



BIOLOGY

BOOKS - JMD BIOLOGY (PUNJABI ENGLISH)

Principle of Inheritance & Variations

Exercise

1. A disease caused by an autosomal primary non-disjunction is.

A. sickle cell Anaemia

B. Down's Syndrome

C. Klinefelter's Syndrome

D. Turner's Syndrome

Answer: B



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2. Thalassemia and sickle cell anaemia are caused due to a problem including molecules synthesis. select the correct statement.

A. sickle cell anaemia is due to a quantitative problem in globin molecules

B. both are due to our qualitative defect in globin chain synthesis

C. both are due to a quantitative defect in globin chain synthesis

D. thalassemia is due to less synthesis of globin molecules

Answer: D



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3. among the following characteristics which one was not considered by Mendel in his experiments on pea?

A. Pod- Inflated or Constricted

B. Stem- Tall or Dwarf

C. Trichomes- Glandular or non glandular

D. Seed- Green or Yellow

Answer: C



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4. which of the following is case of codominant genes?

A. a gene experience itself suppressing the phenotypic effect of its alleles

B. gents that are similar in phenotypic effect when present separately but when together interact to produce a different trait.

C. all of which interact to produce a trait which may or may not resemble either of the parental types

D. each of which produces an independent effect in the heterozygous conditions

Answer: D



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5. which of the following pairs is wrongly matched

A. ABO blood grouping: co dominance

B. XO type sex determination: grasshopper

C. starch Synthesis in pea: Multiple alleles

D. T.H. Morgan: Linkage

Answer: A



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6. select the correct statement for the following

A. punnett square was developed by a British specialist

B. splicosomes take part in translation.

C. Transduction was discovered by S. Altman

D.

Answer: A



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7. which of the following characteristics represent inheritance of blood groups in humans? (a) Dominance, (b) co- dominance,(c) Multiple allele,(d) incomplete dominance, (e) Polygenic inheritance

A. (a),(b) and (e)

B. (b),(d) and (e)

C. (b),(c) and (e)

D. (a),(c) and (e)

Answer: A



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8. woman has an X-linked condition on one of her X chromosomes. This chromosome can be inherited by

A. only sons

B. only grandchildren

C. only daughters

D. both sons and daughters

Answer: D



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9. which of the following statements confirm the law of dominance

A. 3:1 ratio in F_2 generation

B. it is the consolation of a di hybrid cross

C. arrays do not show any blending and

both characteristics is recovered as such

in F_2 generation

D. Alleles of pair segregate from each other such that gamete receives only one of the two factors.

Answer: A



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10. Turner syndrome is due to

A. loss of X chromosome – $44 + XO$

B. loss of any chromosome

C. it is due to trisomy in 21^s pair

D. None

Answer: C



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11. the ratio of monohybrid test cross is

A. 12: 3: 1

B. 1: 1

C. 9:3:4

D. 9:6:1

Answer: B



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12. haemophilia in human being is

A. Sex linked

B. sex limited

C. Autosomal recessive

D. Autosomal dominant

Answer: B



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13. which of the following chains of haemoglobin is affected in thalassemia?

A. only b chain

B. only a chain

C. both a and b chains

D. Non of the above

Answer: C



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14. heterozygous tall is crossed with recessive parent what will be the percentage homozygous recessive?

A. 75 %

B. 25 %

C. 100 %

D. 50 %

Answer: C



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15. in dog flower, a red flowered plant is crossed with a white flowered plant. what will be the phenotypic ratio in F_2 generation?

A. 1:1:1

B. 1 : 2 : 1

C. 3 : 1

D. 1 : 1

Answer: B



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16. select the incorrect statement from the following.

A. in male grasshoppers 50% of the sperms have no sex chromosome

B. in domesticated flows, sex of progeny depends on the type of sperm rather than egg.

C. human males have one of their sex chromosomes much shorter than the other.

D. male fruit fly is heterogametic

Answer: B



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17. which of the following muscular disorder is inherited?

A. muscular dystrophy

B. Myasthenia gravie

C. Botulism

D. Tetany

Answer: A



18. In antirrhinum (sanpdragon) all its flower was crossed with a white flower and in a F_1 generation pink flowers where obtained. when pink flower were selfed the F_2 generation show white, red and pink flowers. choose the incorrect statement from the following:

A. pink colour in F_1 is due to incomplete dominance

B. ratio of F_2 is

$$\frac{1}{4}(\text{Red}) : \frac{2}{4}(\text{pink}) : \frac{1}{4}(\text{white})$$

C. law of segregation does not apply in this experiment

D. this experiment does not follow the principle of dominance

Answer: C



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19. the frequency of recombination between gene pairs on the same chromosome as measured of the distance between genes was explained by:

- A. Gregor J Mendel
- B. Alfred Sturtevant
- C. Sutton Boveri
- D. T.H. Morgan

Answer: B



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20. what map unit (centimorgan) is adopted in the construction of genetic maps?

A. a unit of distance between two expressed genes, representing 100 % cross over

B. a unit of distance between genes on chromosome representing 1 % cross over.

C. a unit of distance between genes on

chromosome representing 50%

crossover

D. a unit of distance between two express

genes representing 10% crossover

Answer: B



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21. A Gene locus has two alleles A, a. if the frequency of dominant allele A is 0.4 then what will be the frequency of homozygous dominants, heterozygous and homozygous recessive individual in the population?

A. 0.16(\forall), 0.24(Aa), 0.36(aa)

B. 0.16(\forall), 0.48(Aa), 0.36(aa)

C. 0.16(\forall), 0.36(Aa), 0.48(aa)

D. 0.36(\forall), 0.48(Aa), 0.16(aa)

Answer: B



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22. what is the genetic disorder in which an individual has an overall masculine development, gynaecomastia and is sterile?

- A. Klinefelter's Syndrome
- B. Edward syndrome
- C. Down's Syndrome
- D. Turner's syndrome

Answer: A



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23. which of the following is a sex linked character?

- A. white colour blindness
- B. red blue colour blindness
- C. night blindness
- D. Sickle cell Anaemia

Answer: B



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24. Genes on same chromosome can be

- A. linked
- B. Homologous
- C. Autosomes
- D. Identical alleles

Answer: A



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25. Homologous chromosomes can be defined as

A. Chromatids of same chromosome

B. same chromosome, same gene, different allele in different order

C. same chromosome different gene, same allele

D. same chromosome, same gene, different allele in same order

Answer: D



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