

National Testing Agency

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Genetics And Genomics

Group Number : 1
Group Id : 41652914
Group Maximum Duration : 0
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Revisit allowed for view? : No
Revisit allowed for edit? : No
Break time: 0
Group Marks: 100

Genetics And Genomics

Section Id : 41652914
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 100
Number of Questions to be attempted: 100
Section Marks: 100
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 41652915
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 4165291031 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is known as 'Drosophila of the plant kingdom'?

- a) Arabidopsis thaliana
- b) Pisum sativum
- c) Neurospora
- d) Oryza sativa

Question Number : 2 Question Id : 4165291032 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Sex determination in plants was extensively investigated in

- a) *Pisum sativum*
- b) *Phaseolus vulgaris*
- c) *Melandrium*
- d) *Arabidopsis thaliana*

Question Number : 3 Question Id : 4165291033 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mutation was discovered by Hugo devries in

- a) *Pisum sativum*
- b) *Triticum secale*
- c) *Oenothera lamarckiana*
- d) *Mirabilis jalapa*

Question Number : 4 Question Id : 4165291034 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Temin and Baltimore discovered reverse transcriptase in

- a) Retro virus
- b) T2 phages
- c) Roux's sarcoma virus
- d) Herpes virus

Question Number : 5 Question Id : 4165291035 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In tobacco, if the diploid number of chromosomes is 48, how many chromosomes will be found in a pollen grain?

- a) 96
- b) 48
- c) 24
- d) 12

Question Number : 6 Question Id : 4165291036 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What are the repeating units of nucleic acids?

- a) phosphate molecules
- b) nucleotides
- c) bases
- d) sugar molecules

Question Number : 7 Question Id : 4165291037 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Normal human eggs have:

- a) 22 autosomes and an X chromosome
- b) 22 autosomes and a Y chromosome
- c) 23 autosomes
- d) 46 chromosomes

Question Number : 8 Question Id : 4165291038 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Griffith's transformation experiment was carried out using

- a) Escherichia coli
- b) Bacillus subtilis
- c) Diplococcus pneumoniae
- d) Salmonella typhimurium

Question Number : 9 Question Id : 4165291039 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An extra finger in humans is rare but is due to a dominant gene. When one parent is normal and the other parent has an extra finger but is heterozygous for the trait, what is the probability that the first child will be normal?

- a) 0%
- b) 25%
- c) 50%
- d) 75%

Question Number : 10 Question Id : 4165291040 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which blood type would not occur in children of a type AB mother and a type A father?

- a) O
- b) A
- c) B
- d) AB

Question Number : 11 Question Id : 4165291041 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

11. Histone four (H4) consists of 102 amino acids and it has

- a) Negative charge
- b) Positive charge
- c) Neutral
- d) Non-of these

Question Number : 12 Question Id : 4165291042 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is correct with regard to aneuploidy?

- a) Inversion
- b) $2n + 1$
- c) All aneuploid individuals die before birth
- d) $4n$

Question Number : 13 Question Id : 4165291043 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is not needed for DNA transcription?

- a) Ribosomes
- b) Nucleotides
- c) DNA
- d) Enzymes

Question Number : 14 Question Id : 4165291044 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The cytoplasm of an animal cell is divided by means of:

- a) A cleavage furrow
- b) A cell plate
- c) A cell membrane formed within the cytoplasm
- d) Mitosis

Question Number : 15 Question Id : 4165291045 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The step of mitosis in which chromosomes line up along the equatorial plane of the cell is called:

- a) Prophase
- b) Metaphase
- c) Anaphase
- d) Telophase

Question Number : 16 Question Id : 4165291046 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Carriers of the colour-blindness trait include:

- a) Men who are heterozygous for the trait
- b) Men who are homozygous for the trait
- c) Women who are heterozygous for the trait
- d) Women who are homozygous for the trait

Question Number : 17 Question Id : 4165291047 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The X-ray diffraction studies conducted by _____ were key to the discovery of the structure of DNA.

- a) McClintock
- b) Franklin
- c) Meselson and Stahl
- d) Chargaff

Question Number : 18 Question Id : 4165291048 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is not true of DNA?

- a) A pairs with T and G pairs with C
- b) Nitrogen bases are 0.34 nm apart on a DNA strand
- c) The double helix is 2.0 nm wide
- d) The double helix is 3.4 nm wide

Question Number : 19 Question Id : 4165291049 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 20 Question Id : 4165291050 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In *Drosophila* (fruit flies), eye colour is sex-linked and red eye colour is dominant to white eye colour. Which of the following are not possible in a cross between a red-eyed male and a heterozygous female?

- a) Red-eyed male
- b) White-eyed male
- c) Carrier female
- d) Homozygous white-eyed female

Question Number : 21 Question Id : 4165291051 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which statement concerning a pair of alleles for a gene controlling a single characteristic in humans is true?

- a) Both genes come from the father
- b) Both genes come from the mother
- c) One gene comes from the mother and one gene comes from the father
- d) The genes come randomly in pairs from either the mother or father

Question Number : 22 Question Id : 4165291052 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following factors could lead to variations in the offspring of asexually reproducing organisms?

- a) Crossing over
- b) Fertilization
- c) Mutations
- d) Independent assortment

Question Number : 23 Question Id : 4165291053 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Proto-oncogene in normal cells

- a) Code for proteins involved in the stimulus of cell division
- b) Suppresses progression through the cell cycle in response to DNA damage
- c) Initiates apoptosis
- d) Non of the options

Question Number : 24 Question Id : 4165291054 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During cell division there are three types of check points one of them (M checkpoint) is to ensure

- a) Chromosomes are attached to the spindle
- b) Complete DNA replication
- c) DNA not damaged or broken
- d) All of the options

Question Number : 25 Question Id : 4165291055 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 26 Question Id : 4165291056 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The haemophilia disease was first reported by

- a) Briggs
- b) Wilson
- c) Baltzer
- d) John cotto

Question Number : 27 Question Id : 4165291057 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is true about the inheritance of haemophilia and colour blindness?

- a) Father → F₁ son → F₂ grand-son
- b) Father → F₁ daughter → F₂ grand-son
- c) Mother → F₁ son → F₂ grand-daughter
- d) Both 2 and 3

Question Number : 28 Question Id : 4165291058 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following shows criss-cross pattern of inheritance?

- a) Y-linked dominant gene
- b) Y-linked recessive gene
- c) X-linked recessive gene
- d) X-linked dominant gene

Question Number : 29 Question Id : 4165291059 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Achromatopsia in man is otherwise known as

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

Question Number : 30 Question Id : 4165291060 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 31 Question Id : 4165291061 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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 the options

Question Number : 32 Question Id : 4165291062 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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 options

Question Number : 33 Question Id : 4165291063 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the term used for a segment of DNA with one or more genes in the centre and the two ends carrying inverted repeat sequences of nucleotides?

- a) Plasmid
- b) Transposon
- c) Insertion sequence
- d) None of the options

Question Number : 34 Question Id : 4165291064 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The plasmids can be eliminated from a cell by the process known as

- a) curing
- b) breaking
- c) fixing
- d) expulsion

Question Number : 35 Question Id : 4165291065 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

35. Recombination of virus genomes occurs

- a) by transduction
- b) by transcription
- c) simultaneous infection of a host cell by two viruses with homologous chromosomes
- d) by transformation

Question Number : 36 Question Id : 4165291066 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Rho-dependent termination of transcription in E. coli

- a) requires ATP
- b) requires about 50 nucleotides of uncomplexed mRNA
- c) both (a) and (b)
- d) removes mRNA and holoenzyme from the DNA

Question Number : 37 Question Id : 4165291067 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The binding of lac repressor to DNA could be considered to be analogous to

- a) competitive inhibition of an enzyme
- b) mixed-type inhibition of an enzyme
- c) uncompetitive inhibition of an enzyme
- d) allosteric effects in enzyme regulation

Question Number : 38 Question Id : 4165291068 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Promoters for tRNAs are located

- a) upstream from the start codon
- b) downstream from the start codon
- c) both (a) and (b)
- d) none of the options

Question Number : 39 Question Id : 4165291069 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

RNA polymerase in prokaryotes has a removable

- a) alpha subunit
- b) beta subunit
- c) both (a) and (b)
- d) sigma subunit

Question Number : 40 Question Id : 4165291070 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The complex of RNA polymerase, DNA template and new RNA transcript is called

- a) transcription bubble
- b) replication bubble
- c) a translation bubble
- d) none of the options

Question Number : 41 Question Id : 4165291071 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following techniques was carried out by Nirenberg and Matthaei in 1961 to determine the first codon?

- a) In vitro synthesis of a polypeptide using UUUUU
- b) Labeled peptide binding to a ribosome
- c) Mixed co-polymer mRNA synthesis
- d) none of the options

Question Number : 42 Question Id : 4165291072 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bacterial protein called catabolic activator protein (CAP) is an example of

- a) negative control of gene expression
- b) positive control of gene expression
- c) second type of positive control of gene expression
- d) none of the options

Question Number : 43 Question Id : 4165291073 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many different codons are possible?

- a) 3
- b) 20
- c) 64
- d) An infinite number

Question Number : 44 Question Id : 4165291074 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The genetic code is

- a) universal
- b) universal except for rare exceptions in mitochondria and some protozoa
- c) species-specific
- d) kingdom-specific

Question Number : 45 Question Id : 4165291075 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following has been used as an evidence that primitive life forms lacked both DNA and enzymes?

- a) RNA can both code genetic information and act as a catalyst
- b) DNA and enzymes are only present in the most advanced cells
- c) Advanced cells lack RNA
- d) All of the options

Question Number : 46 Question Id : 4165291076 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Chromosomes found in the salivary gland of drosophila is

- a) Lampbrush
- b) Polytene
- c) Supernumerary
- d) B-chromosomes.

Question Number : 47 Question Id : 4165291077 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Giant chromosome with a number of chromonemeta is

- a) Lampbrush chromosome
- b) Hetrochromosome
- c) Supernumerary chromosome
- d) Polytene chromosome

Question Number : 48 Question Id : 4165291078 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lampbrush chromosomes occur in

- a) Salivary glands
- b) Lymph gland
- c) Cancer cells
- d) Oocytes

Question Number : 49 Question Id : 4165291079 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Phenomenon which works opposite to the linkage is

- a) Independent assortment
- b) Crossing over
- c) Segregation
- d) Mutation

Question Number : 50 Question Id : 4165291080 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When two genes are situated very close to one another at a chromosome

- 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

Question Number : 51 Question Id : 4165291081 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 52 Question Id : 4165291082 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

52. In case of mitochondrial genetic code UGA is a _____ codon.

- a) Tryptophan
- b) Arginine
- c) Proline
- d) Stop

Question Number : 53 Question Id : 4165291083 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The wobble hypothesis was devised by _____

- a) Arthur Kornberg
- b) Francis Crick
- c) James Watson
- d) William Asbury

Question Number : 54 Question Id : 4165291084 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Nucleotides in RNA are joined by

- a) 3'5' phosphodiester bond
- b) 3'4' phosphodiester bond
- c) 3'2' phosphodiester bond
- d) 3'6' phosphodiester bond

Question Number : 55 Question Id : 4165291085 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Thymine in DNA is replaced by

- a) Guanine in RNA
- b) Adenine in RNA
- c) Cytosine in RNA
- d) Uracil in RNA

Question Number : 56 Question Id : 4165291086 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The most abundant type of RNA in the cell is

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

Question Number : 57 Question Id : 4165291087 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The genetic material of retroviruses such as HIV is

- a) DNA
- b) RNA
- c) protein
- d) all of these

Question Number : 58 Question Id : 4165291088 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of following RNA characteristically contains unusual purines and pyrimidines?

- a) rRNA
- b) nRNA
- c) mRNA
- d) tRNA

Question Number : 59 Question Id : 4165291089 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

You cross two heterozygous disc shaped squash. What will be the ratio obtained?

- a) 1:2:1
- b) 3:1
- c) 9:3:3:1
- d) 9:6:1

Question Number : 60 Question Id : 4165291090 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The cross between a true breeding sphere shaped and a long shaped squash gives 30 sphere squash in F₂. What is the total number of expected progeny?

- a) 30
- b) 40
- c) 50
- d) 60

Question Number : 61 Question Id : 4165291091 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A Map Unit refers to

- a) the relative distance between genes on a chromosome
- b) the chromosomes that exchange parts during meiosis
- c) the percentage of recombination
- d) A and C

Question Number : 62 Question Id : 4165291092 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In terms of understanding the pathways between genes and behaviour, it is fairly safe to say that

- a) we know more about the environment than the genes
- b) we know more about the genes than the environment
- c) the new field of molecular genetics is the best way to gain a full understanding of the gene/environment interactions in the pathways
- d) QTL analysis has actually hindered the understanding of these pathways by suggesting so many separate gene contributions to basic behaviour processes

Question Number : 63 Question Id : 4165291093 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Findings from behavioural genetics suggest that the traditional Behaviorist approach that assumes that offspring resemble their parents because parents provide the family environment for their offspring, and that siblings resemble each other because they share that family environment is

- a) mostly correct
- b) correct for parent-offspring similarities, but not for similarities/differences between siblings
- c) correct for MZ twin behavioural traits, but wrong for DZ twin behavioural traits
- d) wrong for many behavioural traits

Question Number : 64 Question Id : 4165291094 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Single-locus polymorphisms can account for

- a) much of the heritable component of obesity
- b) the regulatory mechanisms of fat storage in the body
- c) relatively few of the cases of obesity in the population
- d) ghrelin's role in appetite control

Question Number : 65 Question Id : 4165291095 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following chromosomal alterations would you expect to have the most drastic consequences?

- a) inversion
- b) duplication
- c) translocation
- d) deletion

Question Number : 66 Question Id : 4165291096 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

On a pedigree tracing the inheritance of PKU, a horizontal line joins a black square and a half-black circle. What fraction of this couple's children would you expect to suffer from PKU?

- a) none
- b) 1/4
- c) 1/2
- d) 3/4

Question Number : 67 Question Id : 4165291097 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ram and Nidhi are apparently normal, but their daughter was born with alkaptonuria, an inherited metabolic disorder. If alkaptonuria is like most human hereditary disorders, the probability of their next child being born with alkaptonuria is

- a) 0
- b) 1/4
- c) 1/2
- d) 2/3

Question Number : 68 Question Id : 4165291098 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a cross between two heterozygotes (Aa), the F₂ generation will be

- a) in the ratio 1:3 heterozygous to homozygous
- b) all heterozygous
- c) in the ratio 1:1 homozygous to heterozygous
- d) in the ratio 1:3 homozygous to heterozygous

Question Number : 69 Question Id : 4165291099 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 70 Question Id : 4165291100 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 71 Question Id : 4165291101 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 72 Question Id : 4165291102 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 73 Question Id : 4165291103 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Recombination occurs in _____

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

Question Number : 74 Question Id : 4165291104 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Complete linkage has been reported in

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

Question Number : 75 Question Id : 4165291105 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Linkage prevents

- a) Homozygous condition
- b) Segregation of alleles
- c) Hybrid formation
- d) Heterozygous condition

Question Number : 76 Question Id : 4165291106 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a family, father has a blood group 'A' and mother has a blood group 'B', Children show 50 % probability for a blood group "AB" indicate that -

- a) Father is heterozygous
- b) Mother is heterozygous
- c) Either of parent is heterozygous
- d) Mother is homozygous

Question Number : 77 Question Id : 4165291107 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The longer the chromosome of an organism, the more genetic variability it gets from,

- a) Independent assortment
- b) Linkage
- c) Crossing over
- d) Mutation.

Question Number : 78 Question Id : 4165291108 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which statement is incorrect about linkage ?

- a) It helps in maintaining the valuable traits of new varieties.
- b) It helps in forming new recombinants.
- c) Knowledge of linkage helps the breeder to combine all desirable traits in single variety
- d) It helps in locating genes on chromosome.

Question Number : 79 Question Id : 4165291109 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Genetic balance theory for sex determination in Drosophila was proposed by

- a) Prof. R. P. Roy
- b) H. E. Warmbe
- c) C.B. Bridges
- d) Mc. Chang

Question Number : 80 Question Id : 4165291110 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In Bonellia all larva are genetically and cytologically similar. In this worm mole individuals live in the uterus of female. If a particular larva settle near proboscis of an adult female, it becomes a male individuals. Larva develops free in water it becomes.

- a) Male individuals
- b) Female individuals
- c) Inter Sex
- d) Super female

Question Number : 81 Question Id : 4165291111 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

F2 generation is produced as a result of

- a) Crossing F1 individuals with dominant parent
- b) Crossing F1 individuals with recessive parent
- c) Crossing one of the parental individual with dominant individual.
- d) Crossing F1 individuals amongst them selves.

Question Number : 82 Question Id : 4165291112 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Segregation of genes take place during which phase of cell division ?

- a) Metaphase
- b) Anaphase
- c) prophase
- d) Embryo formation

Question Number : 83 Question Id : 4165291113 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A couple has four daughters. The percentage probability of fifth child to be a Daughter is.

- a) 10
- b) 50
- c) 75
- d) 100

Question Number : 84 Question Id : 4165291114 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In human being sex chromosomal complement is

- a) XX - XY
- b) XX - XO
- c) ZO - ZZ
- d) ZW - ZZ

Question Number : 85 Question Id : 4165291115 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Zea mays has 10 pairs of chromosomes . Linkage groups present in it are

- a) 5
- b) 10
- c) 20
- d) 40

Question Number : 86 Question Id : 4165291116 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Crossing over during meiosis occurs between

- a) sister chromatids
- b) Non sister chromatids
- c) Centromeres
- d) Non homologous chromosomes

Question Number : 87 Question Id : 4165291117 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the overall rate at which new mutations arise spontaneously at any given site on the chromosome per round of replication?

- a) $\approx 10^{-8}$ - 10^{-12}
- b) $\approx 10^{-7}$ - 10^{-9}
- c) $\approx 10^{-6}$ - 10^{-11}
- d) $\approx 10^{-5}$ - 10^{-10}

Question Number : 88 Question Id : 4165291118 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The mutation occurs at a random basis within a genome.

- a) True
- b) False
- c) Partially true
- d) Partially false

Question Number : 89 Question Id : 4165291119 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the dinucleotide sequence of microsatellites?

- a) CA
- b) AT
- c) CC
- d) GC

Question Number : 90 Question Id : 4165291120 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Question Number : 91 Question Id : 4165291121 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mismatch repair system is ____ dependent.

- a) ATP
- b) GTP
- c) ADP
- d) GDP

Question Number : 92 Question Id : 4165291122 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Within the squirrel population at park, 16% show the recessive phenotype of a curled tail (tt). What is the frequency of the dominant allele (T) in the population?

- a) 0.40
- b) 0.16
- c) 0.26
- d) 0.60

Question Number : 93 Question Id : 4165291123 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Within the squirrel population at park, 16% show the recessive phenotype of a curled tail (tt). What is the frequency of heterozygotes in the population?

- a) 0.08
- b) 0.24
- c) 0.36
- d) 0.48

Question Number : 94 Question Id : 4165291124 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a population, 600 individuals have MM blood group, 300 have MN blood group, and 100 have NN blood group. What will be the frequencies of M and N alleles in this population?

- a) M= 0.79 and N=0.1
- b) M= 0.65 and N=0.35
- c) M= 0.30 and N=0.60
- d) M= 0.75 and N=0.25

Question Number : 95 Question Id : 4165291125 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following process occurs in regions where no large -scale sequence similarity is apparent?

- a) Homologous genetic recombination
- b) Site specific recombination
- c) Non-homologous recombination
- d) Replicative recombination

Question Number : 96 Question Id : 4165291126 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following process generates a new copy of the transposable element at a new location of DNA?

- a) Homologous genetic recombination
- b) Site specific recombination
- c) Non-homologous recombination
- d) Replicative recombination

Question Number : 97 Question Id : 4165291127 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following promotes branch migration at higher rates than does Rec-A?

- a) Rec-B
- b) Rec-C
- c) Rec-D
- d) Ruv-A and Ruv-B

Question Number : 98 Question Id : 4165291128 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Why recombinational repair system is called double strand break repair?

- a) Both strands are broken
- b) One strand is broken
- c) No strand is broken
- d) Both strand act as template

Question Number : 99 Question Id : 4165291129 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which enzyme is activated during double stranded break?

- a) DNA polymerase
- b) Translational polymerase
- c) RNA polymerase
- d) Klenow fragment

Question Number : 100 Question Id : 4165291130 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following reactions is required for proofreading during DNA replication by DNA polymerase III?

- a) 5' to 3' exonuclease activity
- b) 3' to 5' exonuclease activity
- c) 3' to 5' endonuclease activity
- d) 5' to 3' endonuclease activity