

English

1. A cross between F1 and its homozygous recessive parent is known as

- (A) Reciprocal cross
- (B) Direct cross
- (C) Reverse cross
- (D) Test cross

Correct Option(s): D

English

2. Mendel studied the principles of inheritance in _____ number of traits in garden pea

- (A) Six
- (B) Seven
- (C) Eight
- (D) Nine

Correct Option(s): B

English

3.

In inhibitory gene action, the F2 phenotype ratio of 9:3:3:1 is modified to

- (A) 9:3:4
- (B) 15:1
- (C) 9:7
- (D) 13:3

Correct Option(s): D

English

4. Sex chromosomes are also known as

- (A) Allosomes
- (B) Autosomes
- (C) Ribosomes
- (D) Lysosomes

Correct Option(s): A

English

5. In Augmented Design I, genotype mean square consist of _____

- (A) $VE + r.VG$
- (B) $VE + VG$
- (C) VG
- (D) VE

Correct Option(s): B

English

6. Selection is effective for traits with _____ gene action

- (A) Additive
- (B) Dominance
- (C) Epistatic
- (D) Non-additive

Correct Option(s): A

English

7. Dominance variance is due to _____

- (A) Inter genic interaction
- (B) Intra genic interaction
- (C) Maternal inheritance
- (D) Cytoplasmic effects

Correct Option(s): B

English

8. The term gene was coined by

- (A) Mendel
- (B) Mather
- (C) Johanssen
- (D) Morgan

Correct Option(s): C

English

9. In a DNA molecule, adenine is always paired with _____

- (A) Adenine
- (B) Thymine
- (C) Guanine
- (D) Cytosine

Correct Option(s): B

English

10. In DNA, guanine and cytosine bases are joined by _____ hydrogen bonds

- (A) Single
- (B) Double
- (C) Triple
- (D) Four

Correct Option(s): C

English

11. Which of the markers is usually dominant?

- (A) RAPD
- (B) SNP
- (C) RFLP
- (D) SSR

Correct Option(s): A

English

12. The process of synthesis of mRNA from a DNA template is known as

- (A) Translation
- (B) Transcription
- (C) Transduction
- (D) Transformation

Correct Option(s): B

English

13. The process of DNA synthesis from RNA is called

- (A) Reverse translation
- (B) Reverse transcription
- (C) Transcription
- (D) Translation

Correct Option(s): B

English

14. In a population, gene frequencies remain constant when there is

- (A) Random mating
- (B) Inbreeding
- (C) Selfing
- (D) Selective mating

Correct Option(s): A

English

15. Allotetraploids can be produced in a single step by

- (A) Anther culture
- (B) Ovule culture
- (C) Clonal propagation
- (D) Somatic hybridization

Correct Option(s): D

English

16. First generation of transgenic plants is called as

- (A) T₀
- (B) T₁
- (C) F₁
- (D) T₂

Correct Option(s): A

English

17. The genome size of rice is

- (A) 750 Mb
- (B) 650 Mb
- (C) 930 Mb
- (D) 430 Mb

Correct Option(s): D

English

18. First plant genome sequence was completed in

- (A) Rice
- (B) Wheat
- (C) Maize
- (D) Arabidopsis

Correct Option(s): D

English

19. Power house of cell refers to

- (A) Chloroplast
- (B) Mitochondria
- (C) Nucleus
- (D) Ribosomes

Correct Option(s): B

English

20. In mitosis, chromosomes are arranged at the equatorial plane during

- (A) Early prophase
- (B) Late prophase
- (C) Metaphase
- (D) Anaphase

Correct Option(s): C

English

21. Haploids are represented by

- (A) x
- (B) n
- (C) $2x$
- (D) $2n$

Correct Option(s): B

English

22. An individual lacking one chromosome from the diploid set is referred to as

- (A) Nullisomic
- (B) Monosomic
- (C) Trisomic
- (D) Tetrasomic

Correct Option(s): B

English

23. A nullisomic individual is represented by

- (A) $2n-1$
- (B) $2n+1$
- (C) $2n-2$
- (D) $2n+2$

Correct Option(s): C

English

24. Concept of D2 statistics was originally developed by

- (A) Mahalanobis PC
- (B) Rao CR
- (C) Anderson
- (D) Mather K

Correct Option(s): A

English

25. In half diallel, total crosses among n parents are equal to

- (A) $N(n-1)/2$
- (B) $N(n+1)/2$
- (C) $N(n-1)$
- (D) N^2

Correct Option(s): A

English

26. Trialallel analysis refers to the analysis of

- (A) Three-way crosses
- (B) Single crosses
- (C) Double crosses
- (D) Partial set of single crosses

Correct Option(s): A

English

27. Variations observed in the true F_1 plants of a cross

- (A) Genotypic variance
- (B) Environmental variance
- (C) Genotypic + Environmental variance
- (D) Genotypic – Environmental variance

Correct Option(s): B

English

28. Correlation value range from

- (A) 0 to 1
- (B) >1
- (C) -1 to +1
- (D) <0

Correct Option(s): C

English

29. Multiple correlation values range from

- (A) 0 to 1
- (B) >1
- (C) -1 to +1
- (D) <0

Correct Option(s): A

English

30. The concept of discriminant function analysis was developed by

- (A) Fisher
- (B) Mather
- (C) Smith
- (D) Dewey and Lu

Correct Option(s): A

English

31. The graphical approach of diallel analysis was developed by

- (A) Mather
- (B) Hayman
- (C) Griffing
- (D) Kempthorne

Correct Option(s): B

English

32. In _____ diallel analysis consists of direct crosses without parents

- (A) Full
- (B) Half
- (C) Partial
- (D) Quarter

Correct Option(s): D

English

33. Joint scaling test was given by

- (A) Mather
- (B) Cavalli
- (C) Hayman
- (D) Fisher

Correct Option(s): B

English

34. Scaling test was proposed by

- (A) Mather
- (B) Jinks and Jones
- (C) Hayman
- (D) Cavalli

Correct Option(s): A

English

35. Triple test cross analysis involves

- (A) F₂, F₁, P₁ and P₂
- (B) P₁, P₂, F₁, F₂, and F₃
- (C) P₁, P₂, F₁, F₂, BC₁ and BC₂
- (D) F₂, P₁ and P₂

Correct Option(s): A

English

36. In Finaly Wilkinson stability model, the stability parameter is

- (A) Regression coefficient
- (B) Regression coefficient and squared deviation from regression
- (C) Squared deviation from regression
- (D) Mean

Correct Option(s): A

English

37. In Eberhart and Russell stability model, the stability parameter is

- (A) Regression coefficient
- (B) Correlation
- (C) Squared deviation from regression
- (D) Mean

Correct Option(s): C

English

38. The fitness of a genotype to a given environment is referred to as

- (A) Adaptation
- (B) Genotypic stability
- (C) Stability
- (D) Heritability

Correct Option(s): A

English

39. Borad sense heritability refers to the ratio between

- (A) Genotypic and phenotypic variance
- (B) Genotypic and environmental variance
- (C) Additive and phenotypic variance
- (D) Phenotypic and additive variance

Correct Option(s): A

English

40. General combining ability includes

- (A) Additive variance
- (B) Environmental variance
- (C) Dominance variance
- (D) Non-additive variance

Correct Option(s): A

English

41. Specific combining ability includes

- (A) Additive variance
- (B) Additive variance, additive x additive variance
- (C) Dominance variance
- (D) Non-additive variance

Correct Option(s): D

English

42. The difference between the original population mean and the selected population mean is referred to as

- (A) Selection differential
- (B) Selection intensity
- (C) Selection response
- (D) Genetic gain

Correct Option(s): A

English

43. The proportion of selected plants to the total number of plants in the population is referred to as

- (A) Selection differential
- (B) Selection intensity
- (C) Selection response
- (D) Genetic gain

Correct Option(s): B

English

44. The difference between the original population mean and the progeny mean of the selected population is referred to as

- (A) Selection differential
- (B) Selection intensity
- (C) Selection response
- (D) GCV

Correct Option(s): C

English

45. Genotypic variation consists of

- (A) Additive variance
- (B) Dominance variance
- (C) Additive, dominance, and epistatic variance
- (D) Additive and dominance variance

Correct Option(s): C

English

46. Breeding value is related to

- (A) Additive variance
- (B) Dominance variance
- (C) Epistatic variance
- (D) Non-additive variance

Correct Option(s): A

English

47. Specific combining ability effects cannot be obtained from

- (A) Line x tester analysis
- (B) Full diallel
- (C) Partial diallel
- (D) Top cross

Correct Option(s): D

English

48. The term heterosis was coined by

- (A) East
- (B) Davenport
- (C) Shull
- (D) Jones

Correct Option(s): C

English

49. The term vertical resistance and horizontal resistance were first used by

- (A) Flor
- (B) Robinson
- (C) Van der Plank
- (D) Russell

Correct Option(s): C

English

50. International Institute for Tropical Agriculture is located in

- (A) Syria
- (B) Nigeria
- (C) Columbia
- (D) Thailand

Correct Option(s): B