss of sequences at the **5' end of the clone**
130. correct orientation of inserted cDNA can be achieved by------ **Self-priming method**
131. -----followed by the PCR (RTPCR) leads to the amplification of RNA sequences in cDNA form **Reverse transcriptase**
132. Nucleic acid ----------is the most commonly used method of library screening **Hybridization**
133. -------- (1975) developed a screening procedure to detect DNA sequences in transformed colonies **Grunstein and Hogness**
134. The results of the hybridization can be monitored by **Autoradiography**
135. Benton and Davis (1977) devised a method called **Plaque lift**
136. In plaque lift techniques there is direct contact between plaque and filter this statement is **True**
137. A great advantage of hybridization for library screening is that it is extremely **Versatile**
138. A cloned genomic fragment must be found as a ------point for the walk **Starting**
139. In chromosome walking, human genome starting point may be a ---- **RFLP**

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140. One----- of chromosome walking is the requirement that each DNA segment used is not repeated elsewhere in the genome **Drawback**
141. In chromosome jumping, the DNA of interest is identified, cut into fragments with restriction enzymes and **Circularized**
142. Cloned DNAs from the closure sites make up a jumping library is this statement **True**
143. The PCR is widely used to isolate specific DNA sequences from-----genomic DNA or cDNA **Uncloned**
144. To isolate specific clone, PCR is carried out with **Gene-specific primers**
145. A degenerate primer is a mixture of primers, all of similar sequences but with variations at ---positions **One or more**
146. If DNA library is established using expression vectors, each individual clone can be expressed to yield a **Polypeptide**
147. Immunochemical screening involves the use of **Antibodies**
148. The molecular target for recognition is generally an **Epitope**
149. polyvinyl and that IgG antibodies can be readily labeled with **I125**
150. it is much more convenient to use--- because they have high capacity and efficiency to in vitro packaging **Bacteriophage-λ insertion vector**
151. Screening is carried out without using an antibody, by incubating the membranes with radiolabelled ---------- **ds DNA probe**
152. -----is the process by which a particular DNA sequence compensates for a missing function in a mutant cell and thus restores the wild type phenotype **Functional complementation**
153. Functional complementation used for complementation in -----to isolate the Shaker - 2 gene **Transgenic mice**
154. The bacterial inner membrane, periplasmic space and outer membrane all contain proteins found in the cytoplasm **False**
155. ABC pathway of protein export and type II secretion pathway are used for **Protein trafficking**
156. In E.coli foreign protein are **Instable**
157. In the case of somatostatin, degradation was prevented by producing a ------consisting of somatostatin and β-galactosidase **Fused protein**
158. Expression from a strong promoter can represent ----of cloned gene product of total cell protein **20-40%**
159. Complementarity of Shine-Dalgarno (S-D) sequence with 16s rRNA can affect the **Rate of translation**
160. Composition of triplet immediately preceding the AUG ----also affects the efficiency of translation **Start codon**
161. The rate of synthesis of a particular protein will depend on the ---------in the cell **Steady-state of mRNA**
162. ---------usually proceeds by a combination of endonuclease and 3'exonuclease attack **Degradation of mRNA**
163. One way of increasing the expression of a cloned gene is to increase the **Plasmid copy number**

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164. The loss of plasmids due to defective partitioning is called **Segregative instability**
165. Structural instability of plasmids may arise by deletions or rearrangements of **DNA**
166. Techniques for DNA sequencing became available in the **Late 1970s**
167. Maxam-Gilbert method for DNA sequencing makes use of chemical reagents to bring about ------of the DNA **Base-specific cleavage**
168. DNA synthesis is carried out in the presence of the four deoxynucleoside triphosphates, one or more of which is labeled with ----- and in four separate incubation mixes **P32**
169. The combination of chain terminator and M13 vectors to produce -----is very powerful **ssDNA**
170. Sequences that were read beyond 4oo bp contained an average of ---error **3.2%**
171. Sequences that were read less than 4oo bp contained an average of ---error **2.8%**
172. --------is a process to change the genetic information of an organism **Mutagenesis**
173. Mutagenesis sources **Occur naturally ,Exposure to mutagens ,Induced in laboratory /All of above**
174. ----different methods of site-directed mutagenesis **3**
175. A synthetic DNA fragment containing the desired mutant sequence is used to replace the corresponding sequence in the wild-type gene **Cassette mutagenesis**
176. In -----method, the product of the first PCR is used for the second PCR **Mega primer**
177. The ----of a PCR based mutagenic protocol is that the desired mutation is obtained with 100% efficiency **Advantage**
178. PCR can also be used to generate DNA fragments **Primers**
179. Nucleotides are building block of **DNA**
180. Taq polymerase is a ----DNA **Thermo stable**
181. ----------is a short strand of oligonucleotide that serves as a starting point for DNA synthesis **Primers**
182. --------was designed to amplify RNA sequences (mainly mRNA) through synthesis of cDNA by reverse transcriptase **RT-PCR**
183. It is used to measure starting amounts of DNA, cDNA, or RNA **q PCR**
184. In --------two sets of primers are used in two successive PCRs **Nested PCR**
185. ----------is used to identify the flanking sequences around genomic inserts **Inverse PCR**
186. Multiplex PCR is used to amplify several different DNA sequences simultaneously **True**
187. ---------is a type of PCR reaction but the segments of DNA that are amplified are random **RAPD**
188. AFLPs-Amplified fragment length polymorphisms are differences in restriction fragments length caused by **SNPs**
189. PCR has applications in the fields of life sciences **Genetic engineering , Medical & forensic/ All of the above**
190. PCR has been used in gene cloning and ------of genomic libraries **Screening**
191. DNA profiling or DNA fingerprinting have --------meaning **Same**
192. DNA profiling or DNA fingerprinting is a forensic technique used to identify individuals by characteristics of their **DNA**

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193. Assigning of a specific gene to particular region of a chromosome and determining the location of and relative distances between genes on the chromosome is called **Chromosome mapping**
194. Any identifiable feature of the genome cannot serve as a marker in mapping, but specific **False**
195. The landmarks on genome map might include **All of above**
196. Genetic linkage maps illustrate the order of genes or genetic markers on a chromosome and the relative distances between those genes **Genetic linkage mapping**
197. ----------give the DNA base pair distances from one landmark to another **Physical mapping**
198. ----------exploits variations in homologous DNA sequences **RFLP**
199. Botstein et al. (1980) were the first to recognize that ----that target RFLPs can be used for mapping **DNA probes**
200. Sequence-tagged sites (STS) are more convenient markers than RFLPs because they do not use **Southern blotting**
201. SNPs are -----base-pair positions in genomic DNA at which different sequence alternatives (alleles) exist in a population **Single**
202. Amplified fragment length polymorphisms (AFLP) is a diagnostic fingerprinting technique that detects genomic **Restriction fragments**
203. FISH is a cytogenetic method that used ----probes **Fluorescent**
204. RH mapping used X-ray breakage of chromosomes to determine the distances between ---as well as their order on the chromosome **DNA markers**
205. Happy mapping is an ------technique **In vitro**
206. The process of determining the exact order of nucleotides within a DNA or RNA molecule is called **Sequencing**
207. Shotgun sequencing is used for sequencing -------DNA strands **Long**
208. --------- a map of each chromosome of the genome is made before the DNA is split up into fragments for sequencing **In clone-by-clone sequencing**
209. Orthologs are homologous genes in different organisms that encode proteins with the **Same function**
210. Genome of bacteria may be of variable in size. For example, it may vary from **0.49 Mb to 9.1 Mb**
211. Mitochondrial genomes exhibit an amazing **Structural diversity**
212. ----are used to study the expression of many genes at once **Microarrays**
213. Which is the DNA array used in expression analysis **Both**
214. The predominate application of DNA microarray has been to measure **Gene expression levels**
215. Microarrays have been widely used as ----------genotyping platforms **SNP**
216. Phage display is the technology that allows expression of exogenous -----on the surface of phage particles **Polypeptides**
217. The most common screening method is based on enriching the phage clones with binding affinity for the target by a process called **Bio panning**

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218. A genetic technique in which one of an organism's gene is made inoperative that is simply called **Knocked out**

219. ---- refers to a gene manipulation method that involves the insertion of a protein coding cDNA sequence at a particular locus in an organism's chromosome **Knocked in**

220. Small interfering RNA (siRNA) is the most commonly used (RNAi) tool for inducing --------coding genes **Short-term silencing of protein**

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