ARJUNA-NEET

PRACTICE TEST-03

91. Synapsis occurs between
A. Spindle fibres and centrosomes
B. mRNA and ribosomes
C. A male or female gamete
D. Two homologous chromosomes

92. Which stage is marked by terminalisation of chiasmata
A. zygotene B. pachytene
C. diplotene D. diakinesis.

93. During mitosis, E.R. and nucleolus begin to disappear at
A. early metaphase B. late metaphase
C. early prophase D. late prophase.

94. Chromosomes become visible during
A. Leptotene B. Zygotene
C. Pachytene D. Diplotene.

95. Identify the stage when homologous chromosomes separate but sister chromatids remain associated
A. Metaphase 1 B. Anaphase 1
C. Metaphase II D. Anaphase II

96. In mitosis, chromosome duplication occurs during
A. interphase B. prophase
C. metaphase D. anaphase.

97. Complex formed by a pair of synapsed homologous chromosomes is known as
A. kinetochore B. axoneme
C. equatorial plate D. bivalent

98 Which of the following cell division maintains chromosomal number generation after generation?
A. Mitosis
B. Meiosis
C. Premitosis
D. Both A and C

99. In S-phase of cell cycle
A. amount of DNA remains same in each cell
B. chromosome number is increased
C. amount of DNA is reduced to half in each cell
D. amount of DNA doubles in each cell

100. Some cells in the adult animal do not divide. They exit G_1 phase and enter an inactive stage which is called as
A. G_2 phase B. G_0 phase
C. S-phase D. M-phase

101. During meiosis 1, the number of chromosomes is
A. doubled B. tripled
C. quadrupled D. halved

102. Anaphase Promoting Complex (APC) is a protein degrading machinery for proper mitosis of animal cells. If APC is defective in human cell, which of the following is expected to occur?
A. Chromosomes will not condense
B. Chromosomes will be fragmented
C. Chromosomes will not segregate
D. Recombination of chromosome arms will occur.

103. Which one is correct sequence of substages of prophase I?
A. Leptotene, Pachytene, zygotene, diplotene and diakinesis
B. Leptotene, zygotene, Pachytene, diplotene and diakinesis
C. Leptotene, diakinesis, Pachytene, zygotene and diplotene
D. Diakinesis, pachytene, diplotene, leptotene and zygotene

104. In pachytene, the bivalent appear:
A. double stranded B. single stranded
C. Three stranded D. four ds DNA

105. Mitosis occurs in:
A. haploid individuals
B. diploid individuals
C. both A and B
D. in bacteria only

106. Replicatiton of chromosomes in meiosis occurs in:
A. interphase B. telophase
C. prophase II D. prophase I

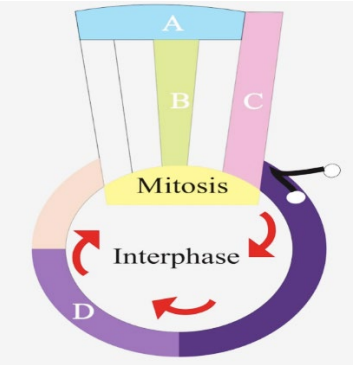
107. The pairing of homologous chromosomes during zygotene is called as:
A. synapse B. terminalisation
C. synapsis D. crossing over

108. At what stage of the cell cycle are histone proteins synthesized in a eukaryotic cell?
A. During G-2 stage of prophase
B. During S phare
C. During entire prophase
D. During telophase

109. Examples of mitotic poisons are:
A. azides B. steroids
C. chalones D. cytokinin

110. Variations appear during meiosis due to:
A. crossing over
B. independent assortment
C. seggregation
D. linkage

111. Given below is a schematic break-up of the phases/stages of cell cycle. Which one of the following is the correct indication of the stage/phase in the cell cycle?



A. C-karyokinesis
B. D-synthetic phase
C. A-cytokinesis
D. B-metaphase

112. How many equational divisions are necessary in a cell of onion root tip to form 128 cells?
A. 64 B. 128
C. 7 D. 127

113. DNA content is doubled during:
A. metaphase B. interphase
C. prophase D. telophase

114. Amitosis is shown by:
A. bacteria B. *Euglena*
C. *Syllis* D. *Hydra*

115. Binomial nomenclature means:
A. one name given by two scientists
B. one name comprising a generic and a specific epithet
C. two names, one latinised, other of a person
D. two names, one scientific, other local

116. Species is a group of organisms which:
A. interbreed freely
B. do not interbreed
C. live together
D. none of these

117. The term 'New Systematics' was introduced by:
A. Linnaeus
B. Bentham and Hooker
C. Julian Huxley
D. De Candolle

118. Which of the following is a category?
A. Order B. Family
C. Genus D. All of these

119. The total number of species, that are known and described range between:
A. 0.5-1.0 million B. 1.1-1.2 million
C. 1.7-1.8 million D. 2.5-3.0 million

120. Basic unit or lowest taxonomic category is:
A. species B. Family
C. variety D. kingdom

121. *Oryza sativa* is the binomial name of the rice plant, the sativa stands for:
A. Specific name
B. Specific epithet
C. Species name
D. Specific nomenclature

122. Species Plantarum and systema Naturae were written by:
A. Bentham B. Theoprastus
C. Linnaeus D. Hutchinson

123. ICBN stands for:
A. International Classification of Biological Nomenclature
B. International code of Botanical Nomenclature
C. International Classification of Biological Naming
D. International Class of Biological Nomenclature

124. The stage between two meiotic divisions is called:
A. Interphase B. Cytokinesis
C. interkinesis D. Karyokinesis

125. A stage of mitosis is shown in the diagram. Which stage is it and what are its characteristics?

A. Metaphase-Spindle fibers attached to kinetochores, centromeres split and chromatids separate.
B. Metaphase-Chromosomes moved to spindle equator, chromosomes made-up of two sister chromatids.
C. Anaphase-Centrosomes split and chromatids separate and start moving away.
D. Late Prophase-Chromosomes move to spindle equator.

126. The centrosome duplicates during the:
A. G_2 –phase of cell cycle
B. S – phase of cell cycle
C. Prophase of cell cycle
D. G_1 – phase of cell cycle

127. In a typical eukaryotic cell cycle, Gap 1, Synthesis and Gap 2 are three phases included in the:
A. Prophase B. metaphase
C. anaphase D. interphase

128. Growth of multicellular eukaryotic organisms is due to
A. Cell division B. Differentiation
C. Dedifferentiation D. Redifferentiation

129. Which organisms are affected by photoperiod?
A. All plants
B. All animals
C. Seasonal breeders of plants and animals
D. Continuous breeders of plants and animals

130. Who is considered as founder of binomial nomenclature?
A. Huxley B. Linnaeus
C. Robert Brown D. T H Moragan

131. Which of the following contains information about any one taxon?
A. Keys B. Catalogue
C. Monograph D. Manual

132. Which of the following is meant for ex situ conservation of plants?
A. Herbarium B. Botanical garden
C. Museum D. All

133. Which of the following is not true about living organisms?
A. Capable of evolution
B. Show growth
C. Every organism show self-Consciousness
D. Self-replicating

134. Which type of growth is shown by non-living entity?
A. External
B. Reversible
C. By some external agents
D. All

135. Gorilla gorilla is an example of
A. Homonym B. Autonym
C. Synonym D. Tautonym

ANSWERS KEY

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

HINTS & SOLUTIONS

91. (D)
Synapsis is process of attachment of homologous chromosomes during meiosis 1 (zygotene)

92. (D)
Shifting of chiasmata or terminalisation process is seen in diakinesis which results into separation of homologous chromosomes

93. (C)
Nucleolus degenerates during late prophase and endoplasmic reticulum and golgi complex start to disorganise during late prophase only

94. (A)
Chromosome begin to condense and visible like thread in leptotene and become fully condensed in diakinesis

95 (B)
During anaphase 1 there is separations of homologous chromosomes but there is no division of centromere or separation of sister chromatids

96 (A)
DNA replication results in duplication of genetic material and this event occurs during s phase (interphase)

97 (D)
Bivalent is a structure formed by synapsis in which 2 homologous chromosomes come together which contain total 4 chromatids so also known as tetrad

98. (B) Gamete formation and fertilization are important events in life cycle of evolved organisms, and during that to ensure contant no of chromosome we depend on meiosis. 99(D) Ins phase replication of DNA produce double amount of DNA

100. (C)
In G_0 phase cells are considered to be in resting state there replication process and protein synthesis activity is greatly reduced.

101. (D)
Meiosis 1 also known as reductional division give rise to 2 daughter cells with half no of chromosomes than mother cells.

102. (C)
In anaphase there is separation of chromosomes but it only occurs if there is formation of APC, without that there will be failure of this separation.

103.(B)
Correct sequence in prophase 1 is leptotene zygotene, pachtene, diplotene, diakinesis.

104. (D)
In bivalents there are two chromatids each chromosome so total Strands / chromatids are 4 in no also known as tetrad so t

105. (C)
Haploid and diploid both cells can participate in mitosis but meiosis is observed only in diploid cells.

106. (A)
DNA replication results in duplication of genetic material and this event occurs during s phase (interphase)

107. (C)
Synapsis is process of attachment of homologous chromosomes during
meiosis 1 (zygotene)

108. (B)
Most of the proteins are synthesised in G_1 stage but histone proteins are formed during a phase only.

109. (C)
Chalone, colchicine are commonly found mitotic poison.
which interfere with assembly of spindles and so with division.

110. (A)
Crossing over is exchange of segments between non sister chromatids of homologus chromosomes which occur during prophase 1 and give rise to new combinations/variations.

111. (B)
A is M phase, B is anaphase
C is cytokinesis DISS phase

112. (D)
Total 127 divisions will give birth to 128 cells in natural setting (arithmetic division)

113. (B)
DNA replication results in duplication of genetic material and this event occurs during s phase (interphase)

114. (A)
Amitosis is mostly shown by prokaryotic cells

115. (B)
Binomial stand for 2 components in naming 1st is Generic name or name of Genus and 2nd term represents species epithet.

116. (A)
Species is a group of individual which can interbreed and produce a fertile offspring.

117. (C)
New-systematics term was coined by Julian Huxley

118. (D)
All these terms are official ranks in taxonomy also known as category

119. (C)
Total biodiversity estimated is between 17 to 18 lakh

120. (A)
Species is the smallest taxa or basic unit of classification,

121. (B)
Binomial stand for 2 components in naming 1st is Generic name or name of Genus and 2nd term represents species epithet.

122. (C)
C. Linnaeus was the author of these books.

123. (B)
ICBN is agency for authorising botanical names stands for INTERNATIONAL CODE FOR BOTANICAL NOMENCLATURE

124. (C)
Interphase between meiosis 1 and 2 is without s phase and very short in duration also known as interkinesis

125. (B)
This phase is metaphase in which all chromosomes are arranged on equator and each chromosome is made of 2 sister chromatids

126. (B)
Centrosomes duplicate in 5 phase of interphase

127. (D)
Interphase consists of 3 stages growth phase 1 followed by s phase or replicative phase and in last G_2 phase or 2^{nd} growth phase.

128. (A)
Cell division and cell enlargement are 2 mechanism of growth

129. (C)
Seasonal plants and breeding animal are affected by relative duration of light also known as photoperiod

130. (B)
linnaeus was founder of binomial nomenclature

131. (C)
Monograph is a tretise having all information about a spacific taxon like family or genus.

132. (B)
Ex situ conservation involves conservation of any living species in artificial setting in protected environment,

133. (C)
Self-consciousness is a feature only exhibited by human not by all living organisms

134. (D)
Growth of non-living objects like mountains or a pile of something is always external deposition and reversible in nature

135. (D)
When genus name and species epithet are same it is termed tautonym (these are applicable only in case of animals)

Note - If you have any query/issue

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