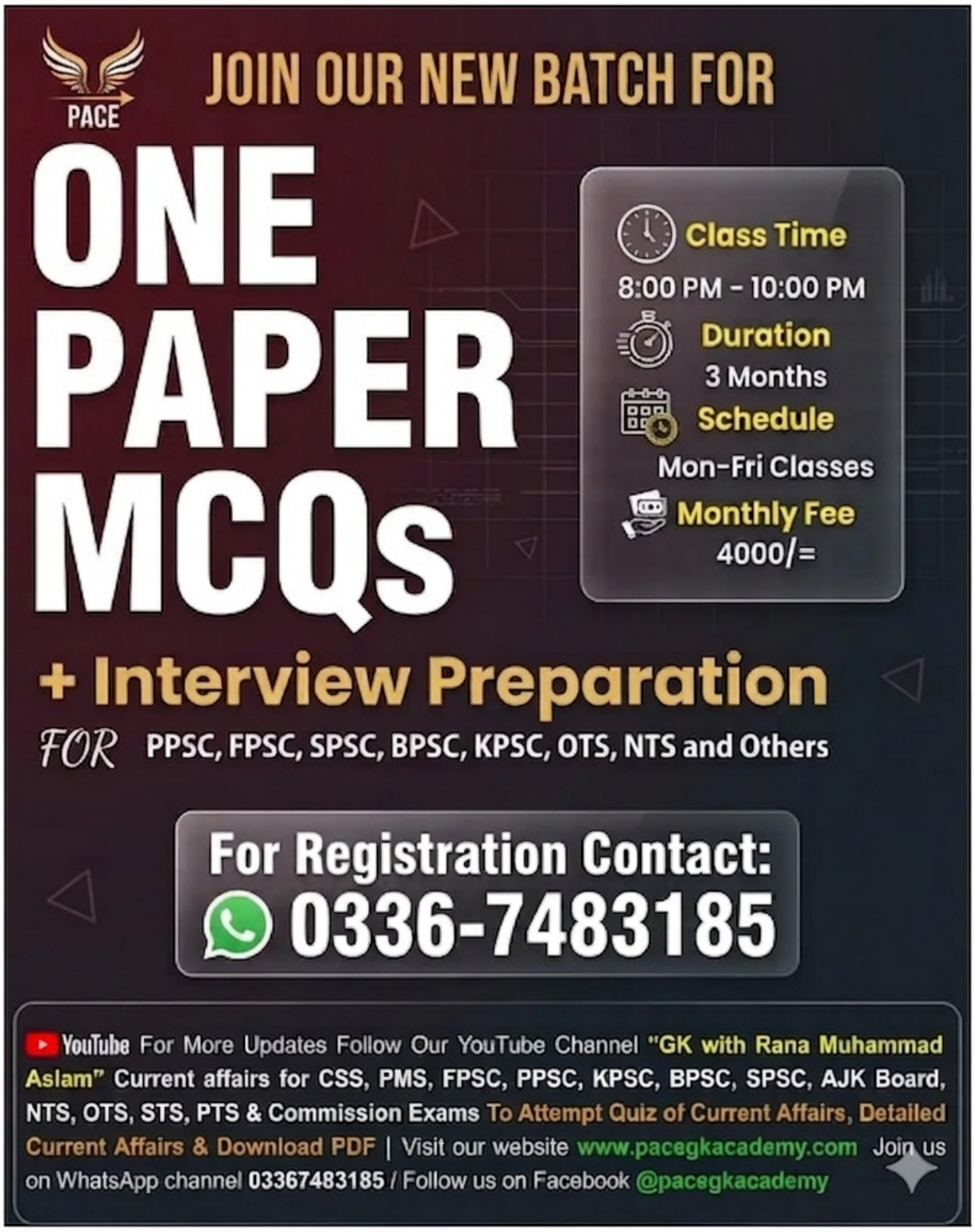
Plant Breeding and Genetics



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Q.1: Which of the following may result in the presence of an extra chromosome in the cells of a plant?
A. Inversion
B. Crossing over
C. **Non-disjunction**
D. Independent assortment

Q.2: There are _____ complete sets of nullisomics in wheat.
A. 42
B. 40
C. 20
D. **21**

Q.3: DNA replication is
A. **Semiconservative**
B. Conservative
C. Dispersive
D. Semi dispersive

Q.4: Ultraviolet radiation damages DNA by causing an extra _____ bond to form between adjacent _____.
A. Hydrogen, pyrimidines
B. Covalent, purines
C. **Covalent, pyrimidines**
D. Hydrogen, purines

Q.5: Which of the following is not a component of a chromosome?
A. Histone proteins
B. **DNA polymerase**
C. RNA
D. Chromosomes contain all of the above

Q.6: Enzymes called _____ catalyze the formation of covalent bonds that hold together the sugar-phosphate backbone of the DNA molecule.
A. Helicases
B. DNA polymerases
C. RNA polymerases
D. **Ligases**

Q.7: If a DNA molecule contains 20% A, approximately what percentage of G is present?
A. 20%
B. **30%**
C. 40%
D. 50%

Q.8: The transforming agent was identified as DNA by _____.
A. Griffith
B. Watson and Crick
C. Hershey and Chase
D. **Avery**

Q.9: The minimum toxic level of HCN for most of the livestock species is _____.
A. 100 ppm
B. 150 ppm
C. **200 ppm**
D. All above

Q.10: Nutritive value of fodder is determined through _____.
A. NMR
B. Proximate analysis
C. NIA
D. **All above**

Q.11: What percent of our population depends upon agriculture for primary source of food or income?
A. 60
B. **70**
C. 50
D. none of these

Q.12: _____ a situation in which a gene has more than two alleles.
A. Epistasis
B. **Multiple alleles**
C. Pseudo alleles
D. none of these

Q.13: _____ is the change in chromosome number that is an exact multiple of basic set of chromosomes of an organism.
A. **Euploidy**
B. Aneuploidy
C. Haploidy
D. none of these

Q.14: Sesame contains _____ % oil content.
A. 54
B. **58**
C. 60
D. none of these

Q.15: Taramira is local name of _____.
A. **Eruca sativa**
B. B. juncea
C. Arachis hypogaea
D. none of these

Q.16: Genome of B. carinata is _____.
A. AABB
B. AAC C
C. **BBCC**
D. none of these

Q.17: Brassica campestris is botanically called _____.
A. Rie
B. **Sarson**
C. Taramira
D. none of these

Q.18: Common name of linseed is _____.
A. Til
B. **Alsi**
C. Arind
D. None of these

Q.19: _____ represents the change in the expression of a gene by changing its respective place.
A. Inversion
B. Translocation
C. **Position effect**
D. None of these

Q.20: DNA is synthesized at _____ phase of cell cycle.
A. G1-phase
B. **S-phase**
C. G2-phase
D. None of these

Q.21: The chromosomes of an organism presented in a diagram is called _____.
A. Ideogram
B. **Ideotype**
C. Karyotype
D. None of these

Q.22: _____ is used to transfer RNA from gel to a membrane.
A. Southern blotting
B. **Northern blotting**
C. Western blotting
D. None of these

Q.23: Transfer of DNA from agarose gel to a nitrocellulose paper is called _____.
A. **Southern blotting**
B. Northern blotting
C. Western blotting
D. None of these

Q.24: Separation of double stranded DNA into single strands, is called _____.
A. Degradation
B. **Denaturation**
C. Restriction
D. None of these

Q.25: Polymerase chain reaction involves _____ steps in one cycle.
A. 2
B. 3
C. **4**
D. None of these

Q.26: The enzymes, which disintegrate nucleic acid, are called _____.
A. Ligase
B. Gyrase
C. **Nucleases**
D. None of these

Q.27: _____ are called as Molecular glue.
A. Restriction enzymes
B. **Ligase enzyme**
C. Polymerase enzymes
D. None of these

Q.28: ____are also known as molecular scissors?
A. **Restriction enzyme**
B. Ligase enzyme
C. Polymerase
D. None of these

Q.29: Segments of DNA which do not code for any genetic information are called _____.
A. Exos
B. **Interons**
C. Mutons
D. None of these

Q.30: Segments of DNA having some coded genetic information are called _____.
A. **Exons**
B. Introns
C. Mutons
D. None of these

Q.31: The seed of sunflower is also called _____.
A. **Achene**
B. Caryopsis
C. Grain
D. None of these

Q.32: Non coding sequence at end of meaningful information in DNA called _____.
A. Polyandromic sequence
B. **Trailor sequence**
C. Missense sequence
D. None of these

Q.33: The strand of DNA, which acts as template strand for transcription is called _____.
A. **Sense strand**
B. Anti sense strand
C. Non sense strand
D. None of these

Q.34: Transcription is catalyzed by _____.
A. Restriction enzyme
B. **RNA polymerase**
C. DNA polymerase
D. None of these

Q.35: DNA is transcribed into _____.
A. r RNA
B. t RNA
C. **m RNA**
D. None of these

Q.36: _____ is the first step in the expression of a gene.
A. Replication
B. **Transcription**
C. Translation
D. None of these

Q.37: In bulk population method selections starts in _____.
A. F_2
B. F_4
C. **F_5**
D. None of these

Q.38: In pedigree method selection start in _____ generation.
A. **F_2**
B. F_4
C. F_5
D. None of above

Q.39: The male sterility due to nuclear gene in called _____ sterility.
A. Cytoplasmic
B. **Genetic**
C. both a & b
D. None of above

Q.40: The male sterility due to cytoplasmic gene is called _____ male sterility.
A. **Cytoplasmic**
B. Genetic
C. both a & b
D. None of these

Q.41: The two main steps of artificial hybridization are _____.
A. **Emasculation & pollination**
B. Pollination & fertilization
C. both a & b
D. None of these

Q.42: In ICRISAT research work is going on _____.
A. Lentil & Chickpea
B. Chickpea & Mungbean
C. **Chickpea & Pigeon pea**
D. None of these

Q.43: Top most leaf in sugarcane is known as _____.
A. Flag leaf
B. Boenting leaf
C. **Crown leaf**
D. None of these

Q.44: Sugarcane has _____ root system.
A. **Fibrous root system**
B. Tap
C. both a & b
D. None of these

Q.45: Outer scale or hook-like structure on each bud of sugarcane is called _____.
A. **Profilum**
B. Culm
C. Rind
D. None of these

Q.46: In case of sugarcane plant, node without bud is called _____.
A. **Blind bud**
B. Profilum
C. both a & b
D. None of these

Q.47: In sugarcane the leaf is attached at _____ point on the node.
A. **Scar**
B. Root band
C. Growth rug
D. None of these

Q.48: When (anthocyanin & chlorophyll) are absent, the rind colors of sugarcane will be _____.
A. **Green**
B. Yellow
C. Red
D. None of these

Q.49: When both anthocyanin and chlorophyll are equal in amount, the rind color of sugarcane will be _____.
A. Red
B. **Purple**
C. Green
D. None of these

Q.50: Anthocyanin will produce _____ color in rind of sugarcane.
A. **Red**
B. Purple
C. Yellow
D. None of these

Q.51: Sugarcane's seed, referred to as _____.
A. Grain
B. **Fuzz**
C. Caryopsis
D. None of these

Q.52: Sugarcane plant is _____ in nature.
A. Annual
B. Biennial
C. **Perennial**
D. None of these

Q.53: Sugarcane is _____ plant.
A. C_3
B. **C_4**
C. C_2
D. None of these

Q.54: Enzymes are _____ in nature.
A. Fats
B. **Proteins**
C. Carbohydrates
D. None of these

Q.55: _____ is the tendency of the genes to enter the gametes in the combination other than the parental is termed as.
A. Linkage
B. **Crossing over**
C. both a & b
D. None of these

Q.56: In man out of chromosomes _____ are autosomes.
A. **44**
B. 42
C. 40
D. None of these

Q.57: _____ are not transmitted to next generation.
A. **Somatic variation**
B. Genetic variation
C. Environmental variation
D. None of these

Q.58: ATP stands for _____.
A. **Adenosine triphosphate**
B. Adenosine diphosphate
C. both a & b
D. None of these

Q.59: DNA molecule is _____ charged.
A. **Negatively**
B. Positively
C. both a & b
D. None of these

Q.60: Total no. of chromosomes in human beings _____.
A. 46
B. 44
C. **48**
D. None of these

Q.61: Guanine always pair with _____.
A. Thymine
B. Guanine
C. **Cytosine**
D. None of these

Q.62: In DNA, adenine always pair with _____.
A. **Thymine**
B. Guanine
C. Cytosine
D. None of these

Q.63: When a nitrogen base is bonded to a sugar, this complex is known as _____.
A. **Nucleoside**
B. Nucleotide
C. Nucleic acid
D. None of these

Q.64: Purines bases are ___than Pyrimidines?
A. **Larger**
B. Smaller
C. Equal
D. None of these

Q.65: Pyrimidines include _____ & _____.
A. **Cytosine and Thymine**
B. Guanine & Thymine
C. Cytosine and Guanine
D. None of these

Q.66: Purines include _____ & _____.
A. **Adenine and Guanine**
B. Adenine & Cytosine
C. Guanine & Thymine
D. None of these

Q.67: Nitrogenous bases used in the nucleotides of DNA belongs _____.
A. Purines
B. Pyrimidines
C. **both a & b**
D. None of these

Q.68: There are _____ different kinds of amino acids.
A. **20**
B. 22
C. 24
D. None of these

Q.69: A gene affects more than one character simultaneously is called _____.
A. Phenocopy
B. Epistasis
C. **Pleiotropy**
D. None of these

Q.70: In non-allelic interaction, the dominating gene is called _____.
A. Dominant gene
B. **Epistatic gene**
C. Hypostatic gene
D. None of these

Q.71: The 9:3:3:1 ratio is modified to 12:3:1 due to _____.
A. Recessive Epistasis
B. Duplicate dominant epistasis
C. **Dominant epistasis**
D. None of these

Q.72: The phenotypic ratio in duplicate recessive epistasis is _____.
A. 15:1
B. 9:6:1
C. **9:7**
D. None of these

Q.73: Sesame belongs to _____ family.
A. Malvaceae
B. **Pedaliaceae**
C. Gramineae
D. None of these

Q.74: The chromosome theory of Heredity was proposed by _____ in 1902.
A. **Sutton & Boveri**
B. Mendel
C. Camerarius
D. None of these

Q.75: When the F_1 hybrid is crossed with its recessive parent, it is called _____.
A. Back cross
B. **Test cross**
C. Poly cross
D. None of these

Q.76: Inheritance of acquired characters is also known as _____.
A. Darwinism
B. **Lamarckism**
C. Epigenesis
D. None of these

Q.77: Powerhouse of the cell is called _____.
A. Golgi bod
B. **Mitochondria**
C. both a & b
D. None of these

Q.78: The inflorescence of rice is _____.
A. Spike
B. **Panicle**
C. Pyramid
D. None of these

Q.79: The genomic formula of bread wheat is _____.
A. AABB
B. BBDD
C. **AABBDD**
D. None of these

Q.80: The common bread wheat is _____ in nature.
A. Tetraploid
B. **Hexaploid**
C. Diploid
D. None of these

Q.81: The basic set of chromosomes in case of wheat is _____.
A. **7**
B. 14
C. 42
D. None of these

Q.82: An individual having single set of chromosomes is _____.
A. Monoploid
B. **Haploid**
C. Diploid
D. None of these

Q.83: The outer husks or bracts of each spikelet covering the florets of grasses is called _____.
A. Lemma
B. Palea
C. **Glumes**
D. None of these

Q.84: The lower of the two bracts enclosing the grass floret is _____.
A. **Lemma**
B. Palea
C. Glumes
D. None of these

Q.85: The upper of the two bracts enclosing each floret in the grass is termed as _____.
A. **Palea**
B. Lemma
C. Glumes
D. None of these

Q.86: An inflorescence with a more or less elongated axis having sessile spikelets is _____.
A. Raceme
B. **Spike**
C. Panicle
D. None of these

Q.87: The physical appearance of an individual is called _____.
A. **Phenotype**
B. Genotype
C. Phenocopy
D. None of these

Q.88: The genetic constitution of an organism is referred as _____.
A. Phenocopy
B. Phenotype
C. **Genotype**
D. None of these

Q.89: A condition in which pollen is absent or non functional in flowering plants is called _____.
A. Incompatibility
B. Sterility
C. **Male sterility**
D. None of these

Q.90: _____ is the dried fodder fed to livestock.
A. **Hay**
B. Silage
C. Pasture
D. None of these

Q.91: A group of similar looking plants that has approved for general cultivation in an ecological zone is called _____.
A. Clone
B. **Variety**
C. Strain
D. None of these

Q.92: _____ is a group of identical plants originating by the vegetative propagation from a single plant.
A. **Clone**
B. Variety
C. Species
D. None of these

Q.93: Genes are present on _____ in a linear order.
A. **Chromosome**
B. DNA
C. Spindles
D. None of these

Q.94: _____ is stalk of the stamen which supports the anther.
A. Petiole
B. Pedicel
C. **Filament**
D. None of these

Q.95: _____ is the transfer of pollen grains from an anther of a flower on one plant to a stigma in a flower on a different plant.
A. Self pollination
B. **Cross pollination**
C. Fertilization
D. None of these

Q.96: The enlarged basal portion of the pistil, in which seeds are born, is called _____.
A. Ovule
B. **Ovary**
C. Stigma
D. Style

Q.97: In Gram, cotyledon is a reduced membranous structure _____.
A. **Scutellum**
B. Aleurone layer
C. Epiblast
D. None of these

Q.98: Transfer of pollen grains from anther to stigma is _____.
A. **Pollination**
B. Fertilization
C. Cloning
D. Self pollination

Q.99: The science dealing with structure, function and life history of the cell is called _____.
A. Zoology
B. **Cytology**
C. Botany
D. Biology

Q.100: The petals of a flower are collectively called _____.
A. Calyx
B. Anther
C. **Corolla**
D. Stamens

Plant Breeding and Genetics (Answer Key)

1. **C**	2. **D**	3. **A**	4. **C**	5. **B**	6. **D**	7. **B**	8. **D**	9. **C**	10. **D**
11. **B**	12. **B**	13. **A**	14. **B**	15. **A**	16. **C**	17. **B**	18. **B**	19. **C**	20. **B**
21. **B**	22. **B**	23. **A**	24. **B**	25. **C**	26. **C**	27. **B**	28. **A**	29. **B**	30. **A**
31. **A**	32. **B**	33. **A**	34. **B**	35. **C**	36. **B**	37. **C**	38. **A**	39. **B**	40. **A**
41. **A**	42. **C**	43. **C**	44. **A**	45. **A**	46. **A**	47. **A**	48. **A**	49. **B**	50. **A**
51. **B**	52. **C**	53. **B**	54. **B**	55. **B**	56. **A**	57. **A**	58. **A**	59. **A**	60. **C**
61. **C**	62. **A**	63. **A**	64. **A**	65. **A**	66. **A**	67. **C**	68. **A**	69. **C**	70. **B**
71. **C**	72. **C**	73. **B**	74. **A**	75. **B**	76. **B**	77. **B**	78. **B**	79. **C**	80. **B**
81. **A**	82. **B**	83. **C**	84. **A**	85. **A**	86. **B**	87. **A**	88. **C**	89. **C**	90. **A**
91. **B**	92. **A**	93. **A**	94. **C**	95. **B**	96. **B**	97. **A**	98. **A**	99. **B**	100. **C**