

National Testing Agency

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Genetics and Genomics

Group Number :	1
Group Id :	899514135
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Group Marks :	100
Is this Group for Examiner? :	No

Genetics and Genomics

Section Id :	899514183
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100

Section Marks : 100
Mark As Answered Required? : Yes
Sub-Section Number : 1
Sub-Section Id : 899514224
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 89951411516 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Polytene chromosomes were discovered by

- a) Boveri
- b) Balbiani
- c) Koller
- d) Walther Flemming

Options :

89951445002. 1
89951445003. 2
89951445004. 3
89951445005. 4

Question Number : 2 Question Id : 89951411517 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Semi-conservative mode of DNA replication was first demonstrated in

- a) *Drosophila melanogaster*
- b) *Saccharomyces cerevisiae*
- c) *Escherichia coli*
- d) *Streptococcus pneumoniae*

Options :

89951445006. 1
89951445007. 2
89951445008. 3
89951445009. 4

Question Number : 3 Question Id : 89951411518 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Histone in human nucleosome is rich in

- a) Lysine & Arginine
- b) Cysteine & Methionine
- c) Aspartate & Glutamate
- d) Tryptophan & Arginine

Options :

- 89951445010. 1
- 89951445011. 2
- 89951445012. 3
- 89951445013. 4

Question Number : 4 Question Id : 89951411519 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Lampbrush chromosomes were discovered in

- a) salamander egg cells
- b) Drosophila
- c) C. elegans
- d) Zebra fish

Options :

- 89951445014. 1
- 89951445015. 2
- 89951445016. 3
- 89951445017. 4

Question Number : 5 Question Id : 89951411520 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The zig-zag appearance of the chromatin fibre is due to

- a) Nucleosome
- b) Histone H1
- c) Histone core
- d) Linker DNA

Options :

89951445018. 1
89951445019. 2
89951445020. 3
89951445021. 4

Question Number : 6 Question Id : 89951411521 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Number of chromosomes present in *Drosophila melanogaster*

- a) 8
- b) 6
- c) 4
- d) 2

Options :

89951445022. 1
89951445023. 2
89951445024. 3
89951445025. 4

Question Number : 7 Question Id : 89951411522 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Relatedness between diploid females in a hive is

- a) 1
- b) 0
- c) $\frac{3}{4}$
- d) $\frac{1}{2}$

Options :

- 89951445026. 1
- 89951445027. 2
- 89951445028. 3
- 89951445029. 4

Question Number : 8 Question Id : 89951411523 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In ZZ-ZW sex determining mechanism of birds, which chromosome carries female sex determining genes

- a) Z
- b) W
- c) X
- d) None of the above

Options :

- 89951445030. 1
- 89951445031. 2
- 89951445032. 3
- 89951445033. 4

Question Number : 9 Question Id : 89951411524 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Dioscoria sinulata, which parent is homogametic?

- a) Male
- b) Female
- c) Both the parents
- d) None of the parents

Options :

- 89951445034. 1
- 89951445035. 2
- 89951445036. 3
- 89951445037. 4

Question Number : 10 Question Id : 89951411525 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Repetitive sequence in human telomere

- a) AATTCC
- b) TTTAGG
- c) TTAGGG
- d) TAAGGG

Options :

- 89951445038. 1
- 89951445039. 2
- 89951445040. 3
- 89951445041. 4

Question Number : 11 Question Id : 89951411526 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Chromosomal theory of inheritance was proposed by

- a) Muller & Morgan
- b) Correns & Mendel
- c) Morgen & Bateson
- d) Sutton & Boveri

Options :

- 89951445042. 1
- 89951445043. 2
- 89951445044. 3
- 89951445045. 4

Question Number : 12 Question Id : 89951411527 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Chromosomal theory of linkage was proposed by

- a) Sutton & Boveri
- b) T.H. Morgan & William Bateson
- c) Alfred Henry Sturtevant
- d) T.H. Morgan and William Ernest Castle

Options :

89951445046. 1

89951445047. 2

89951445048. 3

89951445049. 4

Question Number : 13 Question Id : 89951411528 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Who constructed the first genetic map of a chromosome?

- a) Alfred Henry Sturtevant
- b) Heinrich Wilhelm Gottfried
- c) Calvin Blackman Bridges
- d) William Ernest Castle

Options :

89951445050. 1

89951445051. 2

89951445052. 3

89951445053. 4

Question Number : 14 Question Id : 89951411529 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Crossing over and recombination occur in which phase of meiosis?

- a) Leptotene
- b) Zygotene
- c) Pachytene
- d) Diplotene

Options :

- 89951445054. 1
- 89951445055. 2
- 89951445056. 3
- 89951445057. 4

Question Number : 15 Question Id : 89951411530 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Phenomenon of partial linkage is initially observed in which plant?

- a) *Mirabilis jalapa*
- b) *Antirrhinum majus*
- c) *Lathyrus odoratus*
- d) Snapdragon

Options :

- 89951445058. 1
- 89951445059. 2
- 89951445060. 3
- 89951445061. 4

Question Number : 16 Question Id : 89951411531 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The ion required for activation of amino acids by enzyme *aminoacyl-t-RNA synthetase* is

- (a) Mn^{2+}
- (b) Mg^{2+}
- (c) Zn^{2+}
- (d) Cl^-

Options :

- 89951445062. 1
- 89951445063. 2
- 89951445064. 3
- 89951445065. 4

Question Number : 17 Question Id : 89951411532 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is not a post translational modification?

- (a) Proteolysis
- (b) Protein folding
- (c) Glycosylation
- (d) Lipid addition

Options :

- 89951445066. 1
- 89951445067. 2
- 89951445068. 3
- 89951445069. 4

Question Number : 18 Question Id : 89951411533 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In most eukaryotes, the ribosomal binding site on mRNA is

- (a) Kozak sequence
- (b) Shine Dalgarno sequence
- (c) Kazhak sequence
- (d) Pribnow sequence

Options :

- 89951445070. 1
- 89951445071. 2
- 89951445072. 3
- 89951445073. 4

Question Number : 19 Question Id : 89951411534 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

UGA is usually a stop codon in almost all organism. But in mycoplasma, spiroplasma, and mitochondria of some, it is an unusual codon which codes for

- (a) Thr
- (b) Gln
- (c) Cys
- (d) Trp

Options :

89951445074. 1
89951445075. 2
89951445076. 3
89951445077. 4

Question Number : 20 Question Id : 89951411535 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

In prokaryotes, the first amino acid in a polypeptide chain is

- (a) mMet
- (b) fMet
- (c) bMet
- (d) eMet

Options :

89951445078. 1
89951445079. 2
89951445080. 3
89951445081. 4

Question Number : 21 Question Id : 89951411536 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

The introns in mRNA are removed as

- (a) lariat structure
- (b) circular structure
- (c) linear structure
- (d) stem loop structure

Options :

89951445082. 1

89951445083. 2

89951445084. 3

89951445085. 4

Question Number : 22 Question Id : 89951411537 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Who deciphered the genetic code?

- (a) Kary Mullis
- (b) Scheiden & Schwann
- (c) Marshall Nirenberg & Heinrich Mathhaei
- (d) Pouls Aman

Options :

89951445086. 1

89951445087. 2

89951445088. 3

89951445089. 4

Question Number : 23 Question Id : 89951411538 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Translation is initiated by

- (a) β
- (b) γ
- (c) ρ
- (d) σ

Options :

89951445090. 1
89951445091. 2
89951445092. 3
89951445093. 4

Question Number : 24 Question Id : 89951411539 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Tetracycline blocks protein synthesis by

- (a) inhibiting binding of aminoacyl tRNA to ribosome
- (b) inhibiting initiation translation
- (c) inhibiting peptidyl transferase
- (d) inhibiting translocase enzyme

Options :

89951445094. 1
89951445095. 2
89951445096. 3
89951445097. 4

Question Number : 25 Question Id : 89951411540 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

What is the terminal sequence in acceptor arm of tRNA?

- (a) GCA
- (b) ACC
- (c) CCA
- (d) GGA

Options :

89951445098. 1
89951445099. 2
89951445100. 3
89951445101. 4

Question Number : 26 Question Id : 89951411541 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The two strands of the DNA are connected by

- a. Hydrogen bond
- b. Peptide bond
- c. Ionic bond
- d. Covalent bond

Options :

89951445102. 1

89951445103. 2

89951445104. 3

89951445105. 4

Question Number : 27 Question Id : 89951411542 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The term “transforming principle” was coined by

- a. Oscar Hertwig
- b. Frederick Griffith
- c. Oswald Avery
- d. Colin MacLeod

Options :

89951445106. 1

89951445107. 2

89951445108. 3

89951445109. 4

Question Number : 28 Question Id : 89951411543 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Hershey-Chase experiment confirms that

- a) DNA is always formed from DNA in semiconservative manner
- b) Sulphur and Protein both enter in bacterial cell progeny
- c) DNA is genetic material, not protein
- d) Radioactive Phosphorus was only found in surrounding

Options :

- 89951445110. 1
- 89951445111. 2
- 89951445112. 3
- 89951445113. 4

Question Number : 29 Question Id : 89951411544 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Type of sugar in DNA are

- a. Triose
- b. Pentose
- c. Tetrose
- d. Hexose

Options :

- 89951445114. 1
- 89951445115. 2
- 89951445116. 3
- 89951445117. 4

Question Number : 30 Question Id : 89951411545 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The most abundant type of RNA in the cell is

- a. rRNA
- b. tRNA
- c. mRNA
- d. hnRNA

Options :

- 89951445118. 1
- 89951445119. 2
- 89951445120. 3
- 89951445121. 4

Question Number : 31 Question Id : 89951411546 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which statement is not true?

- a. A and C DNA has 3' endopuckering
- b. A DNA has 3' endopuckering
- c. C DNA has 2' endopuckering
- d. A and C DNA has 3' and 2' endopuckering respectively

Options :

89951445122. 1

89951445123. 2

89951445124. 3

89951445125. 4

Question Number : 32 Question Id : 89951411547 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Left-handed DNA

- a. A DNA
- b. B DNA
- c. Z DNA
- d. C DNA

Options :

89951445126. 1

89951445127. 2

89951445128. 3

89951445129. 4

Question Number : 33 Question Id : 89951411548 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is true about phosphodiester linkage?

- a) 5'-phosphate group of one nucleotide unit is joined to the 3'-hydroxyl group of the next nucleotide
- b) 3'-phosphate group of one nucleotide unit is joined to the 5'-hydroxyl group of the next nucleotide
- c) 5'-phosphate group of one nucleotide unit is joined to the 5'-hydroxyl group of the next nucleotide
- d) 3'-phosphate group of one nucleotide unit is joined to the 3'-hydroxyl group of the next nucleotide

Options :

89951445130. 1

89951445131. 2

89951445132. 3

89951445133. 4

Question Number : 34 Question Id : 89951411549 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Group of adjacent nucleotides are joined by

- a) Phosphodiester bond
- b) Peptide bond
- c) Ionic bond
- d) Covalent bond

Options :

89951445134. 1

89951445135. 2

89951445136. 3

89951445137. 4

Question Number : 35 Question Id : 89951411550 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Identify the purine base of nucleic acids in the following

- a) Cytosine
- b) Thymine
- c) Uracil
- d) Adenine

Options :

89951445138. 1

89951445139. 2

89951445140. 3

89951445141. 4

Question Number : 36 Question Id : 89951411551 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following enzymes remove supercoiling in replicating DNA ahead of the replication fork?

- a. DNA polymerases
- b. Helicases
- c. Primases
- d. Topoisomerases

Options :

89951445142. 1

89951445143. 2

89951445144. 3

89951445145. 4

Question Number : 37 Question Id : 89951411552 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

At which end are the new DNA bases added

- a) 5' triphosphate end
- b) 3' triphosphate end
- c) 5' OH end
- d) 3' OH end

Options :

89951445146. 1
89951445147. 2
89951445148. 3
89951445149. 4

Question Number : 38 Question Id : 89951411553 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of this subunit is not a part of core DNA polymerase?

- a) Alpha
- b) Beta
- c) Theta
- d) Eta

Options :

89951445150. 1
89951445151. 2
89951445152. 3
89951445153. 4

Question Number : 39 Question Id : 89951411554 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Rolling circle mode of replication is _____

- a) Conservative
- b) Non Conservative
- c) Semi – Conservative
- d) Dispersed

Options :

89951445154. 1
89951445155. 2
89951445156. 3
89951445157. 4

Question Number : 40 Question Id : 89951411555 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which type of DNA is connected by a holiday junction?

- a) Homologous DNA duplex
- b) Heteroduplex DNA
- c) Mutated DNA
- d) Asymmetric DNA

Options :

89951445158. 1

89951445159. 2

89951445160. 3

89951445161. 4

Question Number : 41 Question Id : 89951411556 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

What is resolution?

- a) Cleavage of holiday junction
- b) Regeneration of duplex DNA molecule
- c) Exchange of DNA fragments
- d) Heterochromatin structure formation

Options :

89951445162. 1

89951445163. 2

89951445164. 3

89951445165. 4

Question Number : 42 Question Id : 89951411557 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following promotes strand exchange?

- a. DBS formation
- b. Hetero duplex formation
- c. Strand invasion protein
- d. Branch migration

Options :

89951445166. 1

89951445167. 2

89951445168. 3

89951445169. 4

Question Number : 43 Question Id : 89951411558 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The reaction in DNA replication catalyzed by DNA ligase is

- a. Addition of new nucleotides to the leading strand
- b. Addition of new nucleotide to the lagging strand
- c. Formation of a phosphodiester bond between the 3'-OH of one Okazaki fragment and the 5'-phosphate of the next on the lagging strand
- d. Base pairing of the template and the newly formed DNA strand

Options :

89951445170. 1

89951445171. 2

89951445172. 3

89951445173. 4

Question Number : 44 Question Id : 89951411559 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

DNA unwinding is done by

- a. Ligase
- b. Helicase
- c. Topoisomerase
- d. Hexonuclease

Options :

89951445174. 1

89951445175. 2

89951445176. 3

89951445177. 4

Question Number : 45 Question Id : 89951411560 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following enzymes is the principal replication enzyme in *E. coli*?

- a. DNA polymerase I
- b. DNA polymerase II
- c. DNA polymerase III
- d. None of these

Options :

89951445178. 1

89951445179. 2

89951445180. 3

89951445181. 4

Question Number : 46 Question Id : 89951411561 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is correct?

- a) A forms 2 hydrogen bonds with G; T forms 3 hydrogen bonds with C
- b) A forms 3 hydrogen bonds with T; G forms 2 hydrogen bonds with C
- c) A forms 2 covalent bonds with T; G forms 3 covalent bonds with C
- d) A forms 2 hydrogen bonds with T; G forms 3 hydrogen bonds with C

Options :

89951445182. 1

89951445183. 2

89951445184. 3

89951445185. 4

Question Number : 47 Question Id : 89951411562 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Those cancers that derived from ectoderm or endoderm of epithelial cell are called

- a) Carcinoma
- b) Sarcoma
- c) Leukaemia
- d) Myeloid
- e) Non-of these

Options :

89951445186. 1

89951445187. 2

89951445188. 3

89951445189. 4

89951445190. 5

Question Number : 48 Question Id : 89951411563 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Achromatopsia in man in otherwise known as

- a) Haemophila
- b) Muscular dystrophy
- c) Colour blindness
- d) Hydrocephalus

Options :

89951445191. 1

89951445192. 2

89951445193. 3

89951445194. 4

Question Number : 49 Question Id : 89951411564 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The genotype of XX-cc refers to the

- a) Colour blind daughter
- b) Colour blind son
- c) Colour blind grand-son
- d) Colour blind grand-daughter

Options :

89951445195. 1

89951445196. 2

89951445197. 3

89951445198. 4

Question Number : 50 Question Id : 89951411565 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The plasmid-mediated properties is/are

- a) fermentation of lactose
- b) production of enterotoxin
- c) resistance to antibiotics
- d) all of these

Options :

89951445199. 1

89951445200. 2

89951445201. 3

89951445202. 4

Question Number : 51 Question Id : 89951411566 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In the extracellular medium, DNA-degrading enzymes would likely be to prevent transfer of DNA by

- a) conjugal transfer by a self-transmissible plasmid
- b) generalized phage transduction
- c) natural transformation
- d) none of the above

Options :

89951445203. 1

89951445204. 2

89951445205. 3

89951445206. 4

Question Number : 52 Question Id : 89951411567 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Alleles are

- a) Genes responsible for different traits
- b) Alternative forms of a gene for a single trait
- c) The gene's location
- d) Recessive genes

Options :

89951445207. 1

89951445208. 2

89951445209. 3

89951445210. 4

Question Number : 53 Question Id : 89951411568 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

"Phenotype" means

- a) Shape and appearance
- b) Image and hereditary
- c) Mathematical form
- d) Shape and birth or origin,

Options :

89951445211. 1
89951445212. 2
89951445213. 3
89951445214. 4

Question Number : 54 Question Id : 89951411569 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Mendel studied the characters in garden peas that showed

- a) complete dominance
- b) Pleiotropy
- c) Epistasis
- d) Incomplete dominance

Options :

89951445215. 1
89951445216. 2
89951445217. 3
89951445218. 4

Question Number : 55 Question Id : 89951411570 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Incomplete dominance - example

- a) ABO blood groups in humans
- b) Coat color in rabbits
- c) Pink flowers in heterozygous *Mirabilis jalapa*
- d) Height in garden peas

Options :

89951445219. 1
89951445220. 2
89951445221. 3
89951445222. 4

Question Number : 56 Question Id : 89951411571 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Albinism is

- a) lack of production of pigment
- b) Inability to produce normal connective tissue
- c) the presence of two different codominant alleles
- d) An extra chromosome 21

Options :

89951445223. 1

89951445224. 2

89951445225. 3

89951445226. 4

Question Number : 57 Question Id : 89951411572 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In addition to RNA polymerase enzyme, the transcription in eukaryotes requires

- a) Start and stop codons
- b) Transcription factors
- c) Ribosomes and tRNA
- d) Aminoacyl synthetase

Options :

89951445227. 1

89951445228. 2

89951445229. 3

89951445230. 4

Question Number : 58 Question Id : 89951411573 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The promoters recognized by RNA polymerase II consists of short conserved elements is called

- a) Octamer box
- b) GC box
- c) CAAT box
- d) TATA box

Options :

89951445231. 1

89951445232. 2

89951445233. 3

89951445234. 4

Question Number : 59 Question Id : 89951411574 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The average half-life of a gene transcript in eukaryotes is about ----- hours.

- a) One
- b) Three
- c) Five
- d) Eight

Options :

89951445235. 1

89951445236. 2

89951445237. 3

89951445238. 4

Question Number : 60 Question Id : 89951411575 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Linkage _____ as the distance between two genes _____

- a) Decreases, decreases
- b) Unaffected, Decreases
- c) Decreases, Increases
- d) Increases, Increases

Options :

89951445239. 1
89951445240. 2
89951445241. 3
89951445242. 4

Question Number : 61 Question Id : 89951411576 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In *Drosophila* males there is complete linkage. What is the reason behind this?

- a) The genes are very closely located
- b) Coupling theory
- c) No synapsis
- d) Unknown reason

Options :

89951445243. 1
89951445244. 2
89951445245. 3
89951445246. 4

Question Number : 62 Question Id : 89951411577 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Linkage results in _____

- a) Formation of more Dominant phenotype
- b) Formation of more Wild phenotype
- c) Formation of more parental phenotype
- d) Formation of more recombinant phenotype

Options :

89951445247. 1
89951445248. 2
89951445249. 3
89951445250. 4

Question Number : 63 Question Id : 89951411578 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Accurate mapping of genes can be done using _____

- a) Two point mapping
- b) Three point mapping
- c) Single gene mapping
- d) None of the mentioned

Options :

89951445251. 1

89951445252. 2

89951445253. 3

89951445254. 4

Question Number : 64 Question Id : 89951411579 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Recombination occurs in _____

- a) Single strand stage
- b) Two strand stage
- c) Three strand stage
- d) Four stand stage

Options :

89951445255. 1

89951445256. 2

89951445257. 3

89951445258. 4

Question Number : 65 Question Id : 89951411580 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Complete linkage has been reported in

- a) Maize
- b) Human female
- c) Male *Drosophila*
- d) Female *Drosophila*

Options :

- 89951445259. 1
- 89951445260. 2
- 89951445261. 3
- 89951445262. 4

Question Number : 66 Question Id : 89951411581 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The nicking of DNA is followed by the adherence of a helicase known as

- a) Uvr D
- b) Uvr A
- c) Uvr B
- d) Uvr C

Options :

- 89951445263. 1
- 89951445264. 2
- 89951445265. 3
- 89951445266. 4

Question Number : 67 Question Id : 89951411582 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Hereditary blood disease was discovered by...?

- a. Morgan
- b. Mendel
- c. Muller
- d. John Conrad Cotto

Options :

- 89951445267. 1
- 89951445268. 2
- 89951445269. 3

89951445270. 4

Question Number : 68 Question Id : 89951411583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Type of mutation in which a pyrimidine is substituted for a purine

- a) Transition
- b) Transversion
- c) Conversion
- d) Deletion

Options :

89951445271. 1
89951445272. 2
89951445273. 3
89951445274. 4

Question Number : 69 Question Id : 89951411584 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

When two genes are situated very close to one another at a chromosome, the following condition occurs

- a) The percentage of crossing over between them is very high
- b) Hardly any cross overs are produced
- c) No crossing over can take place
- d) Only double Cross overs can occur between them

Options :

89951445275. 1
89951445276. 2
89951445277. 3
89951445278. 4

Question Number : 70 Question Id : 89951411585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

In four o'clock plant normal leaves A and variegated leaves B occur in different plants, if B male is crossed with A female the hybrid has normal leaves but when B female is crossed with A male the hybrid has variegated leaves, it is a case of

- a) Mutation
- b) Cytoplasmic inheritance
- c) Complementary genes
- d) Supplementary genes

Options :

- 89951445279. 1
- 89951445280. 2
- 89951445281. 3
- 89951445282. 4

Question Number : 71 Question Id : 89951411586 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

In Eukaryotes the region between 1st AUG and 5'-G cap is known as _____

- a) Leader
- b) Attenuator
- c) UTR
- d) ORF

Options :

- 89951445283. 1
- 89951445284. 2
- 89951445285. 3
- 89951445286. 4

Question Number : 72 Question Id : 89951411587 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0

Prokaryotes have one RNA polymerase. How many RNA polymerases are there in eukaryotes?

- a) 2
- b) 3
- c) 4
- d) None

Options :

- 89951445287. 1
- 89951445288. 2
- 89951445289. 3
- 89951445290. 4

Question Number : 73 Question Id : 89951411588 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

At which end are the new DNA bases added?

- a) 5' triphosphate end
- b) 3' triphosphate end
- c) 5' OH end
- d) 3' OH end

Options :

- 89951445291. 1
- 89951445292. 2
- 89951445293. 3
- 89951445294. 4

Question Number : 74 Question Id : 89951411589 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Rolling circle mode of replication is _____

- a) Conservative
- b) Non Conservative
- c) Semi – Conservative
- d) Dispersed

Options :

89951445295. 1
89951445296. 2
89951445297. 3
89951445298. 4

Question Number : 75 Question Id : 89951411590 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of these populations could meet the criteria required for Hardy-Weinberg equilibrium?

- a) A population of over 50,000 elephants routinely travels from the western region of Africa to a more central region to deal with seasonal food supply fluctuations.
- b) Finches randomly mate on a small island in the Caribbean. These birds eat hard-shelled seeds, so finches with short, strong beaks experience directional selection.
- c) A very large group of people has a near-zero mutation rate, no migration, and a tendency to marry their first cousins.
- d) A population of about 100,000 wild cats mate randomly and stay in the same area. Their mutation rate is negligible and their environment contains no factors that select for specific traits.

Options :

89951445299. 1
89951445300. 2
89951445301. 3
89951445302. 4

Question Number : 76 Question Id : 89951411591 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Assume B is a dominant allele for black hair and r is a recessive allele for red hair. If one parent has black hair, with the genotype Br, with and the other parent has red hair, with the genotype rr, what are the potential genotypes for their children?

- a) BB, rr, rr
- b) Br, rB, rr, BB
- c) Br, Br, rr, rr
- d) Br, Br, rB, rB

Options :

89951445303. 1
89951445304. 2
89951445305. 3
89951445306. 4

Question Number : 77 Question Id : 89951411592 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Individuals who possess a copy of both a dominant and recessive allele are called:

- a) an anomaly
- b) a Founder
- c) homozygous
- d) heterozygous

Options :

89951445307. 1
89951445308. 2
89951445309. 3
89951445310. 4

Question Number : 78 Question Id : 89951411593 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

What is the direction in which the transcript produced by RNA polymerase grows?

- a) 3'→5' direction on 3'→5' strand
- b) 5'→3' direction on 5'→3' strand
- c) 3'→5' direction on 5'→3' strand
- d) 5'→3' direction on 3'→5' strand

Options :

- 89951445311. 1
- 89951445312. 2
- 89951445313. 3
- 89951445314. 4

Question Number : 79 Question Id : 89951411594 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In an experiment you use RNA polymerase without its sigma factor for transcription. What will be the result that you observe?

- a) More transcription
- b) Less transcription
- c) More specific transcription
- d) More random transcription

Options :

- 89951445315. 1
- 89951445316. 2
- 89951445317. 3
- 89951445318. 4

Question Number : 80 Question Id : 89951411595 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

You wanted to isolate active RNA polymerase (with a part of the transcript associated with it) from cellular mix. For this, you perform an immunoprecipitation with anti-sigma antibody. Then you check the precipitate. What will you observe?

- a) RNA polymerase with transcript
- b) RNA polymerase without transcript
- c) Only antibody
- d) DNA with associated RNA polymerase and a transcript advertisement

Options :

- 89951445319. 1
- 89951445320. 2
- 89951445321. 3
- 89951445322. 4

Question Number : 81 Question Id : 89951411596 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which part of sigma factor associates with -10box?

- a) 1.2
- b) 2.4
- c) 4.4
- d) 4.2

Options :

- 89951445323. 1
- 89951445324. 2
- 89951445325. 3
- 89951445326. 4

Question Number : 82 Question Id : 89951411597 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of these is the first event to take place during transcription initiation?

- a) Formation of a closed initiation complex
- b) Formation of open initiation complex
- c) Formation of absorptive transcript
- d) Promoter clearance

Options :

- 89951445327. 1
- 89951445328. 2
- 89951445329. 3
- 89951445330. 4

Question Number : 83 Question Id : 89951411598 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The catalytic unit of RNA polymerases when placed properly during initiation is just over

-
- a) -1 site
 - b) 0 site
 - c) +1 site
 - d) - 10 site

Options :

- 89951445331. 1
- 89951445332. 2
- 89951445333. 3
- 89951445334. 4

Question Number : 84 Question Id : 89951411599 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Rho protein, that is necessary for transcription termination, is a _____

- a) Homotetramer
- b) Heterotetramer
- c) Heterohexamer
- d) Homohexamer

Options :

- 89951445335. 1
- 89951445336. 2
- 89951445337. 3
- 89951445338. 4

Question Number : 85 Question Id : 89951411600 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Two alleles for pea plant height are designated T (tall) and t (dwarf). These alleles are found on:

- a) Genes
- b) sex chromosomes
- c) ribosomes
- d) homologous chromosome

Options :

- 89951445339. 1
- 89951445340. 2
- 89951445341. 3
- 89951445342. 4

Question Number : 86 Question Id : 89951411601 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

An animal has 40 chromosomes in its gametes, how many chromosomes would you expect to find in this animal's brain cells?

- a) 40
- b) 60
- c) 80
- d) 120

Options :

- 89951445343. 1
- 89951445344. 2
- 89951445345. 3

89951445346. 4

Question Number : 87 Question Id : 89951411602 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

During which phase of mitosis is DNA replicated?

- a) Prophase
- b) Leptotene
- c) Interphase
- d) Telophase

Options :

89951445347. 1

89951445348. 2

89951445349. 3

89951445350. 4

Question Number : 88 Question Id : 89951411603 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A picture of a person's chromosomes is called as:

- a) Syntype
- b) Karyotype
- c) Fingerprint
- d) Karyomorph

Options :

89951445351. 1

89951445352. 2

89951445353. 3

89951445354. 4

Question Number : 89 Question Id : 89951411604 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The phase of meiosis at which process of crossing over occurs?

- a) Anaphase I
- b) Prophase I
- c) Anaphase II
- d) Prophase II

Options :

89951445355. 1

89951445356. 2

89951445357. 3

89951445358. 4

Question Number : 90 Question Id : 89951411605 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A protein that plays a central role in DNA folding

- a) Nucleosome
- b) Histamine
- c) Histone
- d) Chromatin

Options :

89951445359. 1

89951445360. 2

89951445361. 3

89951445362. 4

Question Number : 91 Question Id : 89951411606 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

What is the centromere of a chromosome?

- a) Structure in a chromosome that holds together the two chromatids
- b) The longest arm of the chromosome
- c) The part of the cell where the chromosome is located
- d) None of the Above

Options :

89951445363. 1

89951445364. 2

89951445365. 3

89951445366. 4

Question Number : 92 Question Id : 89951411607 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Genetic Drift is more likely to happen in

- a) Aquatic population
- b) Larger population
- c) Smaller population
- d) Older population

Options :

89951445367. 1

89951445368. 2

89951445369. 3

89951445370. 4

Question Number : 93 Question Id : 89951411608 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

A virus killed most of the wolf population (e.g. dropped the population from 9000 to 900). In an effort to help preserve the species, scientists caught 20 of the remaining wolf and used them to start a new population. Which of the following statements would accurately describe the new population?

- a) The new wolf population is genetically less diverse than the original population
- b) The new wolf population is genetically more diverse than the original population
- c) There is equal genetic variety compared to the original population
- d) None of the answers

Options :

89951445371. 1

89951445372. 2

89951445373. 3

89951445374. 4

Question Number : 94 Question Id : 89951411609 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The Hershey and Chase experiment served as powerful independent confirmation that DNA was indeed the genetic material. Which organism was used in their discoveries?

- a) *S. pneumonia*
- b) Mice
- c) strains of bacteria
- d) bacteriophage

Options :

89951445375. 1

89951445376. 2

89951445377. 3

89951445378. 4

Question Number : 95 Question Id : 89951411610 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Bacteriophage is a

- a) Virus eating bacteria
- b) Bacteria eating virus
- c) Viroid attacking humans
- d) Disease causing Prions

Options :

89951445379. 1

89951445380. 2

89951445381. 3

89951445382. 4

Question Number : 96 Question Id : 89951411611 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In Hershey Chase experiment protein tagging was done by

- a) Radioactive Phosphorus 37
- b) Radioactive sulphur 34
- c) radioactive sulphur 35
- d) radioactive Phosphorus 32

Options :

89951445383. 1

89951445384. 2

89951445385. 3

89951445386. 4

Question Number : 97 Question Id : 89951411612 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following statement is false about DNA?

- a) Located in chromosomes
- b) Carries genetic information from parent to offspring
- c) Abundantly found in cytoplasm
- d) There is a precise correlation between amount of DNA and number of sets of chromosome per cell.

Options :

- 89951445387. 1
- 89951445388. 2
- 89951445389. 3
- 89951445390. 4

Question Number : 98 Question Id : 89951411613 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Constant change in DNA is occurring due to

- a) Replication
- b) Transcription
- c) Translation
- d) Mutation

Options :

- 89951445391. 1
- 89951445392. 2
- 89951445393. 3
- 89951445394. 4

Question Number : 99 Question Id : 89951411614 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following combination is a correct observation for the transformation?

- a) Type IIIS (living) + mouse = dead
- b) Type IIIS (heat killed) + mouse = dead
- c) Type IIR (living) + mouse = dead
- d) Type IIIS (heat killed) + type IIR (living) + mouse = living

Options :

- 89951445395. 1
- 89951445396. 2
- 89951445397. 3
- 89951445398. 4

**Question Number : 100 Question Id : 89951411615 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0**

Melting of DNA would lead to _____

- a) Increase in UV absorption
- b) Increase in Fluorescence
- c) Decrease in UV absorption
- d) Decrease in fluorescence

Options :

89951445399. 1

89951445400. 2

89951445401. 3

89951445402. 4