BIOLOGY

BOOKS - SARAS PUBLICATION

GENETICS AND EVOLUTION

Example

1. Select the correct statement from the following:

A. Mutations are random and directional

B. Darwinian variations are small and directionless

C. Fitness is the end result of the ability to adapt and gets selected by nature

D. All mammals except whales and camels have seven cervical vertebrae

Answer:

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2. What are Okazaki fragments?

A. polymerize in the 5’ - to - 3’ direction and explain 3’- to - 5’ DNA replication

B. result in transcription

C. polymerize in the 3’ -to -5’ direction and forms replication fork

D. prove semi-conservative nature of DNA replication

Answer:

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3. Molecular basis of organ differentiation depends on the modulation in transcription by:

A. Anticodon

B. RNA polymerase

C. Ribosome

D. Transcription factor

Answer:

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4. During transcription, RNA polymerase holoenzyme binds to a gene promoter and assumes a saddle - like structure. What is it's DNA - binding sequence?

A. TATA

B. TTAA

C. AATT

D. CACC

Answer:

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5. Two genes R and Y are located very close on the chromosomal linkage map of maize plant. When RRYY and rryy genotypes are hybridized, the F_2 segregation will show:

A. Higher number of the parental types

B. Higher number of the recombinant types

C. Segregation in the expected $9:3:3:1$ ratio

D. Segregation in $3:1$ ratio

Answer:

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6. Differentiation of organs and tissues in a developing organism, is associated with:

A. Deletion of genes

B. Developmental mutations

C. Differential expression of genes

D. Lethal mutations

Answer:

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7. The two polynucleotide chains in DNA are

A. semiconservative

B. Parallel

C. discontinuous

D. antiparallel

Answer:

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8. Which one of the following pairs of plant structures has haploid number of chromosomes?

A. Megaspore mother cell and antipodal cells

B. Egg cell and antipodal cells

C. Nucleus and antipodal cells

D. Egg nucleus and secondary nucleus

Answer:

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9. Polytene chromosomes are formed by .....

A. Several ribosomes attached to a single mRNA

B. Many ribosomes attached to a strand of endoplasmic reticulum

C. A ribosome with several subunits

D. Ribosomes attached to each other in a linear arrangement

Answer:

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10. In the DNA molecules.

A. the total amount of purine nucleotides and pyrimidine nucleotides is not always equal

B. there are two strands which run parallel in the 5' $\rightarrow$ 3' direction

C. the proportion of Adenine in relation to thymine varies with the organism

D. there are two strands which run antiparallel one in 5’ $\rightarrow$ 3' direction and other in 3‘ $\rightarrow$ 5’

Answer:

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11. Which one of the following scientist's name is correctly matched with the theory put forth by him?

A. Weismann - Theory of continuity of Germplasm

B. Pasteur - Inheritance of acquired characters

C. De Vries - Natural selection

D. Mendel - Theory of Pangenesis

Answer:

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12. Haploids are more suitable for mutation studies than the diploids. This is because:

A. haploids are reproductively more stable than diploids

B. mutagens penetrate in haploids more effectively than is diploids

C. haploids are more abundant in nature than diploids

D. all mutations, whether dominant or recessive are expressed in haploids

Answer:

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13. The linking of antibiotic resistance gene with the plasmid vector became possible with:

A. DNA ligase

B. Endonucleases

C. DNA polymerase

D. Exonucleases

Answer:

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14. Which one of the following is commonly used in transfer of foreign DNA into crop plants?

A. Meloidogyne incognita

B. Agrobacterium tumefaciens

C. Penicillium expansum

D. Trichoderma harzianum

Answer:

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15. The genetic defect adenosine deaminase deficiency may be cured permanently by

A. administering adenosine deaminase activators

B. introducing bone marrow cells producing ADA into cells at early embryonic stages

C. enzyme replacement therapy

D. periodic infusion of genetically engineered lymphocytes having functional ADA cDNA

Answer:

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16. Which one of the following cannot be explained on the basis of Mendel's law of dominance?

A. The discrete unit controlling a particular character is called a factor

B. Out of one pair of factors one is dominant and the other recessive

C. Alleles do not show any blending and both the characters recover as such in F_2 generation

D. Factors occur in pairs

Answer:

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17. ABO blood groups in humans are controlled by the gene I. It has three alleles - IA, IB and i. Since there are three different

alleles, six different genotypes are possible. How many phenotypes can occur?

A. Three

B. One

C. Four

D. Two

Answer:

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18. Select the correct statement from the ones given below with respect to dihybrid cross

A. Tightly linked genes on the same chromosome show higher recombinations

B. Genes far apart on the same chromosome show very few recombinations

C. Genes loosely linked on the same chromosome show similar recombinations as the tightly linked ones

D. Tightly linked genes on the same chromosome show very few recombinations

Answer:

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19. The one aspect which is not a salient feature of genetic code, is its being:

A. Degenerate

B. Ambiguous

C. Universal

D. Specific

Answer:

20. Which one of the following palindromic base sequence in DNA can be easily cut at about the middle by some particular restriction enzymes?

A. 5'..... CGTTCG ..... 3' 3' ..... ATGGTA ..... 5'

B. 5'..... GATATG ..... 3' 3' ..... CTACTA ..... 5'

C. 5'..... GAATTC ..... 3' 3' ..... CTTAAG ..... 5'

D. 5'..... CACGTA ..... 3' 3' ..... CTCAGT ..... 5'

Answer:

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21. DNAor RNA segment tagged with a radioactive molecule is called

A. Vector

B. Probe

C. Clone

D. Plasmid

Answer:

22. Restriction endonucleases are enzymes which

A. make cuts at specific positions within the DNA molecule

B. recognize a specific nucleotide sequence for binding of DNA ligase

C. restrict the action of the enzyme DNA polymerase

D. remove nucleotides from the ends of the DNA molecule

Answer:

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23. Satellite DNA is useful tool in:

A. Organ transplantation

B. Sex determination

C. Forensic science

D. Genetic engineering

Answer:

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24. The second maturation division of the mammalian ovum occurs:

A. Shortly after ovulation before the ovum makes entry into the Fallopian tube

B. Until after the ovum has been penetrated by a sperm

C. Until the nucleus of the sperm has fused with that of the ovum

D. in the Qraafian follicle following the first maturation division

Answer:

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25. Which one of the following statement about morula in human is correct?

A. It has almost equal quantity of cytoplasm as an uncleaved zygote but

much more DNA

B. It has far less cytoplasm as well as less DNA than in an uncleaved zygote

C. It has more or less equal quantity of cytoplasm and DNA as in uncleaved zygote

D. It has more cytoplasm and more DNA than an uncleaved zygote.

Answer:

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26. What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its roots tip cells?

A. 21

B. 42

C. 63

D. 84

Answer:

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27. What was the most significant trend in the evolution of modem man (Homo sapiens) from his ancestors?

A. Increasing brain capacity

B. Upright posture

C. Shortening of jaws

D. Binocular vision

Answer:

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28. When two unrelated individuals or lines are crossed, the performance of F_1 hybird is often superior to both its parents. This phenomenon is called

A. Metamorphosis

B. Heterosis

C. Transformation

D. Telophase

Answer:

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29. Evolution of different species in a given area staring from a point and spreading to other geographical areas is known as:

A. Adaptive radiation

B. Natural selection

C. Migration

D. Divergent evolution

Answer:

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30. Companion cells are closely associated with _____

A. Sieve elements

B. Vessel elements

C. Trichomes

D. Guard cells

Answer:

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31. Removal of RNA polymerase III nucleoplasm will affect the synthesis of

A. tRNA

B. hnRNA

C. mRNA

D. rRNA

Answer:

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32. Which one of the following is not a part of a transcription unitinDNA?

A. The inducer

B. A terminator

C. A promoter

D. The structural gene

Answer:

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33. DNAor RNA segment tagged with a radioactive molecule is called

A. Vector

B. Selectable marker

C. Plasmid

D. Probe

Answer:

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34. Which one of the following options given one correct example each of convergent evolution and divergent evolution?

A. Eyes of octopus and mammals - Bones of forelimbs of vertebrates

B. Thorns of Bougainvillea and tendrils of Cucurbita - Wings of butterflies and

birds

C. Bones of forelimbs of vertebrates - Wings of butterfly and birds

D. Thorns of Bougainvillea and tendrils Cucurbita - Eyes of Octopus and mammals

Answer:

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35. Amino acid sequence, in protein synthesis is decided by the sequence of

A. t-RNA

B. m-RNA

C. c-DNA

D. r-RNA

Answer:

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36. Ribosomal RNA is actively synthesized in

A. Lysosomes

B. Nucleolus

C. Nucleoplasm

D. Ribosomes

Answer:

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37. During gamete formation, the enzyme recombinte participates during

A. Metaphase - I

B. Anaphase - II

C. Prophase - 1

D. Prophase - II

Answer:

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38. Which one of the following is a case of wrong matching

A. Somatic hybridization - Fusion of two diverse cells

B. Vector DNA - Site for tRNA synthesis

C. Micropropagation - In vitro production of plants in large numbers

D. Callus - Unorganised mass of cell produced in tissue culture

Answer:

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39. The extinct human who lived 1,00,00 to 40,000 years ago, in Europe, Asia and parts of Africa, with short structure, heavy eyebrows, retreating fore heads, large jaws with heavy retreating fore heads, large jaws with heavy teeth stocky bodies, a lumbering gait and stooped posture was

A. Homo habilis

B. Neanderthal human

C. Cro - magnon humans

D. Ramapithecus

Answer:

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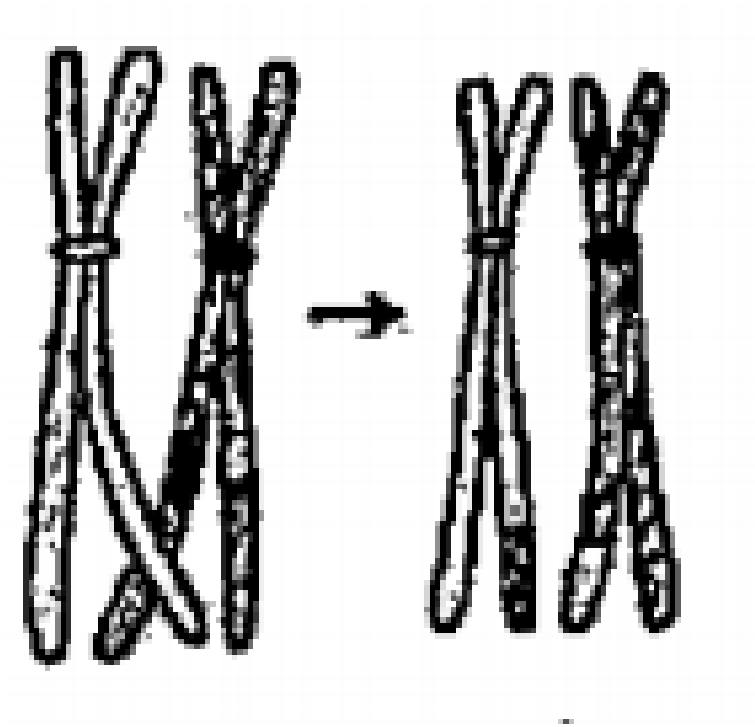
40. Given below is the representation of a certain event at a particular stage of a type of

cell division. Which is this stage?



A. Prophase I during meiosis

B. Prophase II during meiosis

C. Prophase of Mitosis

D. Both prophase and metaphase of mitosis

Answer:

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41. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are same as $1:2:1$. It represents a case of:

A. Co - dominance

B. Dihybrid cross

C. Monohybrid cross with complete dominance

D. Monohybrid cross with incomplete dominance

Answer:

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42. Interfascicular cambium develops from the cells of

A. Medullary rays

B. Xylem parenchyma

C. Endodermis

D. Pericycle

Answer:

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43. The complex formed by a pair of synapsed homologous chromosomes is called

A. Equatorial plate

B. Kinetochore

C. Bivalent

D. Axoneme

Answer:

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44. During seed germination its stored food is mobilized by

A. Ethylene

B. Cytokinin

C. ABA

D. Gibberellin

Answer:

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45. Which of the following statements is not true of two genes that show 50 % recombination frequency?

A. The genes may be on different chromosomes

B. The genes are tightly linked

C. The genes show independent assortment

D. If the genes are present on the same chromosome, they undergo more than

one crossovers in every meiosis

Answer:

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46. Variation in gene frequencies within populations can occur by chance rather than by natural selection. This is referred to as

A. Genetic flow

B. Genetic drift

C. Random mating

D. Genetic load

Answer:

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47. The tendency of population to remain in genetic equilibrium may be disturbed by

A. Random mating

B. Lack of migration

C. Lack of mutations

D. Lack of random mating

Answer:

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48. DNA fragments generated by the restriction endonucleases in a chemical reaction can be separated by

A. Centrifugation

B. Polymerase chain reaction

C. Electrophoresis

D. Restriction mapping

Answer:

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49. Which Mendelian idea is depicted by a cross in which F_1 generation resembles both the parents.

A. Incomplete dominance

B. Law of dominance

C. Inheritance of one gene

D. Co - dominance

Answer:

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50. The incorrect statement with regard to Haemophilia is

A. It is a sex- linked disease

B. It is a recessive disease

C. It is a dominant disease

D. A single protein involved in the clotting of blood is affected

Answer:

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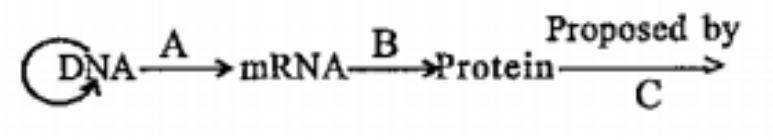
51. The diagram shows an important concept in the genetic implication of DNA Fill in the blanks A to C :



A. A - transcription, B - replication, C - James Watson

B. A translation, B - transcription, C - Erwin Chargaff

C. A - transcription, B - translation, C - Francis Crick

D. A translation, B extension, C - Rosalind Franklin

Answer:

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52. Which enzyme/s will be produced in a cell in which there is a non - sense mutation in the lac y gene?

A. β - galactosidase

B. Lactose permease

C. Transacetylase

D. Lactose permease and transacetylase

Answer:

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53. According to Darwin, the organic evolution is due to

A. Intraspecific competition

B. Interspecific competition

C. Competition within closely related species

D. Reduced feeding efficiency in one species due to the presence of interfering species

Answer:

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54. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is

A. Ectoparasitism

B. Symbiosis

C. Commensalism

D. Amensalism

Answer:

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55. Random unidirectional change in allele frequencies that occurs by chance in all populations and especially in small populations is known as

A. Mutation

B. Migration

C. Natural selection

D. Genetic drift

Answer:

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56. Which of the following is not a property of the genetic code?

A. Universal

B. Non - overlapping

C. Ambiguous

D. Degeneracy

Answer:

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57. One of the most frequently used techniques in DNA fingerprinting is

A. AFLP

B. VNTR

C. SSCP

D. SCAR

Answer:

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58. Which one of the following vectors is used to replace the defective gene in gene therapy?

A. Ti plasmid

B. Adenovirus

C. Cosmid

D. Ri plasmid

Answer:

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59. Genes of interest can be selected from a genomic library by using

A. Restriction enzymes

B. Cloning vectors

C. DNA probes

D. Gene targets

Answer:

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60. During the process of isolation of DNA, chilled ethanol is added to

A. Remove proteins such as histones

B. Precipitate DNA

C. Break open the cell to release DNA

D. Facilitate action of restriction enzymes

Answer:

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61. RNA interference involves

A. Synthesis of mRNA from DNA

B. Synthesis of cDNA from RNA using reverse transcriptase

C. Silencing of specific mRNA due to complementary RNA

D. Interference of RNA in synthesis of DNA

Answer:

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62. Select the option which shows correct matching of animal with excretory organs and excretory products:

Animal	*Excretory organs*	*Excretory products*
1) Housefly	*Renal tubules*	*Uric acid*
2) Labeo (Rohu)	*Nephridial tubes*	*Ammonia*
3) Salamander	*kidney*	*Urea*
4) Peacock	*Kidney*	*Urea*

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63. Which one is the incorrect statement with regards to the importance of pedigree analysis?

A. It helps to trace the inheritance of a specific trait

B. It confirms that DNA is the carrier of genetic information

C. It helps to understand whether the trait in question is dominant or recessive

D. It confirms that the trait is linked to one of the autosome

Answer:

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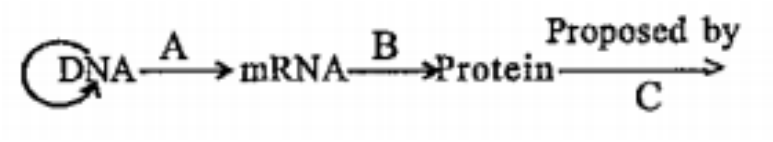
64. The diagram shows an important concept in the genetic implication of DNA Fill in the blanks A to C :



A. A - Francis Crick B - translation C- transcription

B. A - Maurice Wilkins B - transcription C - translation

C. A - James Watson B - replication C - extension

D. A - Erwin Chargaff B - translation C - replication

Answer:

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65. Microbe used for biocontrol of pest butterfly caterpillars is

A. Trichoderma sp.

B. Saccharomyces cerevisiae

C. Bacillus thuringiensi

D. Streptococcus sp.

Answer:

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66. The process of transformation was discovered by

A. Meselson and Stahl

B. Hershey and Chase

C. Griffith

D. Watson and Crick

Answer:

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67. An anylysis of chromosomal DNA using the southern hybridisation technique does not use

A. Electrophoresis

B. Blotting

C. Autoradiography

D. PCR

Answer:

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68. In vitro propagation in plans is characterized by:

A. PCR and RAPD

B. Northern blotting

C. Electrophoresis and HPLC

D. Microscopy

Answer:

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69. Which vector can clone only small fragment of DNA?

A. Bacterial artificial chromosome

B. Yeast artificial chromosome

C. Plasmid

D. Cosmid

Answer:

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70. In S phase of the cell cycle.

A. Amount of DNA doubles in each, cell

B. Amount of DNA remains same in each cell

C. Chromosome number is increased

D. Amount of DNA is reduced to half in each cell

Answer:

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71. A human female with Turner's syndrome

A. Has 45 chromosome with XO

B. Has one additional X chromosome

C. Exhibits male characters

D. Is able to produce children with normal husband

Answer:

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72. Commonly used vectors for human genome sequencing are

A. T-DNA

B. BAC and YAC

C. Expression Vectors

D. T/A cloning Vectors

Answer:

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73. Leaves are modified into spines in _____

A. Opuntia

B. Pea

C. Onion

D. Silk Cotton

Answer:

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74. Chromosome in which centromere is located at the end is .....

A. Metacentric

B. Acrocentric

C. Telocentric

D. Sub - metacentric

Answer:

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75. The movement of a gene from one linkage group to another is called

A. Inversion

B. Duplication

C. Translocation

D. Crossing over

Answer:

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76. Multiple alleles are present

A. On different chromosomes

B. At different loci on the same chromosome

C. At the same locus of the chromosome

D. On non - sister chromatids

Answer:

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77. DNA is not present in

A. Chloroplast

B. Ribosomes

C. Nucleus

D. Mitochondria

Answer:

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78. A somatic cell that has just completed the S phase of its cell cycle, as compared to gamete of the same species, has

A. Twice the number of chromosomes and twice the amount of DNA

B. Same number of chromosomes but twice the amount of DNA

C. Twice the number of chromosomes and four times the amount of DNA

D. Four times the number of chromosomes and twice the amount of DNA

Answer:

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79. An abnormal human baby with 'XXX' sex chromosomes was born due to

A. Formation of abnormal sperms in the father

B. Formation of abnormal ova in the mother

C. Fusion of two ova and one sperm

D. Fusion of two sperms and one ovum

Answer:

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80. Alleles are

A. Different phenotype

B. True breeding homozygotes

C. Different molecular forms of a gene

D. Heterozygotes

Answer:

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81. In sea urchin DNA, which is double stranded, 17% of the bases were shown to be cytosine. The percentages of the other three bases expected to be present in the DNA are

A. G 34%, A 24.5%, T 24.5%

B. G 17%, A 16.5%, T 32.5%

C. G 17%, A 33%, T 33%

D. G 8.5%, A 50%, T 24.5%

Answer:

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82. In his classic experiments on pea plants, Mendel did not use

A. Pod length

B. Seed shape

C. Flower position

D. Seed colour

Answer:

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83. Which one of the following is not applicable to RNA?

A. 5’ phosphoryl and 3' hydroxyl ends

B. Heterocyclic nitrogenous bases

C. Chargaff.s rule

D. Complementary base pairing

Answer:

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84. The cutting of DNA at specific locations became possible with the discovery of

A. Probs

B. Selectable markers

C. Ligases

D. Restriction enzymes

Answer:

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85. In the following human pedigree, the filled symbols rpresent the affected indinviduals. Identify the type of given pedigree

A. X - linked recessive

B. Autosomal recessive

C. X - linked dominant

D. Autosomal dominant

Answer:

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86. A pleiotropic gene:

A. is a gene evolved during Pliocene

B. controls a trait only in combination with another gene

C. controls multiple traits in an individual

D. is expressed only in primitive plants

Answer:

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87. Read -I IV and find the correct order of components from outer side to inner side in a woody dicot stem

(I) secondary cortex (II) Wood

(III) Secondary phloem (IV) Phellem

A. (a), (b), (d), (c)

B. (d), (a), (c), (b)

C. (d), (c), (a), (b)

D. (c), (d), (b), (a)

Answer:

88. A gene shwing co-dominance has:

A. alleles tightly linked on the same chromosome

B. alleles that are recessive to each other

C. both alleles independently expressed in the heterozygote

D. one allele dominant on the other

Answer:

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89. Identify the correct order of organisation of gentic materials from largest to smallest:

A. Genome, chromosome, nucleotide, gene

B. Genome, chromosome, gene, nucleotide

C. Chromosome, genome, nucleotide, gene

D. Chromosome, gene, genome, nucleotide

Answer:

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90. A colorblind man marries a women with normal sight who has no history of color blindness in her family. What is the probability of their grandson being colorblind?

A. 1

B. Nil

C. 0.25

D. 0.5

Answer:

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91. Match the columns and identify the correct option:

column - I	column - II
(a) Thylakoids	(i) Disc - shaped sacs in Golgi apparatus
(b) Cristae	(ii) Condensed structure of DNA
(c) Cisternae	(iii) Flat membranous sacs in stroma
(d) Chromatin	(iv) Infoldings in mitochondria

A. (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

B. (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)

C. (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)

D. (a) - (iv), (b) - (iii), (c) - (i), (d) - (ii)

Answer:

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92. Satellite DNA is improtant because it:

A. shows high degree of polymorphism in population and also the same degree of polymorphism in an individual, which is heritable from parents to children

B. does not code for proteins and is same in all members of the population

C. codes for enzymes needed for DNA replication

D. codes for proteins needed in cell cycle

Answer:

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93. Roots play insignificant role in absorption of water in:

A. Pistia

B. Pea

C. Wheat

D. Sunflower

Answer:

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94. In a test cross involving F_1dihybrid flies, more parental type offspring were produced than the recombination type off spring. This indicates

A. Both of the characters are controlled by more than one gene

B. The two genes are located on two different chromosomes

C. Chromosomes failed to separate during meiosis

D. The two genes are linked and present on the same chromosome

Answer:

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95. A tall true breeding garden pea plant is crossed with a dwarf true breeding garden pea plant. When the F_1 plants were selfed the resulting genotypes were in the ratio of:

A. $3:1$ - Dwarf : Tall

B. $1:2:1$ - Tall homozygous : Tall heterozygous : Dwarf

C. $1:2:1$ - Tall heterozygous : Tall homozygous : Dwarf

D. $3:1$ - Tall : Dwarf

Answer:

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96. Which of the following statements is not true for cancer cells in relation to mutations?

A. Mutations inhibit production of telomerase

B. Mutations in proto - oncogenes accelerate the cell cycle

C. Mutations destroy telomerase inhibitor

D. Mutations inactivate the cell control

Answer:

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97. Which of the following is not required for any of the techniques of DNA finger - printing available at present?

A. DNA - DNA hybridization

B. Polymerase chain reaction

C. Zinc finger analysis

D. Restriction enzymes

Answer:

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98. Pick out the correct statements.

i. Haemophilia is a sex linked recessive disease

ii. Down's syndrome is due to aneuploidy

iii. Phenylketonuria is an autosomal dominant gene disorder

iv. Phenylketonuria is an autosomal recessive gene disorder

V. Sickle cell anaemia is an X-linked recessive gene disorder

A. (a), (b) and (c) are correct

B. (a) and (d) are correct

C. (b) and (d) are correct

D. (a), (c) and (d) are correct

Answer:

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99. Spindle fibers attach on to

A. Kinetosome of the chro - mosome

B. Telomere of the chro - mosome

C. Kinetochore of the chro - mosome

D. Centromere of the chro - mosome

Answer:

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100. The two polypeptides of human insulin are linked together by:

A. Disulphide bridges

B. Hydrogen bonds

C. Phosphodiester bond

D. Covalent bond

Answer:

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101. Which of the following is a restriction endonuclease?

A. RNase

B. Hind II

C. Protease

D. DNase I

Answer:

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102. A cell at telophase stage is a student in a plant brought from the field. He tells his teacher that this cell is not like other cells at telophase stage. There is no formation of cell plate and thus the cell is containing more number of chromosomes as compared to other dividing cells. This would result in

A. Polyteny

B. Aneuploidy

C. Polyploidy

D. Somaclonal variation

Answer:

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103. Taylor conducted the experiment to prove semiconservative replication on:

A. Drosophila melanogaster

B. E.coli

C. Vinca rosea

D. Vicia faba

Answer:

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104. The mechanism that causes a gene to move from one linkage group to another is called

A. Translocation

B. Crossing - over

C. Inversion

D. Duplication

Answer:

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105. Which of the following rRNAs acts as structural RNA as well as ribozyme in bacteria?

A. 23 SrRNA

B. 5.8 SrRNA

C. 5 SrRNA

D. 18 S rRNA

Answer:

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106. Which of the following restriction enzymes produces blunt ends?

A. Xho I

B. Hind III

C. Sal I

D. Eco RV

Answer:

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107. If a colour - blind man marries a woman who is homozygous for normal colour vision, the probability of their son being colour - blind is:

A. 0.75

B. 1

C. 0

D. 0.5

Answer:

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108. Genetic drift leads to.....

A. Non - reproductive population

B. Slow reproductive population

C. Small isolated population

D. Large isolated population

Answer:

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109. In Hardy - Weinberg equation, the frequency of heterozygous individual is represented by

A. pq

B. q^2

C. p^2

D. $2pq$

Answer:

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110. A molecule that can act as a genetic material must fulfill the traits given below, except:

A. It should be unstable structurally and chemically

B. It should provide the scope for slow changes that are required for evolution

C. It should be able to express itself in the form of 'Mendelian characters'

D. It should be able to generate its replication

Answer:

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111. Match the satge of meiosis in Column - I to their characteristic features in Coiumn - II and select the correct option using the codes

given below:

	Column - I		Column - II
(a)	Pachytene	(i)	Pairing of homologous chromosomes
(b)	Metaphase - I	(ii)	Terminalization of chiasmata

(c)	Diakinesis	(iii)	Crossing over takes place
(d)	Zygotene	(iv)	Chromosomes align at equatorial plate

A. (a) - (ii), (b) - (iv), (c) - (iii), (d) - (i)

B. (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)

C. (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)

D. (a) - (i), (b) - (iv), (c) - (ii), (d) - (iii)

Answer:

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112. The DNA fragments separated on an agarose get can be visualised after staining with:

A. Acetocarmine

B. Aniline blue

C. Ethidium bromide

D. Bromophenol blue

Answer:

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113. The final proof for DNA as the genetic material came from the experiments of:

A. Hershey and Chase

B. Avery, Macleod and McCarty

C. Hargobind Khorana

D. Griffith

Answer:

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114. Plants which produce characteristic pneumatophores and show vivipary belong to:

A. Halophytes

B. Bryophytes

C. Hydrophytes

D. Mesophytes

Answer:

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115. DNA fragments are:

A. Negatively charged

B. Neutral

C. Either positively or negatively charged depending on their size

D. Positively charged

Answer:

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116. Which of the following RNAs should be most abundant in animal cell?

A. t-RNA

B. m - RNA

C. mi - RNA

D. r- RNA

Answer:

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117. What is the criterion for DNA fragments movement on agarose gel during gel electrophoresis

A. The smaller the fragment size, the farther it moves

B. Positively charged fragments move to farther end

C. Negatively charged fragments do not move

D. The larger the fragment size, the farther it moves

Answer:

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118. DNA replication in bacteria occurs:

A. Within nucleolus

B. Prior to fission

C. Just before transcription

D. During S phase

Answer:

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119. Anaphase promoting complex APC is a protein degraddation macchinery necessary for proper mitosis of animal cells. If APC is defective in human cell, which of the following is expected to occur ?

A. Chromosomes will be fragmented

B. Chromosomes will not segregate

C. Recombination of chromosome arms will occur

D. Chromosomes will not condense

Answer:

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