

**PLANT SCIENCES (Code-02)**

1. The cause of the great Bengal Famine was:
 

(A) Blast of rice	(B) Brown spot of Rice
(C) Rust of wheat	(D) Karnal bunt of wheat
  
2. Chloroplast contains disc like membranous structures arranged in a stack is called:
 

(A) Cisternae	(B) Grana
(C) Stroma	(D) Thylakoids
  
3. The causal organism of bunchy top of banana is transmitted by:
 

(A) <i>Pentalonia nigronervosa</i>	(B) <i>Bemisia tabaci</i>
(C) <i>Lipaphis erisimi</i>	(D) Pollen
  
4. Khaira disease is associated with which crop?
 

(A) Wheat	(B) Paddy
(C) Barley	(D) Maize
  
5. Virus Mediated transfer of genetic material from one bacterial cell to another is:
 

(A) Transduction	(B) Transformation
(C) Conjugation	(D) Reverse transcription
  
6. Seed plot technique is followed in
 

(A) Wheat	(B) Bajra
(C) Potato	(D) Paddy
  
7. Southern corn blight epidemic of maize was due to susceptibility of
 

(A) T-cytoplasm	(B) A-cytoplasm
(C) HT-cytoplasm	(D) D-cytoplasm
  
8. Source of rust resistance gene in wheat is
 

(A) <i>Triticum monococcus</i>	(B) <i>Aegilops speltoides</i>
(C) <i>Triticum timopheevi</i>	(D) <i>Triticum durum</i>
  
9. Cell wall lacking organism is
 

(A) Mycoplasma	(B) Bacteria
(C) Fungi	(D) Virus
  
10. Electron microscope was discovered by
 

(A) Anton von Leuvenhooke	(B) Knoll and Ruska
(C) Korenberg	(D) Robert Hooke
  
11. Causal organism of first bacterial disease, fire blight of apple and pear (discovered by T.J. Burill) is
 

(A) <i>Erwinia caratovora</i>
(B) <i>Erwinia amylovora</i>
(C) <i>Erwinia atroseptica</i>
(D) <i>Erwinia arodiae</i>

12. In gram staining the alcohol acts on  
(A) Teichoic acids  
(C) Periplasm  
(B) Peptidoglycan  
(D) Membrane lipids
13. Seed Plot Technique of potato is used to produce  
(A) Large sized tubers  
(C) Insect-free seeds  
(B) Nematode free seeds  
(D) Virus free seeds
14. Cotton leaf curl virus is transmitted by  
(A) Mite  
(C) Aphid  
(B) White fly  
(D) Plant hopper
15. Which of the following spores of *Puccinia* are considered perfect state spores  
(A) Teleutospores  
(C) Aeciospores  
(B) Uredospores  
(D) Basidiospores
16. Coenocytic fungal hyphae are  
(A) Non septate  
(B) Septate with uninucleate cells  
(C) Septate with multinucleate cells  
(D) None of these
17. Black tip of mango is caused due to the deficiency of  
(A) Zinc  
(C) Boron  
(B) Iron  
(D) Oxygen
18. Which is the best breeding method to transfer disease resistance genes from unadapted germplasm?  
(A) Bulk method  
(C) Back cross method  
(B) Pedigree method  
(D) Mass selection
19. Pigeon pea sterility mosaic virus is transmitted by  
(A) Aphid  
(C) White fly  
(B) Mite  
(D) Plant hopper
20. The bacterial cells are peritrichously flagellated in  
(A) *Agrobacterium*  
(C) *Xanthomonas*  
(B) *Erwinia*  
(D) *Pseudomonas*
21. The perfect stage of *Rhizoctonia solani* is  
(A) *Glomerella tucumanensis*  
(C) *Magnaporthe grisea*  
(B) *Thanatephorus cucumeris*  
(D) *Cochliobolus miyabeanus*
22. Who proved that virus could pass through filters with pores small enough to retain bacteria  
(A) Stanley  
(C) Mayer  
(B) Ivanowski  
(D) Bejeirinck

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23. Application of potash increases:  
 (A) Disease resistance in plants (B) Resistance to water logging  
 (C) Frost resistance in plants (D) All of the above
24. Systemic fungicides were first discovered by  
 (A) Knoll and Ruska (B) Von Schmelling and M. Kulka  
 (C) Leeuwenhoek (D) Biffen
25. *Berberies vulgaris* is the alternate host of  
 (A) Yellow rust of wheat (B) Brown rust of wheat  
 (C) Black rust of wheat (D) None of the above
26. Loose smut of wheat can be controlled by  
 (A) Seed treatment with Vitavax (B) Spraying of Vitavax  
 (C) Soil application of Vitavax (D) All of the above
27. Ug 99 is a race of which of the following rust pathogen?  
 (A) *Puccinia graminis tritici* (B) *Puccinia recondite*  
 (C) *Puccinia striiformis* (D) *Melampsora lini*
28. Leaf curl of cotton can be managed by  
 (A) Control of insect vector (B) Use of resistant varieties  
 (C) Follow clean cultivation (D) All of the above
29. Whip smut of sugarcane is caused by  
 (A) *Ustilago nuda* (B) *Ustilago hordei*  
 (C) *Urocystisagrophri* (D) *Ustilago scitaminea*
30. Who discovered Bordeaux Mixture?  
 (A) H.A. de Bary (B) P.M.A. Millardet  
 (C) E.J. Butler (D) Biffen
31. "Fungi and Disease in Plants" was written by  
 (A) B.B. Mundkur (B) K. C. Mehta  
 (C) E. J. Butler (D) R. S. Singh
32. *Agrobacterium* is a  
 (A) Gram negative bacterium (B) Gram positive bacterium  
 (C) Bacteria lacking cell wall (D) None of these
33. *Exobasidium vexans* belongs to  
 (A) Basidiomycetes (B) Ascomycetes  
 (C) Zygomycetes (D) Oomycetes
34. Rice tungro disease is transmitted by  
 (A) Aphid (B) White fly  
 (C) Green leaf hopper (D) Nematode

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35. **Phyllody is the**  
 (A) Development of floral organs in to leaf like structures  
 (B) Development of organs in an unexpected location  
 (C) Over development of colour  
 (D) Under development of colour
36. **Normally spherical viruses contain**  
 (A) Higher nucleic acid percentage and lower protein  
 (B) Higher protein percentage and lower nucleic acid  
 (C) Lipids  
 (D) None of the above
37. **Indian Phytopathological Society was established by**  
 (A) K.C.Mehta  
 (C) B.B.Mundkur  
 (B) J.F.Dastur  
 (D) E.J.Butler
38. **The fungi included in order Peronosporales cause the plant diseases known as**  
 (A) Smut  
 (C) Powdery mildew  
 (B) Damping off  
 (D) Downy mildew
39. **Wheat streak mosaic virus is transmitted by**  
 (A) Aphids  
 (C) Whiteflies  
 (B) Leafhopper  
 (D) Mites
40. **Cauliflower mosaic virus is an**  
 (A) dsDNA  
 (C) dsRNA  
 (B) ssRNA  
 (D) ssDNA
41. **Breeding method to improve a specific character in released variety**  
 (A) Pedigree method  
 (C) SSD method  
 (B) Bulk method  
 (D) Back cross method
42. **Pedogenesis is the study of**  
 (A) Soil formation  
 (C) Soil structure formation  
 (B) Rock formation  
 (D) Study of fertility status
43. **Highest protein content is found in**  
 (A) Soyabean  
 (C) Rajmah  
 (B) Gram  
 (D) Mungbean
44. **Which test is used for comparing two means from independent samples?**  
 (A) F – test  
 (C) Z – test  
 (B) t – test  
 (D) Chi – square test
45. **Which one of the following is a Kharif crop?**  
 (A) Pearl millet  
 (C) Mustard  
 (B) Lentil  
 (D) Wheat

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46. Which one of the following is used to test the goodness-of-fit of a distribution?  
(A) Normal test (B) t-test  
(C) Chi-square test (D) F-test
47. Conservation Agriculture' forms a component of  
(A) Sustainable agriculture (B) Extensive agriculture  
(C) Intensive agriculture (D) Organic farming
48. *Brassica juncea* has been evolved after the hybridization between  
(A) *B. nigra* and *B. campestris*  
(B) *B. nigra* and *B. oleracea*  
(C) *B. campestris* and *B. oleracea*  
(D) *B. campestris* and *B. carinata*
49. Which organelle is found with half unit membrane?  
(A) Oleosome (B) Ribosome  
(C) Glyoxisome (D) Peroxisome
50. Suicidal germination takes place in  
(A) Dodder (B) Striga  
(C) Loranthus (D) *Dendrophthoe falcate*
51. Granite, an important rock, is classified as  
(A) Igneous rock (B) Metamorphic rock  
(C) Sedimentary rock (D) Hybrid rock
52. Blind tillage refers to  
(A) Summer ploughing  
(B) Hoeing in standing crop rows  
(C) Primary tillage  
(D) Hoeing before germination
53. Cell linkage theory was proposed by  
(A) Schlieden and Schwann  
(B) Nagali  
(C) Hooke  
(D) Linnaeus
54. Which of the following is 5C sugar?  
(A) Galactose (B) Ribose  
(C) Glucose (D) Mannose
55. During seed development, if the mechanical tissue develops from the outer epidermis of the outer intergument, then the seed is called as  
(A) Exotestal  
(B) Mesotestal  
(C) Endotestal  
(D) Exotegmic

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56. Who found that a peculiar regularity exists in the ratios of nitrogenous bases of double stranded DNA?

- (A) James Watson and Francis Crick
- (B) Rosalind Franklin
- (C) Erwin Chargaff
- (D) Waclaw Szybalski

57. Crossing over between non - sister chromatids of homologous chromosomes takes place during

- (A) Leptotene
- (B) Pachytene
- (C) Diplotene
- (D) Zygotene

58. Amylopectin is a carbohydrate which is

- (A) Monosaccharide
- (B) Disaccharide
- (C) Oligosaccharide
- (D) Polysaccharide

59. The megaspore mother cell is

- (A) Haploid
- (B) Diploid
- (C) Tetraploid
- (D) Triploid

60. During photosynthesis, oxygen is generated from

- (A) Carbon dioxide only
- (B) Water only
- (C) Both water and Carbon dioxide
- (D) Phosphoglycerate

61. Group of salts found in sodic soils

- (A)  $\text{Na}_2\text{CO}_3 + \text{Na}_2\text{SO}_4$
- (B)  $\text{Na}_2\text{CO}_3 + \text{NaHCO}_3$
- (C)  $\text{NaCl} + \text{Na}_2\text{CO}_3$
- (D)  $\text{NaCl} + \text{Na}_2\text{SO}_4$

62. Major micronutrient deficiency in tobacco is due to \_\_\_\_\_

- (A) Boron
- (B) Manganese
- (C) Copper
- (D) Molybdenum

63. Which of the following does not apply to SRI method of paddy cultivation?

- (A) Reduced water application
- (B) Reduced plant density
- (C) Increased application of chemical fertilizers
- (D) Reduced age of seedlings

64. Photoperiodism is

- (A) Bending of shoot towards source of light
- (B) Effect of light/dark durations on physiological processes
- (C) Movement of chloroplast in cell in response to light
- (D) Effect of light on chlorophyll synthesis

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65. Which of the following is commonly referred to as muriate of potash?
- (A) Potassium nitrate  
(B) Potassium Sulphide  
(C) Potassium chloride  
(D) DAP
66. The enzyme responsible for the fixation of CO<sub>2</sub> in mesophyll cells of C-4 plants is
- (A) Malic enzyme  
(B) Phosphoenol pyruvate carboxylase  
(C) Phosphoenol pyruvate  
(D) RuBP carboxylase
67. Seedless banana is an
- (A) Autotriploid  
(B) Autotetraploid  
(C) Allotriploid  
(D) Allotetraploid
68. Variation in diversity among plant population is influenced most by
- (A) Breeding systems ✓  
(B) Geographic range ✓  
(C) Mode of reproduction  
(D) Taxonomic status
69. The cDNA libraries can be prepared by isolating
- (A) tRNA  
(B) mRNA  
(C) DNA  
(D) rDNA
70. Oxysomes occurs in
- (A) Plastids  
(B) Golgi bodies  
(C) Endoplasmic reticulum  
(D) Mitochondria
71. First pigeonpea hybrid developed through GMS in India
- (A) IPCH – 8  
(B) ICPH – 8  
(C) IHCP – 8  
(D) IHPC – 8
72. First cotton hybrid developed in the world
- (A) H 8  
(B) H 6  
(C) H 4  
(D) Varaluxmi
73. Which of the following is mainly responsible for eutrophication?
- (A) Phosphate  
(B) Nitrate  
(C) Carbonate  
(D) Sulphate
74. The conversion of CO<sub>2</sub> and H<sub>2</sub>O into organic compounds using energy from light is
- (A) Photorespiration  
(B) Fermentation  
(C) Glycolysis  
(D) Photosynthesis

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75. Nick transition is directly involved in which of the following process :

- (A) RNA to DNA
- (B) DNA to RNA
- (C) DNA to DNA
- (D) RNA to protein

76. The tag colour of foundation seed is

- (A) Black
- (B) Blue
- (C) White
- (D) Yellow

77. Aromatic rice variety Texmati is patented by

- (A) Mahyco
- (B) Calgene
- (C) Rice tech
- (D) Pioneer hybrid

78. Square root of variance is

- (A) Coefficient of variation
- (B) Standard deviation
- (C) Mean
- (D) Median

79. Which of the following method is an ultimate source of creating genetic variation?

- (A) Hybridization
- (B) Selection
- (C) Introduction
- (D) Mutation

80. Backcross method of selection is used for improving traits which is

- (A) Oligogenic
- (B) Polygenic
- (C) Disease resistance
- (D) Test with high heritability

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81. Restorer gene is located in

- (A) Nucleus
- (B) Cytoplasm
- (C) Both Nucleus and Cytoplasm
- (D) Mitochondria

82. Southern corn blight epidemic of maize was due to susceptibility of

- (A) T-cytoplasm
- (B) A-cytoplasm
- (C) HT-cytoplasm
- (D) D-cytoplasm

83. Source of rust resistance gene in wheat is

- (A) *Triticum monococcus*
- (B) *Aegilops speltoides*
- (C) *Triticum timopheevi*
- (D) *Triticum durum*

84. Indian Journal of Agriculture Science is published by

- (A) UP CAR
- (B) ICAR
- (C) CISR
- (D) NBRI

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85. Most important organelle during germination which is characteristics of plant cell in oil seeds
- (A) Peroxisomes (B) Dietyosomes  
(C) Spherosomes (D) Glyoxisomes
86. Which one of the following micro-organism is associated with phosphorus solubilisation
- (A) Clostridium (B) Rhizobium  
(C) Blue green algae (D) VAM fungi
87. When the pH of a solution is decreased one unit from 5 to 4 the  $[H^+]$  ion concentration will
- (A) Increase  
(B) Decrease  
(C) No change  
(D) None of these
88. Minimum support prices for various crops are recommended by
- (A) ICAR  
(B) Commission for Agriculture Cost and Prices  
(C) Ministry of Commerce and Industry  
(D) Forward Market cost and price Commission
89. Land races are
- (A) Advanced strains  
(B) Hybrid varieties  
(C) Local varieties  
(D) All of these
90. In India, normally how many generation system seed are produce ?
- (A) 1 (B) 2  
(C) 3 (D) 4
91. Liquid  $N_2$  has a temperature
- (A)  $-196^\circ C$  (B)  $-186^\circ C$   
(C)  $-176^\circ C$  (D)  $-172^\circ C$
92. Microbe involved in Fibre retting
- (A) *Micrococcus sp.* (B) *Bacillus subtilis*  
(C) *Clostridium butrycium* (D) *Lactobacillus sp.*
93. Barrier isolation is permitted in seed production of
- (A) Rice (B) Hybrid rice  
(C) Sunflower (D) Castor
94. Nipping in bajra hybrid seed production generally carried out
- (A) To enhance tillering capacity (B) To achieve synchrony of flowering  
(C) To enhance seed quality (D) None of these

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95. In three line method of certified seed production, if male parent flowers come earlier than female parent, which parent has to be shown first  
 (A) A-Line (B) B-Line  
 (C) R-Line (D) A and B line
96. The maximum area (ha) that can be offered for seed certification is  
 (A) 5 (B) 10  
 (C) 15 (D) 25
97. Hygroscopic equilibrium curves is also called as  
 (A) Absorbtion isotherms (B) Adsorbtion isotherms  
 (C) Absorbtion isobars (D) Adsorbtion isobars
98. Development of sporophyte without fertilization from the vegetative cells of gametophyte is called  
 (A) Zygosporry (B) Aplenosporry  
 (C) Aposory (D) Apogamy
99. Tarai development corporation was established under world bank assistance in  
 (A) 1969 (B) 1970  
 (C) 1971 (D) 1973
100. The outer most wall of the ovary is called  
 (A) Pericarp (B) Perisperm  
 (C) Fruit wall (D) Perianth
101. The term Scutelum refers to  
 (A) Residual nucellus of pepper seeds  
 (B) Single cotyledon of cereals  
 (C) Outgrowth of pulse seeds  
 (D) Aril of Castor
102. The plants developed the mechanism to disperse their own seeds by blastically is referred to  
 (A) Autochory (B) Holochory  
 (C) Anemochory (D) Entomochory
103. Nomograph is useful to predict  
 (A) Germination percentage (B) Seed viability  
 (C) Seed vigour (D) Seed storage pest
104. For which system of seed production the grow out test is a prerequisite for grant of certificate is  
 (A) CGMS system (B) GMS system  
 (C) CMS system (D) CHAs System
105. A variety that has to be registered under plant variety protection act is referred to as  
 (A) Extinct varieties (B) Candidate varieties  
 (C) Example Varieties (D) Reference varieties

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106. Seed dormancy due to the factors outside the embryo is  
 (A) Exogenous dormancy (B) Endogenous dormancy  
 (C) Eco-endodormancy (D) Conditioned dormancy
107. In certified class seed production of three line system ----line is used in border row  
 (A) A line (B) B line  
 (C) R line (D) Pollinated variety
108. Ninety per cent of global cotton production covers under species of  
 (A) *G. arboreum* (B) *G. hirsutum*  
 (C) *G. barbedence* (D) *G. herbaceum*
109. The name of the chemical, which on spraying will enhance complete panicle exertion in hybrid seed production of rice  
 (A) Glutamic acid (B) Ethanol  
 (C) Lactic acid (D) Gibberlic acid
110. Genetic purity in the field is controlled through  
 (A) Seed testing (B) Seed sampling  
 (C) Field inspection (D) Rougeing
111. Hypo-epigeal germination is seen in  
 (A) Groundnut (B) Lettuce  
 (C) *Peperomiaperuviana* (D) Castor
112. Paleontology deals with  
 (A) Study of seed (B) Study of flower  
 (C) Study of pollen (D) Study of pistil
113. Electrophoresis is a test useful for  
 (A) Differentiating varieties (B) High and low vigour seeds  
 (C) Viable and non-viable seeds (D) Dormant seeds
114. The seed control order deals with  
 (A) Certification (B) Seed testing  
 (C) Licensing for sale of seed (D) Notification
115. The cross pollination of bajra favors by  
 (A) Self incompatibility (B) Protogyny  
 (C) Protoandry (D) Heterostyly
116. Prolonged rouging operation will not affect the genetic purity in case of  
 (A) Self pollinated crop (B) Cross pollinated crop  
 (C) Often cross pollinated crop (D) Hybrid crops
117. Synthetic seeds have  
 (A) Zygotic embryo (B) Apomictic embryo  
 (C) Somatic embryo (D) Fertilized embryo

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118. For accuracy of agricultural experiments, what level of probability is acceptable?  
(A) 1% (B) 5%  
(C) 10% (D) 15%
119. Albinism in plants is associated with  
(A) Epistasis (B) Recessive lethal  
(C) Dominant lethal (D) Chromosome duplication
120. Recurrent selection is mostly used in  
(A) Self pollinated crops (B) Cross pollinated crops  
(C) Vegetatively propagated crops (D) Apomictic crop plants
121. Initial seed of an improved variety is called  
(A) Breeder seed (B) Nucleus seed  
(C) Certified seed (D) Foundation seed
122. Crescograph is a device used for measuring  
(A) Atmospheric pressure (B) Growth in plants  
(C) Wind Speed (D) Duration of sunshine
123. In fermentation, energy is  
(A) Liberated (B) Consumed  
(C) Neither liberated nor consumed (D) Stored
124. Which among the following forms nodules on its stem  
(A) *Arachi shypogaea* (B) *Sesbania rostrata*  
(C) *Pisum sativum* (D) *Glycine max*
125. The following organelles also contain DNA  
(A) Endoplasmic reticulum (B) Vacuoles  
(C) Chloroplast (D) Centrosomes
126. The fruit of rapeseed and mustard plant is known as  
(A) Caryopsis (B) Grain  
(C) Pod (D) Siliqua
127. One ha-cm of water is equal to  
(A) 1000 tonnes of water (B) 100,000 litres of water  
(C) 10 tonnes of water (D) 10,000 litres of water
128. Which of the following is often cross pollinated crop  
(A) Paddy (B) Groundnut  
(C) Cotton (D) Maize
129. Under stress conditions, which amino acid is accumulated in plants?  
(A) Methionine (B) Tryptophan  
(C) Proline (D) Phenyl alanine

130. The varieties belonging to rice species *Oryza glaberrima* are found in  
 (A) Europe (B) Asia  
 (C) Africa (D) Latin America
131. Roots of which of the following plants release allelopathic chemicals into soil which inhibit germination of succeeding crop?  
 (A) Sorghum (B) Sunflower  
 (C) Castor (D) Cotton
132. Which form of nitrogen is absorbed by paddy under waterlogged conditions?  
 (A)  $\text{NO}_3^-$  (B)  $\text{N}_2$   
 (C)  $\text{NO}_2^-$  (D)  $\text{NH}_4^+$
133. A condition in which pollination and fertilization take place in an unopened flower is termed as  
 (A) Homogamy (B) Apogamy  
 (C) Polygamy (D) Cleistogamy
134. In a cross between two homozygous parents, no genetic variation is present in  
 (A)  $F_1$  generation (B)  $F_2$  generation  
 (C)  $F_4$  generation (D)  $F_8$  generation
135. A cell or an organism having one chromosome pair in addition to the normal somatic complement of the species is  
 (A) Monosomic (B) Nullisomic  
 (C) Tetrasomic (D) Trisomic
136. A homozygous line developed by self fertilization in a cross pollinated crop is termed as  
 (A) Pure line (B) Inbred  
 (C) Clone (D) Mutant
137. Mendelian population means  
 (A) Self pollinated population (B) Inbred Population  
 (C) Random mating population (D) Hybrid population
138. Isogenic lines are used to develop  
 (A) Hybrids (B) Composites  
 (C) Multilines (D) Synthetics
139. Expression of both the alleles of a gene in  $F_1$  refers to  
 (A) Partial dominance (B) Incomplete dominance  
 (C) Co-dominance (D) None of these
140. In RNA, nitrogen bases are same as in DNA except  
 (A) Uracil instead of Thymine (B) Cytosin instead of Thymine  
 (C) Adenine instead of Guanine (D) Thymine instead of Adenine

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141. The following is a naturally occurring growth inhibitor
- (A) NAA (B) GA<sub>3</sub>  
(C) ABA (D) IAA
142. Carbohydrates are present in the plasmalemma in the form of
- (A) Starch (B) Cellulose  
(C) Hemi-cellulose (D) Glycolipids and glycoproteins
143. C<sub>4</sub> plant posses which type of leaf anatomy
- (A) Kranz type (B) Crassulucence type  
(C) Waxy type (D) Transparency type
144. Name the enzyme which joins the broken DNA strands
- (A) Ligase  
(B) Gyrase  
(C) DNA Polymerase  
(D) Helicase
145. The world food prize-2016 was honoured to Andrade, Mwanga and Low for which of their following contribution
- (A) Development of stress resistance varieties  
(B) Increased milk production  
(C) Development and implementation of bio-fortification  
(D) Increased food production-
146. The quantity of Co<sub>2</sub> catalysed by the RUBISCO from the atmosphere is
- (A) 10<sup>10</sup> tonnes  
(B) 10<sup>11</sup> tonnes  
(C) 10<sup>12</sup> tonnes  
(D) 10<sup>13</sup> tonnes
147. The value of respiration quotient in succulent plants which shows CAM is
- (A) Less than one (B) More than one  
(C) Unity (D) Zero
148. When a light break is given during a long dark period, it promotes flowering in
- (A) Short day plant  
(B) Day neutral plant  
(C) Long day plant  
(D) Both (A) and (B)
149. Cause for Pseudo-dominance is
- (A) Duplication (B) Deletion  
(C) Inversion (D) Translocation
150. Semigraphic methods for assessing morphological diversity
- (A) Meteroglyph (B) D<sup>2</sup>  
(C) Correlation (D) path

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**DIRECTIONS:** (Question No. 151 to 160) Cross matching type questions. Each sub-question carries ONE mark. Choose the correct answer (A, B, C, D and E) for each sub-question (i, ii, iii, iv and v) and enter your choice in the circle (by shading with Black/Blue Ball Point Pen) on the OMR- Answer Sheet. For each wrong answer 0.20 marks will be deducted.

**151. Match the following**

- |                         |          |
|-------------------------|----------|
| (i) Seed act            | (A) 1961 |
| (ii) Seed control order | (B) 1968 |
| (iii) Seed rules        | (C) 1983 |
| (iv) UPOV               | (D) 1966 |
| (v) NSC                 | (E) 1963 |

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**152. Match the following**

- |                     |                                   |
|---------------------|-----------------------------------|
| (i) Chi Square test | (A) Independent of origin         |
| (ii) Regression     | (B) Mean square deviation         |
| (iii) Correlation   | (C) $SD/\sqrt{n}$                 |
| (iv) Variance       | (D) Cause and effect relationship |
| (v) Standard error  | (E) <i>Goodness of fit</i>        |

**153. Match the crops with flowering**

- |                        |                      |
|------------------------|----------------------|
| (i) Cleistogamy        | (A) Sunflower        |
| (ii) Monoecious        | (B) Papaya           |
| (iii) Diecious         | (C) Bajra            |
| (iv) Self incompatible | (D) Maize            |
| (v) Protogynous        | (E) <i>Groundnut</i> |

**154. Match the following**

- |                                               |                   |
|-----------------------------------------------|-------------------|
| (i) Genetic male sterility                    | (A) Onion         |
| (ii) Cytoplasmic male sterility               | (B) Sun Flower    |
| (iii) Genetic and Cyto Plasmic male sterility | (C) Red Gram      |
| (iv) Parthenocarpic                           | (D) Hybrid Napier |
| (v) Non Viable Seed                           | (E) <i>Citrus</i> |

**155. Match the following**

- |                               |             |
|-------------------------------|-------------|
| (i) <i>Eleusine coracana</i>  | (A) $2n=14$ |
| (ii) <i>Setaria italica</i>   | (B) $2n=22$ |
| (iii) <i>Vigna mungo</i>      | (C) $2n=18$ |
| (iv) <i>Cicer arietinum</i>   | (D) $2n=16$ |
| (v) <i>Pennisetum glaucum</i> | (E) $2n=36$ |

**156. Match the following**

- |                         |              |
|-------------------------|--------------|
| (i) Nullisomic          | (A) $2n-1-1$ |
| (ii) Monosomics         | (B) $2n+1$   |
| (iii) Double monosomics | (C) $2n-2$   |
| (iv) Trisomic           | (D) $2n+2$   |
| (v) Tetrasomic          | (E) $2n-1$   |

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**157. Match the following**

- |                              |                    |
|------------------------------|--------------------|
| (i) Single seed descent      | (A) Double haploid |
| (ii) Backcrossing            | (B) F <sub>2</sub> |
| (iii) Anther culture         | (C) RILs           |
| (iv) Bulk segregant analysis | (D) SSRs           |
| (v) Microsatellites          | (E) NILs           |

**158. Match causal agent with disease caused**

- |                   |                            |
|-------------------|----------------------------|
| (i) Virus         | (A) Sigatoka of banana     |
| (ii) Algae        | (B) Little leaf of brinjal |
| (iii) Phytoplasma | (C) Potato spindle tuber   |
| (iv) Viroid       | (D) Red rust of mango      |
| (v) Fungus        | (E) Cotton leaf curl       |

**159. Match the crop with the pathogen**

- |               |                                                          |
|---------------|----------------------------------------------------------|
| (i) Rice      | (A) <i>Leifsonia xyli</i>                                |
| (ii) Wheat    | (B) <i>Xanthomonas axonopodis</i> pv. <i>Malvacearum</i> |
| (iii) Cotton  | (C) <i>Ustilaginoidea virens</i>                         |
| (iv) Chickpea | (D) <i>Urocystis agropyri</i>                            |
| (v) Sugarcane | (E) <i>Botrytis cinerea</i>                              |

**160. Match the following**

- |                           |                   |
|---------------------------|-------------------|
| (i) Rice dwarf            | (A) - Como virus  |
| (ii) Citrus tristeza      | (B) - Poty virus  |
| (iii) Tomato spotted wilt | (C) Closter virus |
| (iv) Potato virus Y       | (D) - Tospo virus |
| (v) Cowpea mosaic         | (E) Reovirus      |

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