

91. Chromatins are chemically
 - A. Ribonucleoprotein
 - B. Nucleoprotein
 - C. Protein
 - D. Nucleic acid
 92. Chromatins are
 - A. Observed in all phases of cell cycle
 - B. Observed in M phase of cell cycle
 - C. Observed in interphase of cell cycle
 - D. None
 93. Chromatins are
 - A. Distinct
 - B. Indistinct
 - C. Elaborate
 - D. More than one
 94. Chromatins are stained by
 - A. Acidic dye
 - B. Basic dye
 - C. Crystal violet
 - D. More than one
 95. Who coined the term chromatin?
 - A. Robert Brown
 - B. Flemming
 - C. Robert Hooke
 - D. Christian Gram
 96. Which is the best phase to study chromosomes structure?
 - A. Metaphase
 - B. Anaphase
 - C. Telophase
 - D. Prophase
 97. The long arm of submetacentric chromosome is denoted by
 - A. p
 - B. q
 - C. r
 - D. s
 98. Find out the odd one with respect to microbodies?
 - A. Spherosome
 - B. Glyoxisome
 - C. Peroxisome
 - D. RER
 99. Microbodies are
 - A. Naked
 - B. Single membrane bound
 - C. Double membrane bound
 - D. Large in size
 100. Which of the following is not involved in photorespiration?
 - A. Chloroplast
 - B. Peroxisome
 - C. Mitochondrion
 - D. Glyoxisome
 101. Which of the following is associated with conversion of lipid into carbohydrate?
 - A. Glyoxisome
 - B. Peroxisome
 - C. RER
 - D. Spherosome
 102. Which of the following chromosome appears V shaped in anaphase?
 - A. Metacentric
 - B. Submetacentric
 - C. Acrocentric
 - D. Telocentric
 103. Which of the following is essentially present in every chromosome?
 - A. Primary constriction
 - B. Secondary constriction
 - C. Centromere
 - D. More than one
 104. Secondary constriction is
 - A. Stained by basic dye
 - B. Stained by acidic dye
 - C. Not stained
 - D. Located at variable phases
 105. How many pairs of chromosomes have secondary constriction?
 - A. 10
 - B. 2
 - C. 5
 - D. 6

106. Kinetochore is
 A. Small in size
 B. Disc like structure
 C. Produces spindle fibre
 D. More than one
107. Which of the following is active site of rRNA synthesis?
 A. RER B. SER
 C. Nucleolus D. Golgi complex
108. Nucleolus is
 A. Single membrane bound
 B. Double membrane bound
 C. Naked
 D. Not continuous with nucleoplasm
109. Which of the following chemicals get exchanged through nuclear pore?
 A. RNA B. Protein
 C. Lipid D. More than one
110. Which of the following membrane is not associated with ribosomes?
 A. Outer nuclear membrane
 B. Inner nuclear membrane
 C. RER membrane
 D. More than one
111. Which of the following imparts unique phenotypic character to bacteria?
 A. Nucleoid
 B. Extrachromosomal DNA
 C. Cell wall
 D. Plasmamembrane
112. Which of the following stain is used to stain bacteria?
 A. Crystal violet B. Acidic dye
 C. Janus green D. None of these
113. Which of the following special protein is present in surface structure of bacteria that helps in conjugation?
 A. Pilin B. Flagellin
 C. Tubulin D. Dynein
114. Which of the following is functionally equivalent to lysosome?
 A. Periplasmic space
 B. Mesosome
 C. Cell wall
 D. Plasmamembrane
115. Which of the following is incorrect with respect to inclusion bodies?
 A. Single membrane bound
 B. Present in cytoplasm
 C. Contains reserve materials
 D. All of the above
116. Which of the following is not a structural component of bacterial Flagella?
 A. Axoneme B. Basal body
 C. Hook D. Filament
117. Which of the following is small bristle like structure?
 A. Pili B. Flagella
 C. Fimbriae D. Mesosome
118. How many basic shapes are there in bacteria?
 A. 2 B. 4
 C. 6 D. 8
119. Which of the following is not a prokaryotic cell?
 A. PPLO B. mycoplasma
 C. E coli D. Yeast
120. Which of the following is not true for nucleoid?
 A. Nonmembrane bound
 B. Contains DNA only
 C. Called genomic DNA
 D. All of the above



121. Which of the following is the most variable phase of cell cycle?
 A. G1 B. G2
 C. Anaphase D. Metaphase
122. Which of the following is not a mitogen?
 A. Auxin B. Cytokinin
 C. Insulin D. Proline
123. How many mitotic divisions are required to produce 32 cells from a single cell?
 A. 16 B. 32
 C. 31 D. 5
124. By which of cell cycle condensation of chromosomes complete?
 A. Prophase B. Metaphase
 C. Anaphase D. Telophase
125. In plant cells cytokinesis can be
 A. n
 B. 2n
 C. Can be both n and 2n
 D. None
126. Which of the following is precursor of middle lamella?
 A. Plasmamembrane B. Cell wall
 C. Cell plate D. None
127. In E. coli DNA replication takes place in
 A. S phase
 B. G1 phase
 C. Before binary fission
 D. M phase
128. In which phase mitotic apparatus is formed?
 A. Late Prophase B. Metaphase
 C. Anaphase D. Telophase
129. In which of the following phases sister chromatids separate?
 A. anaphase I B. G1
 C. Metaphase D. Anaphase II
130. How many metaphasic plates are formed in metaphase II?
 A. 1 B. 2
 C. 3 D. 4
131. How many Meiosis are required to produce 100 microspore from 25 microspore mother cells?
 A. 100 B. 99
 C. 25 D. 50
132. Which of the following event takes place in pachytene?
 A. Crossing over
 B. Synapsis
 C. Termination of chiasmata
 D. Complete disappearance of nuclear envelope
133. In which of the following phase synapsis takes place?
 A. Leptotene B. Zygotene
 C. Pachytene D. Diplotene
134. What would be the number of bivalents in a cell during meiosis if $2n = 20$?
 A. 5 B. 10
 C. 20 D. 40
135. Which of the following phase is called spireme stage?
 A. Early prophase B. Anaphase
 C. Telophase D. Metaphase



ANSWERS KEY

91. (B)	114. (A)
92. (C)	115. (A)
93. (D)	116. (A)
94. (B)	117. (C)
95. (B)	118. (B)
96. (A)	119. (D)
97. (B)	120. (B)
98. (D)	121. (A)
99. (B)	122. (D)
100. (D)	123. (C)
101. (A)	124. (B)
102. (A)	125. (C)
103. (D)	126. (C)
104. (C)	127. (C)
105. (C)	128. (A)
106. (D)	129. (D)
107. (C)	130. (A)
108. (C)	131. (C)
109. (D)	132. (A)
110. (B)	133. (B)
111. (B)	134. (B)
112. (A)	135. (A)
113. (A)	



HINTS & SOLUTIONS

1. (B)
Chromatins are made of DNA, RNA and protein. Hence, chromatins, are said to be nucleoprotein complex.
2. (C)
Chromatins are observed in interphase while chromosomes are observed in M phase
3. (D)
Chromatins are indistinct and elaborate nucleoprotein fibre
4. (B)
Chromatins are stained by basic dye. Crystal violet is used to stain bacteria]
5. (B)
Flemming coined the term chromatin
6. (A)
Metaphase is the best phase to study chromosome structure
7. (B)
Long arm is denoted by q and short arm is denoted by p
8. (D)
Microbodies includes sphaerosome, glyoxisome and peroxisome
9. (B)
Microbodies are small single membrane bound organelles that are involved in oxidation reaction except that of respiration.
10. (D)
Photorespiration in C3 plants is due to three organelles namely chloroplast, peroxisome and mitochondrion
11. (A)
Glyoxisome is associated with conversion lipid into carbohydrate
12. (A)
Metacentric chromosomes have equal arms hence they appear to be V shaped
13. (D)
Every chromosome has centromere which is also called as primary constriction
14. (C)
Secondary constriction is located at specific location on chromosome and it is not stainable
15. (C)
In human 5 pairs of chromosomes (13, 14, 15, 21, 22) have secondary constriction
16. (D)
Kinetochore is small disc like structure which acts as the binding site of spindle fibres
17. (C)
Nucleolus is the active site of rRNA synthesis
18. (C)
Nucleolus is nonmembrane bound, hence, it is continuous with nucleoplasm



19. (D)
RNA and protein get exchanged between nucleus and cytoplasm through nuclear pore
20. (B)
Inner membrane of nucleus lacks ribosome
21. (B)
Extrachromosomal DNA (plasmid) imparts unique phenotypic character to bacteria
22. (A)
Crystal violet, saffranin (basic dye) is used to stain bacteria
23. (A)
Pili are involved in bacterial conjugation. Pili are made of pilin protein
24. (A)
Periplasmic space contains hydrolytic enzymes just like lysosome
25. (A)
Inclusion bodies are non-membrane bound
26. (A)
Axoneme is a part of Eukaryotic cilia and flagella
27. (C)
Fimbriae are small bristle like structures
28. (B)
Bacteria have four basic shapes namely rod shape, spherical shape, comma shape, spiral shape
29. (D)
Yeast is Eukaryotic
30. (B)
Nucleoid is nonmembrane bound. Its DNA is also called genomic DNA. It contains DNA, RNA and proteins.
31. (A)
G1 is most variable phase of cell cycle. It is short in frequently dividing cells and long in less frequently dividing cells
32. (D)
Proline is not a mitogen. Mitogens are chemicals that induce cell division.
33. (C)
Number of mitosis required to produce X number of cell from a single cell is $X-1$
34. (B)
Condensation of chromosomes completes by metaphase
35. (C)
Cell undergoing mitosis is called motocyte. In plants mitocytes can be haploid (n) and diploid (2n)
36. (C)
Cell plate that grows centrifugally during cytokinesis acts as precursor of middle lamella.
37. (C)
In bacteria like E coli DNA replication place before binary fission
38. (A)
In late Prophase mitotic spindles are formed
39. (D)
sister chromatids separate during anaphase



40. (A)
In metaphase II single metaphase is formed
41. (C)
One Meiosis in microspore mother cell produces 4 microspores
42. (A)
Exchange of segments of nonsister chromatids of two homologous chromosomes is called crossing over. This takes place in pachytene state
43. (B)
Pairing of homologous chromosomes called synapsis takes place in zygotene phase
44. (B)
Number of bivalents = number of $2n$
45. (A)
As the telomeres of all chromosomes in G1 phase are not visible



***Note* - If you have any query/issue**

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