



## BIOLOGY

# BOOKS - JMD BIOLOGY (PUNJABI ENGLISH)

## Principle of Inheritance and Variations

### Exercise

1. Fill in the blanks

\_\_\_\_\_ means that characters are passed

on from parent to progeny.



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## 2. Fill in the blanks

A true breeding line is one that having undergone continuous \_\_\_\_\_.



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## 3. Fill in the blanks

Genes which code for a pair of contrasting

traits are known as \_\_\_\_\_



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#### 4. Fill in the blanks

Tall and dwarf plant produce gametes by the process of \_\_\_\_\_



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#### 5. Fill in the blanks

The two alleles of a gene pair are located on

\_\_\_\_\_ sites on homologous chromosomes.



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## 6. Fill in the blanks

Grasshopper is an example of \_\_\_\_\_ type of sex determination.



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## 7. Fill in the blanks

Sickle cell anemia is an \_\_\_\_\_ linked

recessive trait.



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### 8. Fill in the blanks

Linkage and crossing over are \_\_\_\_\_ related.



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### 9. Fill in the blanks

More the \_\_\_\_\_ between two genes, more

are the chances of \_\_\_\_\_.



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## 10. Fill in the blanks

The inborn errors of metabolism are gene controlled and are inherited in Mendelian fashion was pointed by \_\_\_\_\_.



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## 11. True and False Type Questions

Turner's syndrome is very common in male.



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## 12. True and False Type Questions

First time Haemophilia was recorded in queen Elizabeth.



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### 13. True and False Type Questions

Mutation due to change in a single base pair of DNA is point mutation.



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### 14. True and False Type Questions

Henking in 1891 described the bar body concept.



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## 15. True and False Type Questions

Drosophila completes its life cycle in four weeks.



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## 16. True and False Type Questions

ABO is a good example of multiple allele.



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## 17. True and False Type Questions

Yellow seed colour is dominant over green one.



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## 18. True and False Type Questions

Law of segregation support the blending concept.



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## 19. True and False Type Questions

Bald head is due to use of wrong type of hair oil.



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## 20. True and False Type Questions

Sexually reproducing organisms contribute all the genes of their offspring.



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21. A diploid organism is heterozygous for 4 loci, how many types of gametes can be produced?



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22. Which disorder is caused in man due to presence of one extra sex chromosome ?



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**23.** Explain the following term:

Co-dominance.



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**24.** Explain the following term:

Incomplete dominance.



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**25.** Define and design a test cross?



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26. Differentiate between homozygous and heterozygous individuals.



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27. A haemophilic carrier female marries a normal man, with the help of punnet square, show the type of progeny formed.



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**28.** State the chromosomal theory of Inheritance.



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**29.** What are Point Mutations ? Give one example of Point Mutations.



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**30.** A child has blood group O. If the father has blood group A and mother blood group B, work out the genotypes of the parents and possible genotypes of the offsprings.



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**31.** Explain Mendel's law of independent assortment with the help of a dihybrid cross.



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**32.** why did Mendel selected pea plant for his experimentation?



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**33.** What are the chromosomal abnormalities of Down's syndrome?



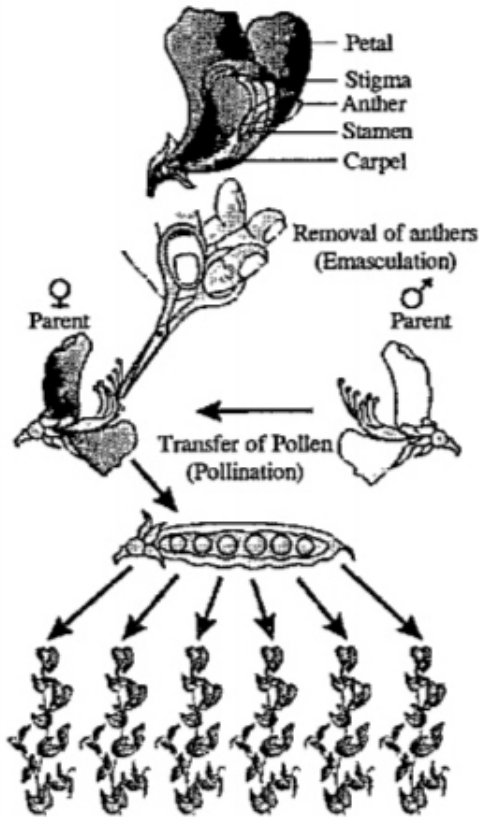
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**34.** Define aneuploidy. Name the aneuploid disease which occurs as a result of following chromosomal abnormalities: Presence of additional copy of chromosome X i.e., XXX.



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35. What is shown in the following figure.



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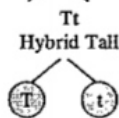
36. What type of cross is shown in the following figure? Also mention the phenotypic ratio of the below cross.

Parents:



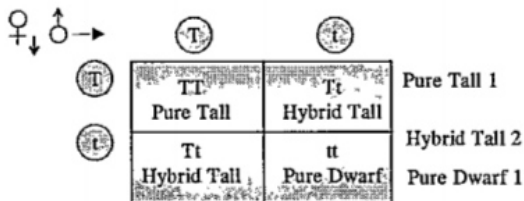
Gametes:

$F_1$  Generation



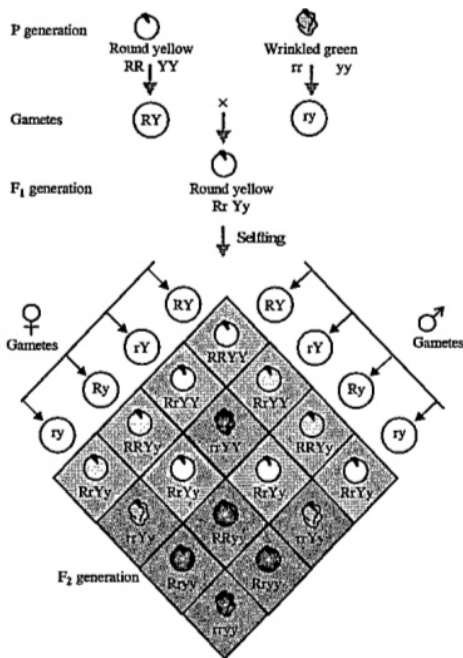
Gametes:

$F_2$  Generation



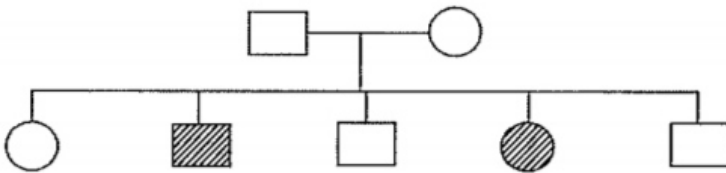
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37. Find out the correct option regarding the following cross. Give the phenotypic as well as genotypic ratio.



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**38.** The pedigree chart given below shows a particular trait which is absent in parents but present in the next generation irrespective of sexes. Draw your conclusion on the basis of the pedigree.



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