| Sr. No. | Question |
|---|---|

1. Marginal physical product (MPP) where P=production, and X=input, is equal to
   (A) $\Delta P/\Delta X$ (B) $\Delta X/\Delta P$
   (C) P/X (D) None of these

2. In which relation, an increase or a decrease in production of one product affect the production of the other inversely
   (A) Supplementary (B) Joint product
   (C) Competitive (D) Complementary

3. The World Trade Organization (WTO) is the successor to
   (A) ITO (B) GATT
   (C) UNCTAD (D) IMF

4. Which of the following is the apex bank for agricultural credit in India?
   (A) RBI (B) A. SIDBI
   (C) NABARD (D) A. SBI

5. A demand curve measures
   (A) Buyer's willingness to pay (B) Actual price a buyer must pay to get the product
   (C) Difference between a buyer's willingness to pay and the actual price of the product (D) All of these

6. Consumer surplus is
   (A) a buyer's willingness to pay plus the price (B) the price of the product minus the buyer's willingness to pay
   (C) when the buyer's willingness to pay and the price of the product are equal (D) a buyer's willingness to pay minus the price

7. According to the law of demand
   (A) there is a positive relationship between quantity demanded and price (B) as the price rises, demand will shift to the left
   (C) there is a negative relationship between quantity demanded and price (D) as the price rises, demand will shift to the right

8. Marginal utility signifies
   (A) utility from first unit (B) utility from last unit
   (C) utility from additional unit (D) utility from third unit

9. National Income means
   (A) Income of the Government (B) Money measure of the overall annual flow of goods and services in an economy
   (C) Value of the fixed wealth in an economy (D) Aggregate of the earnings of working class in an economy

10. Internal rate of return (IRR) is that rate at which Net Present value is
   (A) Positive (B) Negative
   (C) Zero (D) None of these

11. The residual left with the farmers after meeting his family consumption, farm requirements, social and religions payments is called as
(A) Marketed surplus (B) Marketable surplus
(C) Producer Surplus (D) Consumer Surplus

12. If the NPW is zero, then B/C ratio is
(A) >1 (B) <1
(C) = 1 (D) = 0

13. A market characterized by large number of sellers and buyers and homogenous product is known as
(A) Monopoly (B) Oligopoly
(C) Perfect (D) Monopolistic

14. Demand for goods which are needed for further production is called as
(A) Derived Demand (B) Autonomous demand
(C) Direct Demand (D) All of these

15. Which one of the following is not a measure to reduce the risk?
(A) Diversification (B) Hedging
(C) Contract sales (D) Monoculture

16. Marginal product is
(A) Addition made to total production by the use of an additional input (B) Average production per unit of input use
(C) Total addition to the production by addition input use (D) All of these

17. In which layer of the atmosphere there is a temperature inversion?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

18. Which layer of the atmosphere has lowest average temperature?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

19. The value of Environmental lapse rate is given as
(A) - 6.5 $^{o}$C / km (B) + 6.5 $^{o}$C / km
(C) 5.5 $^{o}$C / km (D) 5.0$^{o}$C / km

20. Wind direction is measured as –
(A) From where it comes (B) Where it goes
(C) It touches the face (D) A and C both are correct

21. Vertical distribution of microclimate is:
(A) $10^{-2}$ to $10^{1}$ m (B) $10^{-2}$ to $10^{2}$ m
(C) $10^{-2}$ to $10^{3}$ m (D) $10^{-2}$ to $10^{4}$ m

22. Name the most important weather element –
(A) Temperature (B) Rainfall
(C) Cloud Cover (D) Atmospheric Pressure

23. 'Khaira disease' (also known as iron rust) of rice is caused due to:
(A) Excessive application of nitrogen (B) Deficiency of zinc
(C) Bacterial infection (D) Iron deficiency

24. Lysine is a limiting amino acid in:
(A) Cereals (B) Pulses
(C) Oilseeds (D) Green vegetables

25. Which among the following herbicides is non-selective herbicide?
(A) Paraquat (B) Alachlor
(C) Butachlor (D) Atrazine

26. Berseem seed is treated with:
(A) *Rhizobium meliloti* (B) *Rhizobium lupini*
(C) *Rhizobium trifoli* (D) *Rhizobium Japonicum*

27. Conversion of ADP to ATP is known as:
(A) Photolysis (B) Photo phosphorylation
(C) Photosynthesis (D) Photorespiration

28. Deficiency of which essential plant nutrient leads to 'pop pod in groundnut':
(A) Sulphur (B) Calcium
(C) Phosphorus (D) Boron

29. Which among the following weeds causes dropsy disease in human beings:
(A) *Pluchea lanceolata* (B) *Digera arvensis*
(C) *Parthenium hysterophorus* (D) *Argemone mexicana*

30. Roots absorb water from soil:
(A) Actively (B) Passively
(C) Both actively and passively (D) None of these

31. Sunflower belongs to family:
(A) *Cruciferae* (B) *Austraceae*
(C) *Malvaceae* (D) *Poaceae*

32. Removal of uniform thin layer of soil by the action of water is referred as:
(A) Splash erosion (B) Sheet erosion
(C) Rill erosion (D) Gully erosion

33. Major source of water used by plants is:
(A) Capillary water (B) Hygroscopic water
(C) Gravitational water (D) Inter space water

34. *Parthenium hysterophorus* (Congress grass) can be controlled by:
(A) *Chrysomella spp.* (B) *Dactylopius tomentosus*
(C) *Zygogramma bicolarata* (D) *Neochetina spp.*

35. Heavy shedding of buds and bolls occurs in cotton due to:
(A) Nitrogen deficiency in soil (B) Phosphorus deficiency in soil
(C) Magnesium deficiency in soil (D) Water stress at bud formation stage

36. Drip irrigation is most suited to:
(A) Acid soil (B) Alkaline soil
(C) Saline soil (D) All of these

37. The term 'LEISA' is related to:
(A) Organic farming (B) Inorganic farming
(C) Natural farming (D) All of these

38. Light intensity at which photosynthesis and respiration are equal is known as:
(A) Light compensation point (B) Light saturation point
(C) Net photosynthesis (D) None of these

39. Which type of maize is mainly grown in India?
(A) Dent corn (B) Waxy corn
(C) Flint corn (D) Sweet corn

40. Canola is a group of plants belonging to:
(A) Mustard (B) Safflower
(C) Castor (D) Vegetables

41. 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

42. Under stress conditions, which amino acid is accumulated in plants:
(A) Methionine (B) Tryptophan
(C) Proline (D) Phenyl alanine

43. Stem nodulation occurs in green manure crop of:
(A) *Aeschynomene afraspera* (B) *Crotolaria juncea*
(C) *Sesabania aculeata* (D) *Vigna tunguiculata*

44. Stomata closing can be induced by:
(A) Kaoline (B) Linseed oil
(C) 2,4-D (D) PMA

45. Most damaging single influence on storage life of seeds is:
(A) High moisture content (B) High temperature
(C) Low moisture content (D) Both (A) and (B)

46. Instrument used for measuring solar radiation is:
(A) Anemometer (B) Barograph
(C) Psycrometer (D) Pyranometer

47. Attraction of water molecules towards soil particles is:
(A) Adhesion (B) Surface tension
(C) Capillary force (D) Cohesion

48. The critical slope for soil erosion is:
(A) 1% (B) 2%
(C) 3% (D) 5%

49. The instrument used for measuring depth of water table is known as:
(A) Lysimeter (B) Piezometer
(C) Odometer (D) Evaporimeter

50. Sesame belongs to family:
(A) Poaceae (B) Papilionoideae
(C) Pediliaceae (D) Ceasalpinoideae

51. Water inside the plant moves through:
(A) Phloem (B) Xylem
(C) Fibre cells (D) All of these

52. While testing seed, the grow out test is conducted to determine:
(A) Genetic purity (B) Seed viability
(C) Physical purity (D) Yield potential

53. Optimum seed rate (kg/ha) of soybean is:
(A) 50-60 (B) 70-80
(C) 80-90 (D) 100-110

54. Which chemical causes Finger leaf disease in cotton?
(A) 2,4-D (B) Mancozeb
(C) Boron (D) Acephate

55. Cycocel is a:
(A) Auxin (B) Abscisic acid
(C) Cytokinin (D) Growth retardant

56. Which among the following is the most severe form of soil water erosion?
(A) Rill (B) Gully
(C) Sheet (D) Splash

57. Enzyme responsible for carboxylation in $C_3$ type plants is:
(A) Ribulose diphosphate dehydrogenase (B) Phosphoenol pyruvic acid
(C) Ribulose-1,5-biphosphate carboxylase (D) Glyceraldehyde dehydrogenase

58. Which among the following is a frost tolerant variety of raya
(A) Kranti (B) RH 781
(C) RH 0749 (D) Pusa Vijay

59. Contaminants in cotton are known as
(A) Dirt (B) Inert matter
(C) Motes (D) None of these

60. In north India, sugarcane is mostly used with how many buds?
(A) Two bud setts (B) Three bud setts
(C) Four bud setts (D) Single bud setts

61. Major groundnut producing state in India is:
(A) Andhra Pradesh (B) Gujarat
(C) Maharastra (D) Tamil Nadu

62. Photoperiodically, wheat is:
(A) Short day plant (B) Day neutral plant
(C) Long day plant (D) Intermediate

63. The inflorescence of sugarcane is known as:
(A) Panicle (B) Arrow
(C) Racemose (D) Tiller

64. Which among the following is a mycoherbicide
(A) Collego (B) Valour
(C) Bromacil (D) Metribuzin

65. Name of the insect Order in which (in general), the larval stage is phytophagous and adults are nectar feeder/sap suckers:
(A) Orthoptera (B) Hemiptera
(C) Neuroptera (D) Lepidoptera

66. Which insecticide formulation consists of active ingredient mixed with a liquid solvent that needs to be diluted with water prior to application?
(A) Wettable powder
(B) Emulsifiable concentrate
(C) Water dispersible powder
(D) Soluble powder

67. Which of the following characteristics do immature Lepidopteran and Coleopteran insects share?
(A) They are all plant feeders
(B) They are all found in the soil
(C) They are all called nymphs
(D) They all have biting and chewing mouthparts

68. Summer diapause is known as
(A) Hibernation
(B) Overwintering
(C) Aestivation
(D) None of these

69. The scientific name of the Italian honey bee is
(A) *Apis mellifera*
(B) *Apis indica*
(C) *Apis dorsata*
(D) *Apis florae*

70. The larval stage is predatory whereas the adults are pollinator in case of
(A) Syrphid
(B) Coccinellid
(C) Chrysopa
(D) All of these

71. The opening on an arthropod body surface that allows for air transfer is called:
(A) Spiracle
(B) Trachea
(C) Tracheoles
(D) Alveoli

72. What are located between the compound eyes which may be variable in number, but never exceed three in number? Function appears to aid the insect in determining light intensities - unable to form images
(A) Labrum
(B) Ocelli
(C) Gena
(D) Frons

73. Honey bees often sting
(A) Single time
(B) Two times
(C) Multiple times
(D) All of these

74. The body temperature of insects normally follows closely the temperature of the surrounding and hence, it is termed as
(A) Hyperthermic
(B) Warm blooded
(C) Cold hardiness
(D) Poikilothermic

75. Brown plant hopper is a major pest of
(A) Cotton
(B) Sunflower
(C) Mustard
(D) Paddy

76. The use of synthetic pyrethroids has caused serious outbreaks of
(A) Bihar hairy caterpillar
(B) Whitefly
(C) Mango mealy bug
(D) Mosquitoes

77. The common name of *Chilo partellus* is
(A) Sugarcane stem borer
(B) Sorghum shootfly
(C) Paddy stem borer
(D) Maize stem borer

78. Wings are absent in
(A) Hymenoptera (B) Thysanura
(C) Thysanoptera (D) Trichoptera

79. Mouth parts in thrips belong to the type
(A) Chewing type (B) Biting type
(C) Asymmetrical type (D) Sucking type

80. *Trichogramma chilonis* is
(A) Predator of mustard aphid (B) Larval parasite of mealy bug
(C) Egg parasitoid of sugarcane borers (D) Pupal parasitoid of cabbage butterfly

81. The systematic is the study of:
(A) genetic makeup of reproductive insects (B) relationships between groups of any size
(C) orders of insects only (D) morphological characters only

82. Pest which occurs in isolated locations is known as
(A) Persistent pest (B) Seasonal pest
(C) Sporadic pest (D) Occasional pest

83. Which is the pest of potato tuber in field and storage
(A) Mealy bug (B) Cutworm
(C) Potato aphid (D) Potato tuber moth

84. In insect population which have only one generation a year, the shape of population growth curve is:
(A) S-shaped curve (B) J-shaped curve
(C) Both A and B (D) None of these

85. The grazing food web begins with:
(A) Detrivores (B) Carnivores
(C) Heterotrophs (D) Autotrophs

86. Economic injury level is ---------- economic threshold level.
(A) Half of the (B) Equal to
(C) Greater than (D) Less than

87. PRA stands for:
(A) Participatory Rural Appraisal (B) Participatory Rapid Appraisal
(C) Programme Review Appraisal (D) People's Rural Appraisal

88. National Agricultural Technology Project was started in the year:
(A) 1996 (B) 1998
(C) 1994 (D) 2000

89. According to Prof. Mildred Hurton, the first training group of human race is:
(A) Family (B) Community
(C) Country (D) Home

90. Lt. Col. Albert Mayer started a project called :
(A) Gurgaon Project
B. Nilokheri Project
(C) Etawah Pilot Project
D. Marthandom Project

91. The word communication is derived from:
(A) Greek word
(B) French word
(C) Russian word
(D) Latin word

92. In the preparation of audio-visual aids, the principle of 'A', 'B', 'C' signifies:
(A) Attractiveness, Brevity, Concreteness
(B) Attractiveness, Brevity, Colour
(C) Attractiveness, Brevity, Clarity
(D) Attitude, Brief, Communication

93. Which among the following is a method of identifying leader?
(A) Socio-metric method
(B) Self –designated method
(C) Informants' rating
(D) All the above

94. Which among the following models of communication is called 'Mathematical Theory of Communication:
(A) Berlo's Model
(B) Shannon and Weaver's Model
(C) Aristotle's Model
(D) Leagan's Model

95. Single line of command was one of the main features of:
(A) EPP
(B) NAEP
(C) NARP
(D) T & V

96. Extension Education Institute for North India is located at:
(A) Haryana
(B) Punjab
(C) UP
(D) Bihar

97. Extension Programme is a statement of situation, objectives, problems and:
(A) Motivation
(B) Attitude
(C) Reasons
(D) Solution

98. Which among the following entrepreneurs is timid and cautious in nature:
(A) Fabian
(B) Drone
(C) Imitative
(D) Innovative

99. Which among the following is a technique of idea generation :
(A) Seminar
(B) Conference
(C) Brain storming
(D) Incubation

100. The concept of venture capital was originated in:
(A) India
(B) Japan
(C) U.K.
(D) U.S.A.

101. Temperate Forests of the Western Himalayas are the Climatic Climax of the following:
(A) Abies spp
(B) Cedrus spp.
(C) Quercus spp.
(D) Betula spp

102. The yield of forest is regulated on the basis of volume by using following:
(A) Von Mantel's formula (B) Permanent allotment method
(C) Annual coups (D) Periodic block method

103. Widely accepted Classification of Forest Types of India is based upon:
(A) Climate (B) Physiography
(C) Ecology (D) Composition

104. Field planting season for poplar tree is
(A) Winter (B) Summer
(C) Rainy (D) Throughout the year

105. Sulphate navel stores are by-products of the following pulping process:
(A) Soda pulping (B) Sulphate pulping
(C) Kraft pulping (D) None of the above

106. Ghatti gum is obtained from:
(A) *Sterculia ureus* (B) *Astragalus spp*
(C) *Anogeissus latifolia* (D) *Acacia arabica*

107. Maximum segregation is observed in:
(A) $F_1$ (B) $F_2$
(C) $F_3$ (D) $F_4$

108. Single seed descent method is a modification of:
(A) Pedigree method (B) Bulk method
(C) Mass selection (D) $F_4$

109. Vegetatively propagated crops are usually:
(A) Homozygous (B) Heterozygous
(C) Both A and B (D) Apomictic

110. The most commonly used breeding scheme is:
(A) Back cross method (B) Bulk method
(C) Pedigree method (D) Mass selection

111. Landraces are very good sources of genes for:
(A) high yield (B) adaptability
(C) Both (A) and (B) (D) None of these

112. Variation within a pureline is due to
(A) Genetic causes (B) Environment
(C) Both (A) and (B) (D) None of these

113. Transgenic plants are being cultivated in India in:
(A) Brinjal (B) Wheat
(C) Cotton (D) Soybean

114. Cotton and pigeonpea are:
(A) Cross pollinated (B) Self pollinated
(C) Often cross pollinated (D) Apomictic

115. Which of the following has been used for inducing male sterility in Bajra ?
(A) Tift 23 A (B) *H. petiolaris*
(C) Milo (D) *T. timopheevi*

116. TGMS and PGMS systems of male sterility are available in:
(A) Wheat (B) Sorghum
(C) Rice (D) Bajra

117. Centre of origin of *Gossypium herbaceum* is:
(A) North America (B) South America
(C) Africa (D) India

118. Golden rice is related to enhanced:
(A) pro-vitamin A (B) Mg
(C) Zn (D) Cu

119. Genetic disassortative mating will result in:
(A) Reduced homozygosity (B) Increased homozygosity
(C) More inbreeding depressions (D) None of these

120. One map unit is equal to:
(A) 1% recombination between genes (B) 100% recombination between genes
(C) 50% recombination between genes (D) 10% recombination between genes

121. If recombination occurs before the chromosome replication, percentage of parental type gametes will be:
(A) 100 (B) 50
(C) 25 (D) 0

122. Which of following mechanisms does not promotes cross pollination:
(A) Dicliny (B) Chasmogamy
(C) Dichogamy (D) Self-incompatibility

123. Which of the following can be considered a case of non- Mendelian inheritance ?
(A) Extra-nuclear inheritance (B) Multiple alleles
(C) Incomplete dominance (D) All of these

124. Upper limit of crossing over between two genes is:
(A) 100 % (B) 50 %
(C) 25 % (D) 75 %

125. Bacterial artificial chromosome may be used for the construction of:
(A) c-DNA library (B) Genomic library
(C) Tissue specific library (D) All of these

126. Experiment that unambiguously demonstrated that DNA is the genetic material was conducted by:
(A) Watson and Crick (B) Hershey and Chase
(C) Fred Griffith (D) Avery, MacLeod and McCarty

127. Which of the following is not an auxin:
(A) Indole acetic acid (B) 2,4-D
(C) Kinetin (D) Naphthalene acetic acid

128. Fusion of cytoplasm from two species and nuclear genes from any one species leads to the development of:
(A) Cybrid (B) Somatic hybrid
(C) Protoplast (D) None of these

129. Polymerase chain reaction (PCR) was invented by:
(A) Rosalind Franklin (B) Arthur Korenburg
(C) Watson and Crick (D) K Mullis

130. Which of the following is not a "direct gene transfer" method:
(A) Liposome encapsulation (B) Microinjection
(C) Agrobacterium (D) Particle bombardment

131. Which of the following fruits is a rich source of vitamin C?
(A) Apple (B) Mango
(C) Aonla (D) Papaya

132. Mulching is helpful in
(A) Moisture conservation (B) Weed control
(C) Both A & B (D) Neither A nor B

133. Which of the following varieties of apple is a pollinizer?
(A) Red Chief (B) Golden Delicious
(C) Royal Delicious (D) Red Delicious

134. Which of the following varieties of mango is suitable for high density planting?
(A) Neelum (B) Langra
(C) Alphonso (D) Amrapalli

135. Which fruit crop is suitable for arid regions?
(A) Apple (B) Ber
(C) Banana (D) Pineapple

136. Which system of planting is most suitable for sloppy lands in hilly areas?
(A) Contour (B) Square system
(C) Hexagonal (D) Rectangular

137. Spongy tissue is a physiological disorder of
(A) Mango (B) Guava
(C) Apple (D) Papaya

138. Which PGR is commonly used for rooting initiation in stem cuttings?
(A) ABA (B) 2, 4-D
(C) IBA (D) IAA

139. Which among the following is an aggregate fruit
(A) Pineapple (B) Strawberry
(C) Pomegranate (D) Grape

140. Among these fruit crops, the richest source of Fe is
(A) Banana (B) Ber
(C) Jamun (D) Karonda

141. Which of following fruit is most suitable for jelly making
(A) Apple (B) Banana
(C) Ber (D) Guava

142. Most of apple varieties have the chilling requirement of
(A) *2000-3000 hrs.* (B) *1000-1500 hrs*
(C) *100-500 hrs.* (D) *500-1000 hrs.*

143. Which of the following nematode is kidney shaped:
(A) *Heterodera* (B) *Rotylenchus*
(C) *Pratylenchus* (D) *Xiphinema*

144. A series of transverse depressions on the cuticle of nematode is:
(A) Annulations (B) Appendages
(C) Striae (D) None of these

145. Transmission of grape vine fan leaf virus is by nematode:
(A) *Radopholus similus* (B) (B) *Ditylenchus angustus*
(C) *Anguina tritici* (D) *Xiphinema index*

146. Which of the following is nematicide:
(A) Dinocap (B) Metalaxyl
(C) Tridemorph (D) None of these

147. *Anguina tritici* causes:
(A) Molya disease of wheat (B) Ear cockle disease of wheat
(C) Root knot of vegetables (D) All of these

148. Which of the following is a piercing organ in nematode:
(A) Haustorium (B) Appressorium
(C) Stylet (D) None of these

149. *Sclerotinia sclerotiorum* survives in soil in the form of:
(A) Oospore (B) Sclerotia
(C) Basidiospore (D) Perithecia

150. Irish famine was caused due to:
(A) Early blight of potato (B) Downy mildew of onion
(C) Late blight of potato (D) Downy mildew of grapes

151. Rust and smut fungi belong to:
(A) Zygomycota (B) Basidiomycota
(C) Ascomycota (D) Oomycota

152. Whiptail of cauliflower is due to
(A) Oxygen deficiency (B) Water deficiency
(C) Mo deficiency (D) Zn deficiency

153. Citrus canker is caused by
(A) Bacteria (B) Nematode
(C) Fungi (D) Algae

154. Which one of the following is not a biological control agent:
(A) *Trichoderma* (B) *Pseudomonas*
(C) *Paecilomyces* (D) *Xanthomonas*

155. Gene for Gene hypothesis was given by
(A) Anton de Bary (B) H.H. Flor
(C) P. M.A. Millardet (D) T.J. Burrill

156. Cadang-Cadang disease of coconut is caused by
(A) Fungi (B) Bacteria
(C) Viroid (D) Nematode

157. Components of bordeux mixture are
(A) Lime, iron sulphate, water (B) Lime, ferrous sulphate, water
(C) Lime, copper sulphate, water (D) Lime, calcium chloride, water

158. Transportation of potato tuber for seed purpose is not allowed from Darjeeling hills to North India due to the presence of
(A) *Synchytrium endobioticum* (B) *Rhizoctonia solani*
(C) *Sclerotinia rolfsii* (D) *Sclerotinia sclerotiorum*

159. *Albugo candida* survives as
(A) Ascospores (B) Basidiospores
(C) Pycniospores (D) Oospores

160. Which one of the following chemical is most effective in managing downy mildew diseases:
(A) Dinocap (B) Metalaxyl
(C) Wettable sulphur (D) Tetracycline

161. Moko disease of banana is caused by
(A) *Colletotrichum gloeosporioides* (B) *Pseudomonas musae*
(C) *Colletotrichum musae* (D) *Ralstonia solanacearum*

162. Apothecium contains
(A) Conidia (B) Basidiospores
(C) Ascospores (D) Zoospores

163. Asexual fruiting bodies of anthracnose fungi are
(A) Sporodochia (B) Cleistothecia
(C) Sporangia (D) Acervuli

164. In *Venturia inaequalis*, the acsi and ascospores are formed in
(A) Pseudothecium (B) Cleistothecium
(C) Pycnium (D) Acervulus

165. Rust of rose is caused by
(A) *Puccinia* spp. (B) *Uromyces* spp.
(C) *Phakopsora* spp. (D) *Phragmidium* spp.

166. Premature leaf fall of apple is caused by
(A) *Marssonina coronaria* (B) *Taphrina deformans*
(C) *Venturia inaequalis* (D) None of these

167. Powdery mildew of mango is caused by
(A) *Olpidium mangiferae* (B) *Erysiphe polygoni*
(C) *Oidium mangiferae* (D) *Macrophoma mangiferae*

168. Blister blight of tea is caused by
(A) *Cephaleuros mycoidea* (B) *Exobasidium vexans*
(C) *Poria hypolateritia* (D) *Botryodiplodia theobromae*

169. Which one of the following is not a component of 'disease triangle'
(A) Susceptible host (B) Suppressive soil
(C) Favourable environment (D) Virulent pathogen

170. Stem gall of coriander is caused by
(A) *Protomyces macrosporus* (B) *Agrobacterium tumefaciens*
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171. Hypogeal type of seed germination occur in
(A) French Bean (B) Pea
(C) Bitter gourd (D) All of these

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(A) Germination test (B) Vigour test
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173. Seed priming improves the
(A) Longevity of seed (B) Vigour of seed
(C) Colour of the seed (D) All of these

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(A) Stratification (B) Scarification
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175. Desiccant used for drying of seed is
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176. Safe seed moisture content for sealed storage is
(A) 4-8 % (B) 8-12 %
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177. Acid soil can be amended with the help of
(A) Lime (B) FYM
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178. Basalt is a _____ rock
(A) Igneous (B) Sedimentary
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(A) Nitrsomonas (B) Nitrobactor
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(A) 0-1.0 bar (B) 0-0.8 bar
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181. Vascular – arbuscular mycorrhiza (VAM) is known for;
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(A) Surface horizon (B) Sub-surface horizon
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(A) 4.2 (B) 4.5
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187. Petrogenesis which is the study of the
(A) Description of rocks (B) Origin of rocks
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188. Three particles have diameters of 0.5, 1.5, and 0.15 mm. The three particles are
(A) Sand, silt, and clay (B) Sand, gravel, and silt
(C) Sand, sand and sand (D) Silt, silt, and clay

189. The root growth is drastically reduced when Oxygen Diffusion Rate (ODR) is decreases to about
(A) $20 \times 10^{-8}$ g/cm$^2$/minute (B) $30 \times 10^{-8}$ g/cm$^2$/minute
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190. The availability of plant nutrients are more at a pH range of 6-7 except
(A) P (B) K
(C) B (D) Mo

191. Montmorillonite has higher cation exchange capacity (CEC) in comparison to
(A) Kaolinite (B) Illite
(C) Both of these (D) None of these

192. In which soil structure infiltration, permeability and aeration are good

(A) Platy
(B) Prism like
(C) Block like
(D) Sphere like (granular)

193. The harmful effect of continuous application of sewage water over several years may result in enrichment of

(A) Cd
(B) N
(C) P
(D) Ca

194. Irrigation water quality is evaluated based upon

(A) Total salt content, sodium and specific ion toxicities
(B) pH of the water
(C) Acidity of the water
(D) Ca content of the water

195. Orange coloured varieties in carrot is rich source of

(A) Carotene
(B) Lycopene
(C) Anthocyanine
(D) None of these

196. Per hectare seed rate of broad bean is

(A) 20-30 kg
(B) 30-40 kg
(C) 50-60 kg
(D) 70-100 kg

197. Potato is mainly propagated by

(A) Tuber
(B) Corm
(C) Seeds
(D) Selts

198. Types of vegetable gardening followed on the Dal Lake of the Kashmir Valley is

(A) Floating garden
(B) Hydroponics
(C) Kitchen garden
(D) None of these

199. Which of the following is best for vegetable cultivation

(A) Sandy soil
(B) Sandy loam soil
(C) Clay loam soil
(D) Clay soil

200. Hybrid variety of chilli recommended for cultivation is

(A) Punjab Lal
(B) CH-I
(C) Punjab Surkh
(D) None of the above

| Sr. No. | Question |
|---|---|

1. Water inside the plant moves through:
   (A) Phloem (B) Xylem
   (C) Fibre cells (D) All of these

2. While testing seed, the grow out test is conducted to determine:
   (A) Genetic purity (B) Seed viability
   (C) Physical purity (D) Yield potential

3. Optimum seed rate (kg/ha) of soybean is:
   (A) 50-60 (B) 70-80
   (C) 80-90 (D) 100-110

4. Which chemical causes Finger leaf disease in cotton?
   (A) 2,4-D (B) Mancozeb
   (C) Boron (D) Acephate

5. Cycocel is a:
   (A) Auxin (B) Abscisic acid
   (C) Cytokinin (D) Growth retardant

6. Which among the following is the most severe form of soil water erosion?
   (A) Rill (B) Gully
   (C) Sheet (D) Splash

7. Enzyme responsible for carboxylation in $C_3$ type plants is:
   (A) Ribulose diphosphate dehydrogenase (B) Phosphoenol pyruvic acid
   (C) Ribulose-1,5-biphosphate carboxylase (D) Glyceraldehyde dehydrogenase

8. Which among the following is a frost tolerant variety of raya
   (A) Kranti (B) RH 781
   (C) RH 0749 (D) Pusa Vijay

9. Contaminants in cotton are known as
   (A) Dirt (B) Inert matter
   (C) Motes (D) None of these

10. In north India, sugarcane is mostly used with how many buds?
   (A) Two bud setts (B) Three bud setts
   (C) Four bud setts (D) Single bud setts

11. Major groundnut producing state in India is:
   (A) Andhra Pradesh (B) Gujarat
   (C) Maharastra (D) Tamil Nadu

12. Photoperiodically, wheat is:
   (A) Short day plant (B) Day neutral plant
   (C) Long day plant (D) Intermediate

13. The inflorescence of sugarcane is known as:
   (A) Panicle (B) Arrow
   (C) Racemose (D) Tiller

14. Which among the following is a mycoherbicide
(A) Collego (B) Valour
(C) Bromacil (D) Metribuzin

15. Name of the insect Order in which (in general), the larval stage is phytophagous and adults are nectar feeder/sap suckers:
(A) Orthoptera (B) Hemiptera
(C) Neuroptera (D) Lepidoptera

16. Which insecticide formulation consists of active ingredient mixed with a liquid solvent that needs to be diluted with water prior to application?
(A) Wettable powder (B) Emulsifiable concentrate
(C) Water dispersible powder (D) Soluble powder

17. Which of the following characteristics do immature Lepidopteran and Coleopteran insects share?
(A) They are all plant feeders (B) They are all found in the soil
(C) They are all called nymphs (D) They all have biting and chewing mouthparts

18. Summer diapause is known as
(A) Hibernation (B) Overwintering
(C) Aestivation (D) None of these

19. The scientific name of the Italian honey bee is
(A) *Apis mellifera* (B) *Apis indica*
(C) *Apis dorsata* (D) *Apis florae*

20. The larval stage is predatory whereas the adults are pollinator in case of
(A) Syrphid (B) Coccinellid
(C) Chrysopa (D) All of these

21. The opening on an arthropod body surface that allows for air transfer is called:
(A) Spiracle (B) Trachea
(C) Tracheoles (D) Alveoli

22. What are located between the compound eyes which may be variable in number, but never exceed three in number? Function appears to aid the insect in determining light intensities - unable to form images
(A) Labrum (B) Ocelli
(C) Gena (D) Frons

23. Honey bees often sting
(A) Single time (B) Two times
(C) Multiple times (D) All of these

24. The body temperature of insects normally follows closely the temperature of the surrounding and hence, it is termed as
(A) Hyperthermic (B) Warm blooded
(C) Cold hardiness (D) Poikilothermic

25. Brown plant hopper is a major pest of
(A) Cotton (B) Sunflower
(C) Mustard (D) Paddy

26. The use of synthetic pyrethroids has caused serious outbreaks of
(A) Bihar hairy caterpillar (B) Whitefly
(C) Mango mealy bug (D) Mosquitoes

27. The common name of *Chilo partellus* is
(A) Sugarcane stem borer (B) Sorghum shootfly
(C) Paddy stem borer (D) Maize stem borer

28. Wings are absent in
(A) Hymenoptera (B) Thysanura
(C) Thysanoptera (D) Trichoptera

29. Mouth parts in thrips belong to the type
(A) Chewing type (B) Biting type
(C) Asymmetrical type (D) Sucking type

30. *Trichogramma chilonis* is
(A) Predator of mustard aphid (B) Larval parasite of mealy bug
(C) Egg parasitoid of sugarcane borers (D) Pupal parasitoid of cabbage butterfly

31. The systematic is the study of:
(A) genetic makeup of reproductive insects (B) relationships between groups of any size
(C) orders of insects only (D) morphological characters only

32. Pest which occurs in isolated locations is known as
(A) Persistent pest (B) Seasonal pest
(C) Sporadic pest (D) Occasional pest

33. Which is the pest of potato tuber in field and storage
(A) Mealy bug (B) Cutworm
(C) Potato aphid (D) Potato tuber moth

34. In insect population which have only one generation a year, the shape of population growth curve is:
(A) S-shaped curve (B) J-shaped curve
(C) Both A and B (D) None of these

35. The grazing food web begins with:
(A) Detrivores (B) Carnivores
(C) Heterotrophs (D) Autotrophs

36. Economic injury level is ---------- economic threshold level.
(A) Half of the (B) Equal to
(C) Greater than (D) Less than

37. PRA stands for:
(A) Participatory Rural Appraisal (B) Participatory Rapid Appraisal
(C) Programme Review Appraisal (D) People's Rural Appraisal

38. National Agricultural Technology Project was started in the year:
(A) 1996 (B) 1998
(C) 1994 (D) 2000

39. According to Prof. Mildred Hurton, the first training group of human race is:
(A) Family (B) Community
(C) Country (D) Home

40. Lt. Col. Albert Mayer started a project called :
(A) Gurgaon Project B. Nilokheri Project
(C) Etawah Pilot Project D. Marthandom Project

41. The word communication is derived from:
(A) Greek word (B) French word
(C) Russian word (D) Latin word

42. In the preparation of audio-visual aids, the principle of 'A', 'B', 'C' signifies:
(A) Attractiveness, Brevity, Concreteness (B) Attractiveness, Brevity, Colour
(C) Attractiveness, Brevity, Clarity (D) Attitude, Brief, Communication

43. Which among the following is a method of identifying leader?
(A) Socio-metric method (B) Self –designated method
(C) Informants' rating (D) All the above

44. Which among the following models of communication is called 'Mathematical Theory of Communication:
(A) Berlo's Model (B) Shannon and Weaver's Model
(C) Aristotle's Model (D) Leagan's Model

45. Single line of command was one of the main features of:
(A) EPP (B) NAEP
(C) NARP (D) T & V

46. Extension Education Institute for North India is located at:
(A) Haryana (B) Punjab
(C) UP (D) Bihar

47. Extension Programme is a statement of situation, objectives, problems and:
(A) Motivation (B) Attitude
(C) Reasons (D) Solution

48. Which among the following entrepreneurs is timid and cautious in nature:
(A) Fabian (B) Drone
(C) Imitative (D) Innovative

49. Which among the following is a technique of idea generation :
(A) Seminar (B) Conference
(C) Brain storming (D) Incubation

50. The concept of venture capital was originated in:
(A) India (B) Japan
(C) U.K. (D) U.S.A.

51. Temperate Forests of the Western Himalayas are the Climatic Climax of the following:
(A) Abies spp (B) Cedrus spp.
(C) Quercus spp. (D) Betula spp

52. The yield of forest is regulated on the basis of volume by using following:
(A) Von Mantel's formula (B) Permanent allotment method
(C) Annual coups (D) Periodic block method

53. Widely accepted Classification of Forest Types of India is based upon:
(A) Climate (B) Physiography
(C) Ecology (D) Composition

54. Field planting season for poplar tree is
(A) Winter (B) Summer
(C) Rainy (D) Throughout the year

55. Sulphate navel stores are by-products of the following pulping process:
(A) Soda pulping (B) Sulphate pulping
(C) Kraft pulping (D) None of the above

56. Ghatti gum is obtained from:
(A) *Sterculia ureus* (B) *Astragalus spp*
(C) *Anogeissus latifolia* (D) *Acacia arabica*

57. Maximum segregation is observed in:
(A) $F_1$ (B) $F_2$
(C) $F_3$ (D) $F_4$

58. Single seed descent method is a modification of:
(A) Pedigree method (B) Bulk method
(C) Mass selection (D) $F_4$

59. Vegetatively propagated crops are usually:
(A) Homozygous (B) Heterozygous
(C) Both A and B (D) Apomictic

60. The most commonly used breeding scheme is:
(A) Back cross method (B) Bulk method
(C) Pedigree method (D) Mass selection

61. Landraces are very good sources of genes for:
(A) high yield (B) adaptability
(C) Both (A) and (B) (D) None of these

62. Variation within a pureline is due to
(A) Genetic causes (B) Environment
(C) Both (A) and (B) (D) None of these

63. Transgenic plants are being cultivated in India in:
(A) Brinjal (B) Wheat
(C) Cotton (D) Soybean

64. Cotton and pigeonpea are:
(A) Cross pollinated (B) Self pollinated
(C) Often cross pollinated (D) Apomictic

65. Which of the following has been used for inducing male sterility in Bajra ?
(A) Tift 23 A (B) *H. petiolaris*
(C) Milo (D) *T. timopheevi*

66. TGMS and PGMS systems of male sterility are available in:
(A) Wheat (B) Sorghum
(C) Rice (D) Bajra

67. Centre of origin of *Gossypium herbaceum* is:
(A) North America (B) South America
(C) Africa (D) India

68. Golden rice is related to enhanced:
(A) pro-vitamin A (B) Mg
(C) Zn (D) Cu

69. Genetic disassortative mating will result in:
(A) Reduced homozygosity (B) Increased homozygosity
(C) More inbreeding depressions (D) None of these

70. One map unit is equal to:
(A) 1% recombination between genes (B) 100% recombination between genes
(C) 50% recombination between genes (D) 10% recombination between genes

71. If recombination occurs before the chromosome replication, percentage of parental type gametes will be:
(A) 100 (B) 50
(C) 25 (D) 0

72. Which of following mechanisms does not promotes cross pollination:
(A) Dicliny (B) Chasmogamy
(C) Dichogamy (D) Self-incompatibility

73. Which of the following can be considered a case of non- Mendelian inheritance ?
(A) Extra-nuclear inheritance (B) Multiple alleles
(C) Incomplete dominance (D) All of these

74. Upper limit of crossing over between two genes is:
(A) 100 % (B) 50 %
(C) 25 % (D) 75 %

75. Bacterial artificial chromosome may be used for the construction of:
(A) c-DNA library (B) Genomic library
(C) Tissue specific library (D) All of these

76. Experiment that unambiguously demonstrated that DNA is the genetic material was conducted by:
(A) Watson and Crick (B) Hershey and Chase
(C) Fred Griffith (D) Avery, MacLeod and McCarty

77. Which of the following is not an auxin:
(A) Indole acetic acid (B) 2,4-D
(C) Kinetin (D) Naphthalene acetic acid

78. Fusion of cytoplasm from two species and nuclear genes from any one species leads to the development of:
(A) Cybrid (B) Somatic hybrid
(C) Protoplast (D) None of these

79. Polymerase chain reaction (PCR) was invented by:
(A) Rosalind Franklin (B) Arthur Korenburg
(C) Watson and Crick (D) K Mullis

80. Which of the following is not a "direct gene transfer" method:
(A) Liposome encapsulation (B) Microinjection
(C) Agrobacterium (D) Particle bombardment

81. Which of the following fruits is a rich source of vitamin C?
(A) Apple (B) Mango
(C) Aonla (D) Papaya

82. Mulching is helpful in
(A) Moisture conservation (B) Weed control
(C) Both A & B (D) Neither A nor B

83. Which of the following varieties of apple is a pollinizer?
(A) Red Chief (B) Golden Delicious
(C) Royal Delicious (D) Red Delicious

84. Which of the following varieties of mango is suitable for high density planting?

(A) Neelum (B) Langra
(C) Alphonso (D) Amrapalli

85. Which fruit crop is suitable for arid regions?
(A) Apple (B) Ber
(C) Banana (D) Pineapple

86. Which system of planting is most suitable for sloppy lands in hilly areas?
(A) Contour (B) Square system
(C) Hexagonal (D) Rectangular

87. Spongy tissue is a physiological disorder of
(A) Mango (B) Guava
(C) Apple (D) Papaya

88. Which PGR is commonly used for rooting initiation in stem cuttings?
(A) ABA (B) 2, 4-D
(C) IBA (D) IAA

89. Which among the following is an aggregate fruit
(A) Pineapple (B) Strawberry
(C) Pomegranate (D) Grape

90. Among these fruit crops, the richest source of Fe is
(A) Banana (B) Ber
(C) Jamun (D) Karonda

91. Which of following fruit is most suitable for jelly making
(A) Apple (B) Banana
(C) Ber (D) Guava

92. Most of apple varieties have the chilling requirement of
(A) *2000-3000 hrs.* (B) *1000-1500 hrs*
(C) *100-500 hrs.* (D) *500-1000 hrs.*

93. Which of the following nematode is kidney shaped:
(A) *Heterodera* (B) *Rotylenchus*
(C) *Pratylenchus* (D) *Xiphinema*

94. A series of transverse depressions on the cuticle of nematode is:
(A) Annulations (B) Appendages
(C) Striae (D) None of these

95. Transmission of grape vine fan leaf virus is by nematode:
(A) *Radopholus similus* (B) (B) *Ditylenchus angustus*
(C) *Anguina tritici* (D) *Xiphinema index*

96. Which of the following is nematicide:
(A) Dinocap (B) Metalaxyl
(C) Tridemorph (D) None of these

97. *Anguina tritici* causes:
(A) Molya disease of wheat (B) Ear cockle disease of wheat
(C) Root knot of vegetables (D) All of these

98. Which of the following is a piercing organ in nematode:
(A) Haustorium (B) Appressorium
(C) Stylet (D) None of these

99. *Sclerotinia sclerotiorum* survives in soil in the form of:
(A) Oospore (B) Sclerotia
(C) Basidiospore (D) Perithecia

100. Irish famine was caused due to:
(A) Early blight of potato (B) Downy mildew of onion
(C) Late blight of potato (D) Downy mildew of grapes

101. Rust and smut fungi belong to:
(A) Zygomycota (B) Basidiomycota
(C) Ascomycota (D) Oomycota

102. Whiptail of cauliflower is due to
(A) Oxygen deficiency (B) Water deficiency
(C) Mo deficiency (D) Zn deficiency

103. Citrus canker is caused by
(A) Bacteria (B) Nematode
(C) Fungi (D) Algae

104. Which one of the following is not a biological control agent:
(A) *Trichoderma* (B) *Pseudomonas*
(C) *Paecilomyces* (D) *Xanthomonas*

105. Gene for Gene hypothesis was given by
(A) Anton de Bary (B) H.H. Flor
(C) P. M.A. Millardet (D) T.J. Burrill

106. Cadang-Cadang disease of coconut is caused by
(A) Fungi (B) Bacteria
(C) Viroid (D) Nematode

107. Components of bordeux mixture are
(A) Lime, iron sulphate, water (B) Lime, ferrous sulphate, water
(C) Lime, copper sulphate, water (D) Lime, calcium chloride, water

108. Transportation of potato tuber for seed purpose is not allowed from Darjeeling hills to North India due to the presence of
(A) *Synchytrium endobioticum* (B) *Rhizoctonia solani*
(C) *Sclerotinia rolfsii* (D) *Sclerotinia sclerotiorum*

109. *Albugo candida* survives as
(A) Ascospores (B) Basidiospores
(C) Pycniospores (D) Oospores

110. Which one of the following chemical is most effective in managing downy mildew diseases:
(A) Dinocap (B) Metalaxyl
(C) Wettable sulphur (D) Tetracycline

111. Moko disease of banana is caused by
(A) *Colletotrichum gloeosporioides* (B) *Pseudomonas musae*
(C) *Colletotrichum musae* (D) *Ralstonia solanacearum*

112. Apothecium contains
(A) Conidia (B) Basidiospores
(C) Ascospores (D) Zoospores

113. Asexual fruiting bodies of anthracnose fungi are
(A) Sporodochia (B) Cleistothecia
(C) Sporangia (D) Acervuli

114. In *Venturia inaequalis*, the acsi and ascospores are formed in
(A) Pseudothecium (B) Cleistothecium
(C) Pycnium (D) Acervulus

115. Rust of rose is caused by
(A) *Puccinia* spp. (B) *Uromyces* spp.
(C) *Phakopsora* spp. (D) *Phragmidium* spp.

116. Premature leaf fall of apple is caused by
(A) *Marssonina coronaria* (B) *Taphrina deformans*
(C) *Venturia inaequalis* (D) None of these

117. Powdery mildew of mango is caused by
(A) *Olpidium mangiferae* (B) *Erysiphe polygoni*
(C) *Oidium mangiferae* (D) *Macrophoma mangiferae*

118. Blister blight of tea is caused by
(A) *Cephaleuros mycoidea* (B) *Exobasidium vexans*
(C) *Poria hypolateritia* (D) *Botryodiplodia theobromae*

119. Which one of the following is not a component of 'disease triangle'
(A) Susceptible host (B) Suppressive soil
(C) Favourable environment (D) Virulent pathogen

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142. In which soil structure infiltration, permeability and aeration are good

(A) Platy
(B) Prism like
(C) Block like
(D) Sphere like (granular)

143. The harmful effect of continuous application of sewage water over several years may result in enrichment of

(A) Cd
(B) N
(C) P
(D) Ca

144. Irrigation water quality is evaluated based upon

(A) Total salt content, sodium and specific ion toxicities
(B) pH of the water
(C) Acidity of the water
(D) Ca content of the water

145. Orange coloured varieties in carrot is rich source of

(A) Carotene
(B) Lycopene
(C) Anthocyanine
(D) None of these

146. Per hectare seed rate of broad bean is

(A) 20-30 kg
(B) 30-40 kg
(C) 50-60 kg
(D) 70-100 kg

147. Potato is mainly propagated by

(A) Tuber
(B) Corm
(C) Seeds
(D) Selts

148. Types of vegetable gardening followed on the Dal Lake of the Kashmir Valley is

(A) Floating garden
(B) Hydroponics
(C) Kitchen garden
(D) None of these

149. Which of the following is best for vegetable cultivation

(A) Sandy soil
(B) Sandy loam soil
(C) Clay loam soil
(D) Clay soil

150. Hybrid variety of chilli recommended for cultivation is

(A) Punjab Lal
(B) CH-I
(C) Punjab Surkh
(D) None of the above

151. Marginal physical product (MPP) where P=production, and X=input, is equal to

(A) $\Delta P/ \Delta X$
(B) $\Delta X/ \Delta P$
(C) P/X
(D) None of these

152. In which relation, an increase or a decrease in production of one product affect the production of the other inversely

(A) Supplementary
(B) Joint product
(C) Competitive
(D) Complementary

153. The World Trade Organization (WTO) is the successor to

(A) ITO
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154. Which of the following is the apex bank for agricultural credit in India?
(A) RBI (B) A. SIDBI
(C) NABARD (D) A. SBI

155. A demand curve measures
(A) Buyer's willingness to pay (B) Actual price a buyer must pay to get the product
(C) Difference between a buyer's willingness to pay and the actual price of the product (D) All of these

156. Consumer surplus is
(A) a buyer's willingness to pay plus the price (B) the price of the product minus the buyer's willingness to pay
(C) when the buyer's willingness to pay and the price of the product are equal (D) a buyer's willingness to pay minus the price

157. According to the law of demand
(A) there is a positive relationship between quantity demanded and price (B) as the price rises, demand will shift to the left
(C) there is a negative relationship between quantity demanded and price (D) as the price rises, demand will shift to the right

158. Marginal utility signifies
(A) utility from first unit (B) utility from last unit
(C) utility from additional unit (D) utility from third unit

159. National Income means
(A) Income of the Government (B) Money measure of the overall annual flow of goods and services in an economy
(C) Value of the fixed wealth in an economy (D) Aggregate of the earnings of working class in an economy

160. Internal rate of return (IRR) is that rate at which Net Present value is
(A) Positive (B) Negative
(C) Zero (D) None of these

161. The residual left with the farmers after meeting his family consumption, farm requirements, social and religions payments is called as
(A) Marketed surplus (B) Marketable surplus
(C) Producer Surplus (D) Consumer Surplus

162. If the NPW is zero, then B/C ratio is
(A) >1 (B) <1
(C) = 1 (D) = 0

163. A market characterized by large number of sellers and buyers and homogenous product is known as
(A) Monopoly (B) Oligopoly
(C) Perfect (D) Monopolistic

164. Demand for goods which are needed for further production is called as
(A) Derived Demand (B) Autonomous demand
(C) Direct Demand (D) All of these

165. Which one of the following is not a measure to reduce the risk?
(A) Diversification (B) Hedging
(C) Contract sales (D) Monoculture

166. Marginal product is
(A) Addition made to total production by the use of an additional input (B) Average production per unit of input use
(C) Total addition to the production by addition input use (D) All of these

167. In which layer of the atmosphere there is a temperature inversion?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

168. Which layer of the atmosphere has lowest average temperature?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

169. The value of Environmental lapse rate is given as
(A) - 6.5 $^{o}$C / km (B) + 6.5 $^{o}$C / km
(C) 5.5 $^{o}$C / km (D) 5.0$^{o}$C / km

170. Wind direction is measured as –
(A) From where it comes (B) Where it goes
(C) It touches the face (D) A and C both are correct

171. Vertical distribution of microclimate is:
(A) $10^{-2}$ to $10^{1}$ m (B) $10^{-2}$ to $10^{2}$ m
(C) $10^{-2}$ to $10^{3}$ m (D) $10^{-2}$ to $10^{4}$ m

172. Name the most important weather element –
(A) Temperature (B) Rainfall
(C) Cloud Cover (D) Atmospheric Pressure

173. 'Khaira disease' (also known as iron rust) of rice is caused due to:
(A) Excessive application of nitrogen (B) Deficiency of zinc
(C) Bacterial infection (D) Iron deficiency

174. Lysine is a limiting amino acid in:
(A) Cereals (B) Pulses
(C) Oilseeds (D) Green vegetables

175. Which among the following herbicides is non-selective herbicide?
(A) Paraquat (B) Alachlor
(C) Butachlor (D) Atrazine

176. Berseem seed is treated with:
(A) *Rhizobium meliloti* (B) *Rhizobium lupini*
(C) *Rhizobium trifoli* (D) *Rhizobium Japonicum*

177. Conversion of ADP to ATP is known as:
(A) Photolysis (B) Photo phosphorylation
(C) Photosynthesis (D) Photorespiration

178. Deficiency of which essential plant nutrient leads to 'pop pod in groundnut':
(A) Sulphur (B) Calcium
(C) Phosphorus (D) Boron

179. Which among the following weeds causes dropsy disease in human beings:
(A) *Pluchea lanceolata* (B) *Digera arvensis*
(C) *Parthenium hysterophorus* (D) *Argemone mexicana*

180. Roots absorb water from soil:
(A) Actively (B) Passively
(C) Both actively and passively (D) None of these

181. Sunflower belongs to family:
(A) *Cruciferae* (B) *Austraceae*
(C) *Malvaceae* (D) *Poaceae*

182. Removal of uniform thin layer of soil by the action of water is referred as:
(A) Splash erosion (B) Sheet erosion
(C) Rill erosion (D) Gully erosion

183. Major source of water used by plants is:
(A) Capillary water (B) Hygroscopic water
(C) Gravitational water (D) Inter space water

184. *Parthenium hysterophorus* (Congress grass) can be controlled by:
(A) *Chrysomella spp.* (B) *Dactylopius tomentosus*
(C) *Zygogramma bicolarata* (D) *Neochetina spp.*

185. Heavy shedding of buds and bolls occurs in cotton due to:
(A) Nitrogen deficiency in soil (B) Phosphorus deficiency in soil
(C) Magnesium deficiency in soil (D) Water stress at bud formation stage

186. Drip irrigation is most suited to:
(A) Acid soil (B) Alkaline soil
(C) Saline soil (D) All of these

187. The term 'LEISA' is related to:
(A) Organic farming (B) Inorganic farming
(C) Natural farming (D) All of these

188. Light intensity at which photosynthesis and respiration are equal is known as:
(A) Light compensation point (B) Light saturation point
(C) Net photosynthesis (D) None of these

189. Which type of maize is mainly grown in India?
(A) Dent corn (B) Waxy corn
(C) Flint corn (D) Sweet corn

190. Canola is a group of plants belonging to:
(A) Mustard (B) Safflower
(C) Castor (D) Vegetables

191. 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

192. Under stress conditions, which amino acid is accumulated in plants:
(A) Methionine (B) Tryptophan
(C) Proline (D) Phenyl alanine

193. Stem nodulation occurs in green manure crop of:
(A) *Aeschynomene afraspera* (B) *Crotolaria juncea*
(C) *Sesabania aculeata* (D) *Vigna tunguiculata*

194. Stomata closing can be induced by:
(A) Kaoline (B) Linseed oil
(C) 2,4-D (D) PMA

195. Most damaging single influence on storage life of seeds is:
(A) High moisture content (B) High temperature
(C) Low moisture content (D) Both (A) and (B)

196. Instrument used for measuring solar radiation is:
(A) Anemometer (B) Barograph
(C) Psycrometer (D) Pyranometer

197. Attraction of water molecules towards soil particles is:
(A) Adhesion (B) Surface tension
(C) Capillary force (D) Cohesion

198. The critical slope for soil erosion is:
(A) 1% (B) 2%
(C) 3% (D) 5%

199. The instrument used for measuring depth of water table is known as:
(A) Lysimeter (B) Piezometer
(C) Odometer (D) Evaporimeter

200. Sesame belongs to family:
(A) Poaceae (B) Papilionoideae
(C) Pediliaceae (D) Ceasalpinoideae

| Sr. No. | Question |
|---|---|

1. Temperate Forests of the Western Himalayas are the Climatic Climax of the following:
   (A) Abies spp (B) Cedrus spp.
   (C) Quercus spp. (D) Betula spp

2. The yield of forest is regulated on the basis of volume by using following:
   (A) Von Mantel's formula (B) Permanent allotment method
   (C) Annual coups (D) Periodic block method

3. Widely accepted Classification of Forest Types of India is based upon:
   (A) Climate (B) Physiography
   (C) Ecology (D) Composition

4. Field planting season for poplar tree is
   (A) Winter (B) Summer
   (C) Rainy (D) Throughout the year

5. Sulphate navel stores are by-products of the following pulping process:
   (A) Soda pulping (B) Sulphate pulping
   (C) Kraft pulping (D) None of the above

6. Ghatti gum is obtained from:
   (A) *Sterculia ureus* (B) *Astragalus spp*
   (C) *Anogeissus latifolia* (D) *Acacia arabica*

7. Maximum segregation is observed in:
   (A) $F_1$ (B) $F_2$
   (C) $F_3$ (D) $F_4$

8. Single seed descent method is a modification of:
   (A) Pedigree method (B) Bulk method
   (C) Mass selection (D) $F_4$

9. Vegetatively propagated crops are usually:
   (A) Homozygous (B) Heterozygous
   (C) Both A and B (D) Apomictic

10. The most commonly used breeding scheme is:
    (A) Back cross method (B) Bulk method
    (C) Pedigree method (D) Mass selection

11. Landraces are very good sources of genes for:
    (A) high yield (B) adaptability
    (C) Both (A) and (B) (D) None of these

12. Variation within a pureline is due to
    (A) Genetic causes (B) Environment
    (C) Both (A) and (B) (D) None of these

13. Transgenic plants are being cultivated in India in:
(A) Brinjal (B) Wheat
(C) Cotton (D) Soybean

14. Cotton and pigeonpea are:
(A) Cross pollinated (B) Self pollinated
(C) Often cross pollinated (D) Apomictic

15. Which of the following has been used for inducing male sterility in Bajra ?
(A) Tift 23 A (B) *H. petiolaris*
(C) Milo (D) *T. timopheevi*

16. TGMS and PGMS systems of male sterility are available in:
(A) Wheat (B) Sorghum
(C) Rice (D) Bajra

17. Centre of origin of *Gossypium herbaceum* is:
(A) North America (B) South America
(C) Africa (D) India

18. Golden rice is related to enhanced:
(A) pro-vitamin A (B) Mg
(C) Zn (D) Cu

19. Genetic disassortative mating will result in:
(A) Reduced homozygosity (B) Increased homozygosity
(C) More inbreeding depressions (D) None of these

20. One map unit is equal to:
(A) 1% recombination between genes (B) 100% recombination between genes
(C) 50% recombination between genes (D) 10% recombination between genes

21. If recombination occurs before the chromosome replication, percentage of parental type gametes will be:
(A) 100 (B) 50
(C) 25 (D) 0

22. Which of following mechanisms does not promotes cross pollination:
(A) Dicliny (B) Chasmogamy
(C) Dichogamy (D) Self-incompatibility

23. Which of the following can be considered a case of non- Mendelian inheritance ?
(A) Extra-nuclear inheritance (B) Multiple alleles
(C) Incomplete dominance (D) All of these

24. Upper limit of crossing over between two genes is:
(A) 100 % (B) 50 %
(C) 25 % (D) 75 %

25. Bacterial artificial chromosome may be used for the construction of:
(A) c-DNA library (B) Genomic library
(C) Tissue specific library (D) All of these

26. Experiment that unambiguously demonstrated that DNA is the genetic material was conducted by:
(A) Watson and Crick
(B) Hershey and Chase
(C) Fred Griffith
(D) Avery, MacLeod and McCarty

27. Which of the following is not an auxin:
(A) Indole acetic acid
(B) 2,4-D
(C) Kinetin
(D) Naphthalene acetic acid

28. Fusion of cytoplasm from two species and nuclear genes from any one species leads to the development of:
(A) Cybrid
(B) Somatic hybrid
(C) Protoplast
(D) None of these

29. Polymerase chain reaction (PCR) was invented by:
(A) Rosalind Franklin
(B) Arthur Korenburg
(C) Watson and Crick
(D) K Mullis

30. Which of the following is not a "direct gene transfer" method:
(A) Liposome encapsulation
(B) Microinjection
(C) Agrobacterium
(D) Particle bombardment

31. Which of the following fruits is a rich source of vitamin C?
(A) Apple
(B) Mango
(C) Aonla
(D) Papaya

32. Mulching is helpful in
(A) Moisture conservation
(B) Weed control
(C) Both A & B
(D) Neither A nor B

33. Which of the following varieties of apple is a pollinizer?
(A) Red Chief
(B) Golden Delicious
(C) Royal Delicious
(D) Red Delicious

34. Which of the following varieties of mango is suitable for high density planting?
(A) Neelum
(B) Langra
(C) Alphonso
(D) Amrapalli

35. Which fruit crop is suitable for arid regions?
(A) Apple
(B) Ber
(C) Banana
(D) Pineapple

36. Which system of planting is most suitable for sloppy lands in hilly areas?
(A) Contour
(B) Square system
(C) Hexagonal
(D) Rectangular

37. Spongy tissue is a physiological disorder of
(A) Mango
(B) Guava
(C) Apple
(D) Papaya

38. Which PGR is commonly used for rooting initiation in stem cuttings?
(A) ABA (B) 2, 4-D
(C) IBA (D) IAA

39. Which among the following is an aggregate fruit
(A) Pineapple (B) Strawberry
(C) Pomegranate (D) Grape

40. Among these fruit crops, the richest source of Fe is
(A) Banana (B) Ber
(C) Jamun (D) Karonda

41. Which of following fruit is most suitable for jelly making
(A) Apple (B) Banana
(C) Ber (D) Guava

42. Most of apple varieties have the chilling requirement of
(A) *2000-3000 hrs.* (B) *1000-1500 hrs*
(C) *100-500 hrs.* (D) *500-1000 hrs.*

43. Which of the following nematode is kidney shaped:
(A) *Heterodera* (B) *Rotylenchus*
(C) *Pratylenchus* (D) *Xiphinema*

44. A series of transverse depressions on the cuticle of nematode is:
(A) Annulations (B) Appendages
(C) Striae (D) None of these

45. Transmission of grape vine fan leaf virus is by nematode:
(A) *Radopholus similus* (B) (B) *Ditylenchus angustus*
(C) *Anguina tritici* (D) *Xiphinema index*

46. Which of the following is nematicide:
(A) Dinocap (B) Metalaxyl
(C) Tridemorph (D) None of these

47. *Anguina tritici* causes:
(A) Molya disease of wheat (B) Ear cockle disease of wheat
(C) Root knot of vegetables (D) All of these

48. Which of the following is a piercing organ in nematode:
(A) Haustorium (B) Appressorium
(C) Stylet (D) None of these

49. *Sclerotinia sclerotiorum* survives in soil in the form of:
(A) Oospore (B) Sclerotia
(C) Basidiospore (D) Perithecia

50. Irish famine was caused due to:
(A) Early blight of potato
(B) Downy mildew of onion
(C) Late blight of potato
(D) Downy mildew of grapes

51. Rust and smut fungi belong to:
(A) Zygomycota
(B) Basidiomycota
(C) Ascomycota
(D) Oomycota

52. Whiptail of cauliflower is due to
(A) Oxygen deficiency
(B) Water deficiency
(C) Mo deficiency
(D) Zn deficiency

53. Citrus canker is caused by
(A) Bacteria
(B) Nematode
(C) Fungi
(D) Algae

54. Which one of the following is not a biological control agent:
(A) *Trichoderma*
(B) *Pseudomonas*
(C) *Paecilomyces*
(D) *Xanthomonas*

55. Gene for Gene hypothesis was given by
(A) Anton de Bary
(B) H.H. Flor
(C) P. M.A. Millardet
(D) T.J. Burrill

56. Cadang-Cadang disease of coconut is caused by
(A) Fungi
(B) Bacteria
(C) Viroid
(D) Nematode

57. Components of bordeux mixture are
(A) Lime, iron sulphate, water
(B) Lime, ferrous sulphate, water
(C) Lime, copper sulphate, water
(D) Lime, calcium chloride, water

58. Transportation of potato tuber for seed purpose is not allowed from Darjeeling hills to North India due to the presence of
(A) *Synchytrium endobioticum*
(B) *Rhizoctonia solani*
(C) *Sclerotinia rolfsii*
(D) *Sclerotinia sclerotiorum*

59. *Albugo candida* survives as
(A) Ascospores
(B) Basidiospores
(C) Pycniospores
(D) Oospores

60. Which one of the following chemical is most effective in managing downy mildew diseases:
(A) Dinocap
(B) Metalaxyl
(C) Wettable sulphur
(D) Tetracycline

61. Moko disease of banana is caused by
(A) *Colletotrichum gloeosporioides*
(B) *Pseudomonas musae*
(C) *Colletotrichum musae*
(D) *Ralstonia solanacearum*

62. Apothecium contains
(A) Conidia
(B) Basidiospores
(C) Ascospores
(D) Zoospores

63. Asexual fruiting bodies of anthracnose fungi are
(A) Sporodochia (B) Cleistothecia
(C) Sporangia (D) Acervuli

64. In *Venturia inaequalis*, the acsi and ascospores are formed in
(A) Pseudothecium (B) Cleistothecium
(C) Pycnium (D) Acervulus

65. Rust of rose is caused by
(A) *Puccinia* spp. (B) *Uromyces* spp.
(C) *Phakopsora* spp. (D) *Phragmidium* spp.

66. Premature leaf fall of apple is caused by
(A) *Marssonina coronaria* (B) *Taphrina deformans*
(C) *Venturia inaequalis* (D) None of these

67. Powdery mildew of mango is caused by
(A) *Olpidium mangiferae* (B) *Erysiphe polygoni*
(C) *Oidium mangiferae* (D) *Macrophoma mangiferae*

68. Blister blight of tea is caused by
(A) *Cephaleuros mycoidea* (B) *Exobasidium vexans*
(C) *Poria hypolateritia* (D) *Botryodiplodia theobromae*

69. Which one of the following is not a component of 'disease triangle'
(A) Susceptible host (B) Suppressive soil
(C) Favourable environment (D) Virulent pathogen

70. Stem gall of coriander is caused by
(A) *Protomyces macrosporus* (B) *Agrobacterium tumefaciens*
(C) *Taphrina deformans* (D) *Agrobacterium radiobacter*

71. Hypogeal type of seed germination occur in
(A) French Bean (B) Pea
(C) Bitter gourd (D) All of these

72. Varietal purity is checked by
(A) Germination test (B) Vigour test
(C) Grow out test (D) None of these

73. Seed priming improves the
(A) Longevity of seed (B) Vigour of seed
(C) Colour of the seed (D) All of these

74. Physical dormancy caused by hard seed coat is overcome by
(A) Stratification (B) Scarification
(C) Steeping (D) Fluid drilling

75. Desiccant used for drying of seed is
(A) Cellulose (B) Wood ash
(C) Sillica gel (D) Activated clay

76. Safe seed moisture content for sealed storage is
(A) 4-8 % (B) 8-12 %
(C) < 4% (D) None of these

77. Acid soil can be amended with the help of
(A) Lime (B) FYM
(C) None (D) Both

78. Basalt is a _____ rock
(A) Igneous (B) Sedimentary
(C) Metamorphic (D) Mixture of all

79. Which of the following microbes involve in the nitrification process?
(A) Nitrsomonas (B) Nitrobactor
(C) Both (D) None

80. The range of usefulness of tensiometers is between
(A) 0-1.0 bar (B) 0-0.8 bar
(C) 0-0.6 bar (D) 0-0.33 bar

81. Vascular – arbuscular mycorrhiza (VAM) is known for;
(A) Nitrogen fixation (B) Uptake of phosphorus
(C) Sulphur oxidation (D) None of these

82. Khaira disease of rice is caused due to deficiency of
(A) Mn (B) Zn
(C) Fe (D) N

83. Bone meal is well suited for
(A) Alkaline soil (B) Neutral soil
(C) Acid soil (D) All of these

84. Single superphosphate contains :
(A) 20% $P_2O_5$ (B) 16-18 % $P_2O_5$
(C) 10-46% $P_2O_5$ (D) 20-25% $P_2O$

85. Epipedon is a diagnostic
(A) Surface horizon (B) Sub-surface horizon
(C) Both A & B (D) None of these

86. At what PF wilting percentage arrives
(A) 4.2 (B) 4.5
(C) 5.0 (D) 6.0

87. Petrogenesis which is the study of the
(A) Description of rocks (B) Origin of rocks
(C) Texture of the rocks (D) Density of rocks

88. Three particles have diameters of 0.5, 1.5, and 0.15 mm. The three particles are
(A) Sand, silt, and clay (B) Sand, gravel, and silt
(C) Sand, sand and sand (D) Silt, silt, and clay

89. The root growth is drastically reduced when Oxygen Diffusion Rate (ODR) is decreases to about
(A) $20 \times 10^{-8}$ g/cm$^2$/minute (B) $30 \times 10^{-8}$ g/cm$^2$/minute
(C) $40 \times 10^{-8}$ g/cm$^2$/minute (D) $50 \times 10^{-8}$ g/cm$^2$/minute

90. The availability of plant nutrients are more at a pH range of 6-7 except
(A) P (B) K
(C) B (D) Mo

91. Montmorillonite has higher cation exchange capacity (CEC) in comparison to
(A) Kaolinite (B) Illite
(C) Both of these (D) None of these

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(A) Positive (B) Negative
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111. The residual left with the farmers after meeting his family consumption, farm requirements, social and religions payments is called as
(A) Marketed surplus (B) Marketable surplus
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112. If the NPW is zero, then B/C ratio is
(A) >1 (B) <1
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113. A market characterized by large number of sellers and buyers and homogenous product is known as
(A) Monopoly (B) Oligopoly
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114. Demand for goods which are needed for further production is called as
(A) Derived Demand (B) Autonomous demand
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115. Which one of the following is not a measure to reduce the risk?
(A) Diversification (B) Hedging
(C) Contract sales (D) Monoculture

116. Marginal product is
(A) Addition made to total production by the use of an additional input (B) Average production per unit of input use
(C) Total addition to the production by addition input use (D) All of these

117. In which layer of the atmosphere there is a temperature inversion?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

118. Which layer of the atmosphere has lowest average temperature?
(A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Ionosphere

119. The value of Environmental lapse rate is given as
(A) - 6.5 $^{o}$C / km (B) + 6.5 $^{o}$C / km
(C) 5.5 $^{o}$C / km (D) 5.0$^{o}$C / km

120. Wind direction is measured as –
(A) From where it comes (B) Where it goes
(C) It touches the face (D) A and C both are correct

121. Vertical distribution of microclimate is:
(A) $10^{-2}$ to $10^{1}$ m (B) $10^{-2}$ to $10^{2}$ m
(C) $10^{-2}$ to $10^{3}$ m (D) $10^{-2}$ to $10^{4}$ m

122. Name the most important weather element –
(A) Temperature (B) Rainfall
(C) Cloud Cover (D) Atmospheric Pressure

123. 'Khaira disease' (also known as iron rust) of rice is caused due to:
(A) Excessive application of nitrogen (B) Deficiency of zinc
(C) Bacterial infection (D) Iron deficiency

124. Lysine is a limiting amino acid in:
(A) Cereals (B) Pulses
(C) Oilseeds (D) Green vegetables

125. Which among the following herbicides is non-selective herbicide?
(A) Paraquat (B) Alachlor
(C) Butachlor (D) Atrazine

126. Berseem seed is treated with:
(A) *Rhizobium meliloti* (B) *Rhizobium lupini*
(C) *Rhizobium trifoli* (D) *Rhizobium Japonicum*

127. Conversion of ADP to ATP is known as:
(A) Photolysis (B) Photo phosphorylation
(C) Photosynthesis (D) Photorespiration

128. Deficiency of which essential plant nutrient leads to 'pop pod in groundnut':
(A) Sulphur (B) Calcium
(C) Phosphorus (D) Boron

129. Which among the following weeds causes dropsy disease in human beings:
(A) *Pluchea lanceolata* (B) *Digera arvensis*
(C) *Parthenium hysterophorus* (D) *Argemone mexicana*

130. Roots absorb water from soil:
(A) Actively (B) Passively
(C) Both actively and passively (D) None of these

131. Sunflower belongs to family:
(A) *Cruciferae* (B) *Austraceae*
(C) *Malvaceae* (D) *Poaceae*

132. Removal of uniform thin layer of soil by the action of water is referred as:
(A) Splash erosion (B) Sheet erosion
(C) Rill erosion (D) Gully erosion

133. Major source of water used by plants is:
(A) Capillary water (B) Hygroscopic water
(C) Gravitational water (D) Inter space water

134. *Parthenium hysterophorus* (Congress grass) can be controlled by:
(A) *Chrysomella spp.* (B) *Dactylopius tomentosus*
(C) *Zygogramma bicolarata* (D) *Neochetina spp.*

135. Heavy shedding of buds and bolls occurs in cotton due to:
(A) Nitrogen deficiency in soil (B) Phosphorus deficiency in soil
(C) Magnesium deficiency in soil (D) Water stress at bud formation stage

136. Drip irrigation is most suited to:
(A) Acid soil (B) Alkaline soil
(C) Saline soil (D) All of these

137. The term 'LEISA' is related to:
(A) Organic farming (B) Inorganic farming
(C) Natural farming (D) All of these

138. Light intensity at which photosynthesis and respiration are equal is known as:
(A) Light compensation point (B) Light saturation point
(C) Net photosynthesis (D) None of these

139. Which type of maize is mainly grown in India?
(A) Dent corn (B) Waxy corn
(C) Flint corn (D) Sweet corn

140. Canola is a group of plants belonging to:
(A) Mustard (B) Safflower
(C) Castor (D) Vegetables

141. 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

142. Under stress conditions, which amino acid is accumulated in plants:
(A) Methionine (B) Tryptophan
(C) Proline (D) Phenyl alanine

143. Stem nodulation occurs in green manure crop of:
(A) *Aeschynomene afraspera* (B) *Crotolaria juncea*
(C) *Sesabania aculeata* (D) *Vigna tunguiculata*

144. Stomata closing can be induced by:
(A) Kaoline (B) Linseed oil
(C) 2,4-D (D) PMA

145. Most damaging single influence on storage life of seeds is:
(A) High moisture content (B) High temperature
(C) Low moisture content (D) Both (A) and (B)

146. Instrument used for measuring solar radiation is:
(A) Anemometer (B) Barograph
(C) Psycrometer (D) Pyranometer

147. Attraction of water molecules towards soil particles is:
(A) Adhesion (B) Surface tension
(C) Capillary force (D) Cohesion

148. The critical slope for soil erosion is:
(A) 1% (B) 2%
(C) 3% (D) 5%

149. The instrument used for measuring depth of water table is known as:
(A) Lysimeter (B) Piezometer
(C) Odometer (D) Evaporimeter

150. Sesame belongs to family:
(A) Poaceae (B) Papilionoideae
(C) Pediliaceae (D) Ceasalpinoideae

151. Water inside the plant moves through:
(A) Phloem (B) Xylem
(C) Fibre cells (D) All of these

152. While testing seed, the grow out test is conducted to determine:
(A) Genetic purity (B) Seed viability
(C) Physical purity (D) Yield potential

153. Optimum seed rate (kg/ha) of soybean is:
(A) 50-60 (B) 70-80
(C) 80-90 (D) 100-110

154. Which chemical causes Finger leaf disease in cotton?
(A) 2,4-D (B) Mancozeb
(C) Boron (D) Acephate

155. Cycocel is a:
(A) Auxin (B) Abscisic acid
(C) Cytokinin (D) Growth retardant

156. Which among the following is the most severe form of soil water erosion?
(A) Rill (B) Gully
(C) Sheet (D) Splash

157. Enzyme responsible for carboxylation in $C_3$ type plants is:
(A) Ribulose diphosphate dehydrogenase (B) Phosphoenol pyruvic acid
(C) Ribulose-1,5-biphosphate carboxylase (D) Glyceraldehyde dehydrogenase

158. Which among the following is a frost tolerant variety of raya
(A) Kranti (B) RH 781
(C) RH 0749 (D) Pusa Vijay

159. Contaminants in cotton are known as
(A) Dirt (B) Inert matter
(C) Motes (D) None of these

160. In north India, sugarcane is mostly used with how many buds?
(A) Two bud setts (B) Three bud setts
(C) Four bud setts (D) Single bud setts

161. Major groundnut producing state in India is:
(A) Andhra Pradesh (B) Gujarat
(C) Maharastra (D) Tamil Nadu

162. Photoperiodically, wheat is:
(A) Short day plant (B) Day neutral plant
(C) Long day plant (D) Intermediate

163. The inflorescence of sugarcane is known as:
(A) Panicle (B) Arrow
(C) Racemose (D) Tiller

164. Which among the following is a mycoherbicide
(A) Collego (B) Valour
(C) Bromacil (D) Metribuzin

165. Name of the insect Order in which (in general), the larval stage is phytophagous and adults are nectar feeder/sap suckers:
(A) Orthoptera (B) Hemiptera
(C) Neuroptera (D) Lepidoptera

166. Which insecticide formulation consists of active ingredient mixed with a liquid solvent that needs to be diluted with water prior to application?
(A) Wettable powder (B) Emulsifiable concentrate
(C) Water dispersible powder (D) Soluble powder

167. Which of the following characteristics do immature Lepidopteran and Coleopteran insects share?
(A) They are all plant feeders
(B) They are all found in the soil
(C) They are all called nymphs
(D) They all have biting and chewing mouthparts

168. Summer diapause is known as
(A) Hibernation
(B) Overwintering
(C) Aestivation
(D) None of these

169. The scientific name of the Italian honey bee is
(A) *Apis mellifera*
(B) *Apis indica*
(C) *Apis dorsata*
(D) *Apis florae*

170. The larval stage is predatory whereas the adults are pollinator in case of
(A) Syrphid
(B) Coccinellid
(C) Chrysopa
(D) All of these

171. The opening on an arthropod body surface that allows for air transfer is called:
(A) Spiracle
(B) Trachea
(C) Tracheoles
(D) Alveoli

172. What are located between the compound eyes which may be variable in number, but never exceed three in number? Function appears to aid the insect in determining light intensities - unable to form images
(A) Labrum
(B) Ocelli
(C) Gena
(D) Frons

173. Honey bees often sting
(A) Single time
(B) Two times
(C) Multiple times
(D) All of these

174. The body temperature of insects normally follows closely the temperature of the surrounding and hence, it is termed as
(A) Hyperthermic
(B) Warm blooded
(C) Cold hardiness
(D) Poikilothermic

175. Brown plant hopper is a major pest of
(A) Cotton
(B) Sunflower
(C) Mustard
(D) Paddy

176. The use of synthetic pyrethroids has caused serious outbreaks of
(A) Bihar hairy caterpillar
(B) Whitefly
(C) Mango mealy bug
(D) Mosquitoes

177. The common name of *Chilo partellus* is
(A) Sugarcane stem borer
(B) Sorghum shootfly
(C) Paddy stem borer
(D) Maize stem borer

178. Wings are absent in
(A) Hymenoptera
(B) Thysanura
(C) Thysanoptera
(D) Trichoptera

179. Mouth parts in thrips belong to the type
(A) Chewing type (B) Biting type
(C) Asymmetrical type (D) Sucking type

180. *Trichogramma chilonis* is
(A) Predator of mustard aphid (B) Larval parasite of mealy bug
(C) Egg parasitoid of sugarcane borers (D) Pupal parasitoid of cabbage butterfly

181. The systematic is the study of:
(A) genetic makeup of reproductive insects (B) relationships between groups of any size
(C) orders of insects only (D) morphological characters only

182. Pest which occurs in isolated locations is known as
(A) Persistent pest (B) Seasonal pest
(C) Sporadic pest (D) Occasional pest

183. Which is the pest of potato tuber in field and storage
(A) Mealy bug (B) Cutworm
(C) Potato aphid (D) Potato tuber moth

184. In insect population which have only one generation a year, the shape of population growth curve is:
(A) S-shaped curve (B) J-shaped curve
(C) Both A and B (D) None of these

185. The grazing food web begins with:
(A) Detrivores (B) Carnivores
(C) Heterotrophs (D) Autotrophs

186. Economic injury level is ---------- economic threshold level.
(A) Half of the (B) Equal to
(C) Greater than (D) Less than

187. PRA stands for:
(A) Participatory Rural Appraisal (B) Participatory Rapid Appraisal
(C) Programme Review Appraisal (D) People's Rural Appraisal

188. National Agricultural Technology Project was started in the year:
(A) 1996 (B) 1998
(C) 1994 (D) 2000

189. According to Prof. Mildred Hurton, the first training group of human race is:
(A) Family (B) Community
(C) Country (D) Home

190. Lt. Col. Albert Mayer started a project called :
(A) Gurgaon Project B. Nilokheri Project
(C) Etawah Pilot Project D. Marthandom Project

191. The word communication is derived from:
(A) Greek word (B) French word
(C) Russian word (D) Latin word

192. In the preparation of audio-visual aids, the principle of 'A', 'B', 'C' signifies:
(A) Attractiveness, Brevity, Concreteness (B) Attractiveness, Brevity, Colour
(C) Attractiveness, Brevity, Clarity (D) Attitude, Brief, Communication

193. Which among the following is a method of identifying leader?
(A) Socio-metric method (B) Self –designated method
(C) Informants' rating (D) All the above

194. Which among the following models of communication is called 'Mathematical Theory of Communication:
(A) Berlo's Model (B) Shannon and Weaver's Model
(C) Aristotle's Model (D) Leagan's Model

195. Single line of command was one of the main features of:
(A) EPP (B) NAEP
(C) NARP (D) T & V

196. Extension Education Institute for North India is located at:
(A) Haryana (B) Punjab
(C) UP (D) Bihar

197. Extension Programme is a statement of situation, objectives, problems and:
(A) Motivation (B) Attitude
(C) Reasons (D) Solution

198. Which among the following entrepreneurs is timid and cautious in nature:
(A) Fabian (B) Drone
(C) Imitative (D) Innovative

199. Which among the following is a technique of idea generation :
(A) Seminar (B) Conference
(C) Brain storming (D) Incubation

200. The concept of venture capital was originated in:
(A) India (B) Japan
(C) U.K. (D) U.S.A.

| Sr. No. | Question |
|---|---|

1. Rust and smut fungi belong to:
   (A) Zygomycota (B) Basidiomycota
   (C) Ascomycota (D) Oomycota

2. Whiptail of cauliflower is due to
   (A) Oxygen deficiency (B) Water deficiency
   (C) Mo deficiency (D) Zn deficiency

3. Citrus canker is caused by
   (A) Bacteria (B) Nematode
   (C) Fungi (D) Algae

4. Which one of the following is not a biological control agent:
   (A) *Trichoderma* (B) *Pseudomonas*
   (C) *Paecilomyces* (D) *Xanthomonas*

5. Gene for Gene hypothesis was given by
   (A) Anton de Bary (B) H.H. Flor
   (C) P. M.A. Millardet (D) T.J. Burrill

6. Cadang-Cadang disease of coconut is caused by
   (A) Fungi (B) Bacteria
   (C) Viroid (D) Nematode

7. Components of bordeux mixture are
   (A) Lime, iron sulphate, water (B) Lime, ferrous sulphate, water
   (C) Lime, copper sulphate, water (D) Lime, calcium chloride, water

8. Transportation of potato tuber for seed purpose is not allowed from Darjeeling hills to North India due to the presence of
   (A) *Synchytrium endobioticum* (B) *Rhizoctonia solani*
   (C) *Sclerotinia rolfsii* (D) *Sclerotinia sclerotiorum*

9. *Albugo candida* survives as
   (A) Ascospores (B) Basidiospores
   (C) Pycniospores (D) Oospores

10. Which one of the following chemical is most effective in managing downy mildew diseases:
   (A) Dinocap (B) Metalaxyl
   (C) Wettable sulphur (D) Tetracycline

11. Moko disease of banana is caused by
   (A) *Colletotrichum gloeosporioides* (B) *Pseudomonas musae*
   (C) *Colletotrichum musae* (D) *Ralstonia solanacearum*

12. Apothecium contains
   (A) Conidia (B) Basidiospores
   (C) Ascospores (D) Zoospores

13. Asexual fruiting bodies of anthracnose fungi are
(A) Sporodochia (B) Cleistothecia
(C) Sporangia (D) Acervuli

14. In *Venturia inaequalis*, the acsi and ascospores are formed in
(A) Pseudothecium (B) Cleistothecium
(C) Pycnium (D) Acervulus

15. Rust of rose is caused by
(A) *Puccinia* spp. (B) *Uromyces* spp.
(C) *Phakopsora* spp. (D) *Phragmidium* spp.

16. Premature leaf fall of apple is caused by
(A) *Marssonina coronaria* (B) *Taphrina deformans*
(C) *Venturia inaequalis* (D) None of these

17. Powdery mildew of mango is caused by
(A) *Olpidium mangiferae* (B) *Erysiphe polygoni*
(C) *Oidium mangiferae* (D) *Macrophoma mangiferae*

18. Blister blight of tea is caused by
(A) *Cephaleuros mycoidea* (B) *Exobasidium vexans*
(C) *Poria hypolateritia* (D) *Botryodiplodia theobromae*

19. Which one of the following is not a component of 'disease triangle'
(A) Susceptible host (B) Suppressive soil
(C) Favourable environment (D) Virulent pathogen

20. Stem gall of coriander is caused by
(A) *Protomyces macrosporus* (B) *Agrobacterium tumefaciens*
(C) *Taphrina deformans* (D) *Agrobacterium radiobacter*

21. Hypogeal type of seed germination occur in
(A) French Bean (B) Pea
(C) Bitter gourd (D) All of these

22. Varietal purity is checked by
(A) Germination test (B) Vigour test
(C) Grow out test (D) None of these

23. Seed priming improves the
(A) Longevity of seed (B) Vigour of seed
(C) Colour of the seed (D) All of these

24. Physical dormancy caused by hard seed coat is overcome by
(A) Stratification (B) Scarification
(C) Steeping (D) Fluid drilling

25. Desiccant used for drying of seed is
(A) Cellulose (B) Wood ash
(C) Sillica gel (D) Activated clay

26. Safe seed moisture content for sealed storage is
(A) 4-8 % (B) 8-12 %
(C) < 4% (D) None of these

27. Acid soil can be amended with the help of
(A) Lime (B) FYM
(C) None (D) Both

28. Basalt is a _____ rock
(A) Igneous (B) Sedimentary
(C) Metamorphic (D) Mixture of all

29. Which of the following microbes involve in the nitrification process?
(A) Nitrsomonas (B) Nitrobactor
(C) Both (D) None

30. The range of usefulness of tensiometers is between
(A) 0-1.0 bar (B) 0-0.8 bar
(C) 0-0.6 bar (D) 0-0.33 bar

31. Vascular – arbuscular mycorrhiza (VAM) is known for;
(A) Nitrogen fixation (B) Uptake of phosphorus
(C) Sulphur oxidation (D) None of these

32. Khaira disease of rice is caused due to deficiency of
(A) Mn (B) Zn
(C) Fe (D) N

33. Bone meal is well suited for
(A) Alkaline soil (B) Neutral soil
(C) Acid soil (D) All of these

34. Single superphosphate contains :
(A) 20% $P_2O_5$ (B) 16-18 % $P_2O_5$
(C) 10-46% $P_2O_5$ (D) 20-25% $P_2O$

35. Epipedon is a diagnostic
(A) Surface horizon (B) Sub-surface horizon
(C) Both A & B (D) None of these

36. At what PF wilting percentage arrives
(A) 4.2 (B) 4.5
(C) 5.0 (D) 6.0

37. Petrogenesis which is the study of the
(A) Description of rocks (B) Origin of rocks
(C) Texture of the rocks (D) Density of rocks

38. Three particles have diameters of 0.5, 1.5, and 0.15 mm. The three particles are
(A) Sand, silt, and clay (B) Sand, gravel, and silt
(C) Sand, sand and sand (D) Silt, silt, and clay

39. The root growth is drastically reduced when Oxygen Diffusion Rate (ODR) is decreases to about
(A) $20 \times 10^{-8}$ g/cm$^2$/minute (B) $30 \times 10^{-8}$ g/cm$^2$/minute
(C) $40 \times 10^{-8}$ g/cm$^2$/minute (D) $50 \times 10^{-8}$ g/cm$^2$/minute

40. The availability of plant nutrients are more at a pH range of 6-7 except
(A) P (B) K
(C) B (D) Mo

41. Montmorillonite has higher cation exchange capacity (CEC) in comparison to
(A) Kaolinite (B) Illite
(C) Both of these (D) None of these

42. In which soil structure infiltration, permeability and aeration are good
(A) Platy (B) Prism like
(C) Block like (D) Sphere like (granular)

43. The harmful effect of continuous application of sewage water over several years may result in enrichment of
(A) Cd (B) N
(C) P (D) Ca

44. Irrigation water quality is evaluated based upon
(A) Total salt content, sodium and specific ion toxicities (B) pH of the water
(C) Acidity of the water (D) Ca content of the water

45. Orange coloured varieties in carrot is rich source of
(A) Carotene (B) Lycopene
(C) Anthocyanine (D) None of these

46. Per hectare seed rate of broad bean is
(A) 20-30 kg (B) 30-40 kg
(C) 50-60 kg (D) 70-100 kg

47. Potato is mainly propagated by
(A) Tuber (B) Corm
(C) Seeds (D) Selts

48. Types of vegetable gardening followed on the Dal Lake of the Kashmir Valley is
(A) Floating garden (B) Hydroponics
(C) Kitchen garden (D) None of these

49. Which of the following is best for vegetable cultivation
(A) Sandy soil (B) Sandy loam soil
(C) Clay loam soil (D) Clay soil

50. Hybrid variety of chilli recommended for cultivation is
(A) Punjab Lal (B) CH-I
(C) Punjab Surkh (D) None of the above

51. Marginal physical product (MPP) where P=production, and X=input, is equal to
(A) $\Delta P/\Delta X$ (B) $\Delta X/\Delta P$
(C) P/X (D) None of these

52. In which relation, an increase or a decrease in production of one product affect the production of the other inversely
(A) Supplementary (B) Joint product
(C) Competitive (D) Complementary

53. The World Trade Organization (WTO) is the successor to
(A) ITO (B) GATT
(C) UNCTAD (D) IMF

54. Which of the following is the apex bank for agricultural credit in India?
(A) RBI (B) A. SIDBI
(C) NABARD (D) A. SBI

55. A demand curve measures
(A) Buyer's willingness to pay (B) Actual price a buyer must pay to get the product
(C) Difference between a buyer's willingness to pay and the actual price of the product (D) All of these

56. Consumer surplus is
(A) a buyer's willingness to pay plus the price (B) the price of the product minus the buyer's willingness to pay
(C) when the buyer's willingness to pay and the price of the product are equal (D) a buyer's willingness to pay minus the price

57. According to the law of demand
(A) there is a positive relationship between quantity demanded and price (B) as the price rises, demand will shift to the left
(C) there is a negative relationship between quantity demanded and price (D) as the price rises, demand will shift to the right

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(C) Butachlor (D) Atrazine

76. Berseem seed is treated with:
(A) *Rhizobium meliloti* (B) *Rhizobium lupini*
(C) *Rhizobium trifoli* (D) *Rhizobium Japonicum*

77. Conversion of ADP to ATP is known as:
(A) Photolysis (B) Photo phosphorylation
(C) Photosynthesis (D) Photorespiration

78. Deficiency of which essential plant nutrient leads to 'pop pod in groundnut':
(A) Sulphur (B) Calcium
(C) Phosphorus (D) Boron

79. Which among the following weeds causes dropsy disease in human beings:
(A) *Pluchea lanceolata* (B) *Digera arvensis*
(C) *Parthenium hysterophorus* (D) *Argemone mexicana*

80. Roots absorb water from soil:
(A) Actively (B) Passively
(C) Both actively and passively (D) None of these

81. Sunflower belongs to family:
(A) *Cruciferae* (B) *Austraceae*
(C) *Malvaceae* (D) *Poaceae*

82. Removal of uniform thin layer of soil by the action of water is referred as:
(A) Splash erosion (B) Sheet erosion
(C) Rill erosion (D) Gully erosion

83. Major source of water used by plants is:
(A) Capillary water (B) Hygroscopic water
(C) Gravitational water (D) Inter space water

84. *Parthenium hysterophorus* (Congress grass) can be controlled by:
(A) *Chrysomella spp.* (B) *Dactylopius tomentosus*
(C) *Zygogramma bicolarata* (D) *Neochetina spp.*

85. Heavy shedding of buds and bolls occurs in cotton due to:
(A) Nitrogen deficiency in soil (B) Phosphorus deficiency in soil
(C) Magnesium deficiency in soil (D) Water stress at bud formation stage

86. Drip irrigation is most suited to:
(A) Acid soil (B) Alkaline soil
(C) Saline soil (D) All of these

87. The term 'LEISA' is related to:
(A) Organic farming (B) Inorganic farming
(C) Natural farming (D) All of these

88. Light intensity at which photosynthesis and respiration are equal is known as:
(A) Light compensation point (B) Light saturation point
(C) Net photosynthesis (D) None of these

89. Which type of maize is mainly grown in India?
(A) Dent corn (B) Waxy corn
(C) Flint corn (D) Sweet corn

90. Canola is a group of plants belonging to:
(A) Mustard (B) Safflower
(C) Castor (D) Vegetables

91. 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

92. Under stress conditions, which amino acid is accumulated in plants:
(A) Methionine (B) Tryptophan
(C) Proline (D) Phenyl alanine

93. Stem nodulation occurs in green manure crop of:
(A) *Aeschynomene afraspera* (B) *Crotolaria juncea*
(C) *Sesabania aculeata* (D) *Vigna tunguiculata*

94. Stomata closing can be induced by:
(A) Kaoline (B) Linseed oil
(C) 2,4-D (D) PMA

95. Most damaging single influence on storage life of seeds is:
(A) High moisture content (B) High temperature
(C) Low moisture content (D) Both (A) and (B)

96. Instrument used for measuring solar radiation is:
(A) Anemometer (B) Barograph
(C) Psycrometer (D) Pyranometer

97. Attraction of water molecules towards soil particles is:
(A) Adhesion (B) Surface tension
(C) Capillary force (D) Cohesion

98. The critical slope for soil erosion is:
(A) 1% (B) 2%
(C) 3% (D) 5%

99. The instrument used for measuring depth of water table is known as:
(A) Lysimeter (B) Piezometer
(C) Odometer (D) Evaporimeter

100. Sesame belongs to family:
(A) Poaceae (B) Papilionoideae
(C) Pediliaceae (D) Ceasalpinoideae

101. Water inside the plant moves through:
(A) Phloem (B) Xylem
(C) Fibre cells (D) All of these

102. While testing seed, the grow out test is conducted to determine:
(A) Genetic purity (B) Seed viability
(C) Physical purity (D) Yield potential

103. Optimum seed rate (kg/ha) of soybean is:
(A) 50-60 (B) 70-80
(C) 80-90 (D) 100-110

104. Which chemical causes Finger leaf disease in cotton?
(A) 2,4-D (B) Mancozeb
(C) Boron (D) Acephate

105. Cycocel is a:
(A) Auxin (B) Abscisic acid
(C) Cytokinin (D) Growth retardant

106. Which among the following is the most severe form of soil water erosion?
(A) Rill (B) Gully
(C) Sheet (D) Splash

107. Enzyme responsible for carboxylation in $C_3$ type plants is:
(A) Ribulose diphosphate dehydrogenase (B) Phosphoenol pyruvic acid
(C) Ribulose-1,5-biphosphate carboxylase (D) Glyceraldehyde dehydrogenase

108. Which among the following is a frost tolerant variety of raya
(A) Kranti (B) RH 781
(C) RH 0749 (D) Pusa Vijay

109. Contaminants in cotton are known as
(A) Dirt (B) Inert matter
(C) Motes (D) None of these

110. In north India, sugarcane is mostly used with how many buds?
(A) Two bud setts (B) Three bud setts
(C) Four bud setts (D) Single bud setts

111. Major groundnut producing state in India is:
(A) Andhra Pradesh (B) Gujarat
(C) Maharastra (D) Tamil Nadu

112. Photoperiodically, wheat is:
(A) Short day plant (B) Day neutral plant
(C) Long day plant (D) Intermediate

113. The inflorescence of sugarcane is known as:
(A) Panicle (B) Arrow
(C) Racemose (D) Tiller

114. Which among the following is a mycoherbicide
(A) Collego (B) Valour
(C) Bromacil (D) Metribuzin

115. Name of the insect Order in which (in general), the larval stage is phytophagous and adults are nectar feeder/sap suckers:
(A) Orthoptera (B) Hemiptera
(C) Neuroptera (D) Lepidoptera

116. Which insecticide formulation consists of active ingredient mixed with a liquid solvent that needs to be diluted with water prior to application?
(A) Wettable powder (B) Emulsifiable concentrate
(C) Water dispersible powder (D) Soluble powder

117. Which of the following characteristics do immature Lepidopteran and Coleopteran insects share?
(A) They are all plant feeders
(B) They are all found in the soil
(C) They are all called nymphs
(D) They all have biting and chewing mouthparts

118. Summer diapause is known as
(A) Hibernation
(B) Overwintering
(C) Aestivation
(D) None of these

119. The scientific name of the Italian honey bee is
(A) *Apis mellifera*
(B) *Apis indica*
(C) *Apis dorsata*
(D) *Apis florae*

120. The larval stage is predatory whereas the adults are pollinator in case of
(A) Syrphid
(B) Coccinellid
(C) Chrysopa
(D) All of these

121. The opening on an arthropod body surface that allows for air transfer is called:
(A) Spiracle
(B) Trachea
(C) Tracheoles
(D) Alveoli

122. What are located between the compound eyes which may be variable in number, but never exceed three in number? Function appears to aid the insect in determining light intensities - unable to form images
(A) Labrum
(B) Ocelli
(C) Gena
(D) Frons

123. Honey bees often sting
(A) Single time
(B) Two times
(C) Multiple times
(D) All of these

124. The body temperature of insects normally follows closely the temperature of the surrounding and hence, it is termed as
(A) Hyperthermic
(B) Warm blooded
(C) Cold hardiness
(D) Poikilothermic

125. Brown plant hopper is a major pest of
(A) Cotton
(B) Sunflower
(C) Mustard
(D) Paddy

126. The use of synthetic pyrethroids has caused serious outbreaks of
(A) Bihar hairy caterpillar
(B) Whitefly
(C) Mango mealy bug
(D) Mosquitoes

127. The common name of *Chilo partellus* is
(A) Sugarcane stem borer
(B) Sorghum shootfly
(C) Paddy stem borer
(D) Maize stem borer

128. Wings are absent in
(A) Hymenoptera
(B) Thysanura
(C) Thysanoptera
(D) Trichoptera

129. Mouth parts in thrips belong to the type
(A) Chewing type (B) Biting type
(C) Asymmetrical type (D) Sucking type

130. *Trichogramma chilonis* is
(A) Predator of mustard aphid (B) Larval parasite of mealy bug
(C) Egg parasitoid of sugarcane borers (D) Pupal parasitoid of cabbage butterfly

131. The systematic is the study of:
(A) genetic makeup of reproductive insects (B) relationships between groups of any size
(C) orders of insects only (D) morphological characters only

132. Pest which occurs in isolated locations is known as
(A) Persistent pest (B) Seasonal pest
(C) Sporadic pest (D) Occasional pest

133. Which is the pest of potato tuber in field and storage
(A) Mealy bug (B) Cutworm
(C) Potato aphid (D) Potato tuber moth

134. In insect population which have only one generation a year, the shape of population growth curve is:
(A) S-shaped curve (B) J-shaped curve
(C) Both A and B (D) None of these

135. The grazing food web begins with:
(A) Detrivores (B) Carnivores
(C) Heterotrophs (D) Autotrophs

136. Economic injury level is ---------- economic threshold level.
(A) Half of the (B) Equal to
(C) Greater than (D) Less than

137. PRA stands for:
(A) Participatory Rural Appraisal (B) Participatory Rapid Appraisal
(C) Programme Review Appraisal (D) People's Rural Appraisal

138. National Agricultural Technology Project was started in the year:
(A) 1996 (B) 1998
(C) 1994 (D) 2000

139. According to Prof. Mildred Hurton, the first training group of human race is:
(A) Family (B) Community
(C) Country (D) Home

140. Lt. Col. Albert Mayer started a project called :
(A) Gurgaon Project B. Nilokheri Project
(C) Etawah Pilot Project D. Marthandom Project

141. The word communication is derived from:
(A) Greek word (B) French word
(C) Russian word (D) Latin word

142. In the preparation of audio-visual aids, the principle of 'A', 'B', 'C' signifies:
(A) Attractiveness, Brevity, Concreteness (B) Attractiveness, Brevity, Colour
(C) Attractiveness, Brevity, Clarity (D) Attitude, Brief, Communication

143. Which among the following is a method of identifying leader?
(A) Socio-metric method (B) Self –designated method
(C) Informants' rating (D) All the above

144. Which among the following models of communication is called 'Mathematical Theory of Communication:
(A) Berlo's Model (B) Shannon and Weaver's Model
(C) Aristotle's Model (D) Leagan's Model

145. Single line of command was one of the main features of:
(A) EPP (B) NAEP
(C) NARP (D) T & V

146. Extension Education Institute for North India is located at:
(A) Haryana (B) Punjab
(C) UP (D) Bihar

147. Extension Programme is a statement of situation, objectives, problems and:
(A) Motivation (B) Attitude
(C) Reasons (D) Solution

148. Which among the following entrepreneurs is timid and cautious in nature:
(A) Fabian (B) Drone
(C) Imitative (D) Innovative

149. Which among the following is a technique of idea generation :
(A) Seminar (B) Conference
(C) Brain storming (D) Incubation

150. The concept of venture capital was originated in:
(A) India (B) Japan
(C) U.K. (D) U.S.A.

151. Temperate Forests of the Western Himalayas are the Climatic Climax of the following:
(A) Abies spp (B) Cedrus spp.
(C) Quercus spp. (D) Betula spp

152. The yield of forest is regulated on the basis of volume by using following:
(A) Von Mantel's formula (B) Permanent allotment method
(C) Annual coups (D) Periodic block method

153. Widely accepted Classification of Forest Types of India is based upon:
(A) Climate (B) Physiography
(C) Ecology (D) Composition

154. Field planting season for poplar tree is
(A) Winter (B) Summer
(C) Rainy (D) Throughout the year

155. Sulphate navel stores are by-products of the following pulping process:
(A) Soda pulping (B) Sulphate pulping
(C) Kraft pulping (D) None of the above

156. Ghatti gum is obtained from:
(A) *Sterculia ureus* (B) *Astragalus spp*
(C) *Anogeissus latifolia* (D) *Acacia arabica*

157. Maximum segregation is observed in:
(A) $F_1$ (B) $F_2$
(C) $F_3$ (D) $F_4$

158. Single seed descent method is a modification of:
(A) Pedigree method (B) Bulk method
(C) Mass selection (D) $F_4$

159. Vegetatively propagated crops are usually:
(A) Homozygous (B) Heterozygous
(C) Both A and B (D) Apomictic

160. The most commonly used breeding scheme is:
(A) Back cross method (B) Bulk method
(C) Pedigree method (D) Mass selection

161. Landraces are very good sources of genes for:
(A) high yield (B) adaptability
(C) Both (A) and (B) (D) None of these

162. Variation within a pureline is due to
(A) Genetic causes (B) Environment
(C) Both (A) and (B) (D) None of these

163. Transgenic plants are being cultivated in India in:
(A) Brinjal (B) Wheat
(C) Cotton (D) Soybean

164. Cotton and pigeonpea are:
(A) Cross pollinated (B) Self pollinated
(C) Often cross pollinated (D) Apomictic

165. Which of the following has been used for inducing male sterility in Bajra ?
(A) Tift 23 A (B) *H. petiolaris*
(C) Milo (D) *T. timopheevi*

166. TGMS and PGMS systems of male sterility are available in:
(A) Wheat (B) Sorghum
(C) Rice (D) Bajra

167. Centre of origin of *Gossypium herbaceum* is:
(A) North America (B) South America
(C) Africa (D) India

168. Golden rice is related to enhanced:
(A) pro-vitamin A (B) Mg
(C) Zn (D) Cu

169. Genetic disassortative mating will result in:
(A) Reduced homozygosity (B) Increased homozygosity
(C) More inbreeding depressions (D) None of these

170. One map unit is equal to:
(A) 1% recombination between genes (B) 100% recombination between genes
(C) 50% recombination between genes (D) 10% recombination between genes

171. If recombination occurs before the chromosome replication, percentage of parental type gametes will be:
(A) 100 (B) 50
(C) 25 (D) 0

172. Which of following mechanisms does not promotes cross pollination:
(A) Dicliny (B) Chasmogamy
(C) Dichogamy (D) Self-incompatibility

173. Which of the following can be considered a case of non- Mendelian inheritance ?
(A) Extra-nuclear inheritance (B) Multiple alleles
(C) Incomplete dominance (D) All of these

174. Upper limit of crossing over between two genes is:
(A) 100 % (B) 50 %
(C) 25 % (D) 75 %

175. Bacterial artificial chromosome may be used for the construction of:
(A) c-DNA library (B) Genomic library
(C) Tissue specific library (D) All of these

176. Experiment that unambiguously demonstrated that DNA is the genetic material was conducted by:
(A) Watson and Crick (B) Hershey and Chase
(C) Fred Griffith (D) Avery, MacLeod and McCarty

177. Which of the following is not an auxin:
(A) Indole acetic acid (B) 2,4-D
(C) Kinetin (D) Naphthalene acetic acid

178. Fusion of cytoplasm from two species and nuclear genes from any one species leads to the development of:
(A) Cybrid (B) Somatic hybrid
(C) Protoplast (D) None of these

179. Polymerase chain reaction (PCR) was invented by:
(A) Rosalind Franklin (B) Arthur Korenburg
(C) Watson and Crick (D) K Mullis

180. Which of the following is not a "direct gene transfer" method:
(A) Liposome encapsulation (B) Microinjection
(C) Agrobacterium (D) Particle bombardment

181. Which of the following fruits is a rich source of vitamin C?
(A) Apple (B) Mango
(C) Aonla (D) Papaya

182. Mulching is helpful in
(A) Moisture conservation (B) Weed control
(C) Both A & B (D) Neither A nor B

183. Which of the following varieties of apple is a pollinizer?
(A) Red Chief (B) Golden Delicious
(C) Royal Delicious (D) Red Delicious

184. Which of the following varieties of mango is suitable for high density planting?
(A) Neelum (B) Langra
(C) Alphonso (D) Amrapalli

185. Which fruit crop is suitable for arid regions?
(A) Apple (B) Ber
(C) Banana (D) Pineapple

186. Which system of planting is most suitable for sloppy lands in hilly areas?
(A) Contour (B) Square system
(C) Hexagonal (D) Rectangular

187. Spongy tissue is a physiological disorder of
(A) Mango (B) Guava
(C) Apple (D) Papaya

188. Which PGR is commonly used for rooting initiation in stem cuttings?
(A) ABA (B) 2, 4-D
(C) IBA (D) IAA

189. Which among the following is an aggregate fruit
(A) Pineapple (B) Strawberry
(C) Pomegranate (D) Grape

190. Among these fruit crops, the richest source of Fe is
(A) Banana (B) Ber
(C) Jamun (D) Karonda

191. Which of following fruit is most suitable for jelly making
(A) Apple (B) Banana
(C) Ber (D) Guava

192. Most of apple varieties have the chilling requirement of
(A) *2000-3000 hrs.* (B) *1000-1500 hrs*
(C) *100-500 hrs*. (D) *500-1000 hrs.*

193. Which of the following nematode is kidney shaped:
(A) *Heterodera* (B) *Rotylenchus*
(C) *Pratylenchus* (D) *Xiphinema*

194. A series of transverse depressions on the cuticle of nematode is:
(A) Annulations (B) Appendages
(C) Striae (D) None of these

195. Transmission of grape vine fan leaf virus is by nematode:
(A) *Radopholus similus* (B) (B) *Ditylenchus angustus*
(C) *Anguina tritici* (D) *Xiphinema index*

196. Which of the following is nematicide:
(A) Dinocap (B) Metalaxyl
(C) Tridemorph (D) None of these

197. *Anguina tritici* causes:
(A) Molya disease of wheat (B) Ear cockle disease of wheat
(C) Root knot of vegetables (D) All of these

198. Which of the following is a piercing organ in nematode:
(A) Haustorium (B) Appressorium
(C) Stylet (D) None of these

199. *Sclerotinia sclerotiorum* survives in soil in the form of:
(A) Oospore (B) Sclerotia
(C) Basidiospore (D) Perithecia

200. Irish famine was caused due to:
(A) Early blight of potato (B) Downy mildew of onion
(C) Late blight of potato (D) Downy mildew of grapes

**M.Sc. (Agri)**

## Answer Key PG Agri A

| Q. No. | Ans | Q. No. | Ans | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | A | 35. | D | 69. | A | 103 | C | 137 | A | 171 | B |
| 2. | C | 36. | C | 70. | A | 104 | A | 138 | C | 172 | C |
| 3. | B | 37. | D | 71. | A | 105 | B/C | 139 | B | 173 | B |
| 4. | C | 38. | A | 72. | B | 106 | C | 140 | D | 174 | B |
| 5. | A | 39. | C | 73. | A | 107 | B | 141 | D | 175 | C |
| 6. | D | 40 | A | 74. | D | 108 | B | 142 | B | 176 | A |
| 7. | C | 41. | B | 75. | D | 109 | B | 143 | B | 177 | A |
| 8. | C | 42. | C | 76. | B | 110 | C | 144 | A | 178 | A |
| 9. | B | 43. | C | 77. | D | 111 | B | 145 | D | 179 | C |
| 10. | C | 44. | D | 78. | B | 112 | B | 146 | D | 180 | B |
| 11. | B | 45. | A | 79. | C | 113 | C | 147 | B | 181 | B |
| 12. | C | 46. | D | 80. | C | 114 | C | 148 | C | 182 | B |
| 13. | C | 47. | A | 81. | B | 115 | A | 149 | B | 183 | C |
| 14. | A | 48. | C | 82. | C/D | 116 | C | 150 | C | 184 | B |
| 15. | D | 49. | B | 83. | D | 117 | C | 151 | B | 185 | A |
| 16. | A | 50. | C | 84. | B | 118 | A | 152 | C | 186 | A |
| 17. | B | 51. | B | 85 | D | 119 | A | 153 | A | 187 | B |
| 18. | C | 52. | A | 86 | C | 120 | A | 154 | D | 188 | C |
| 19. | B | 53. | B | 87 | A | 121 | D | 155 | B | 189 | A |
| 20. | D | 54. | A | 88 | B | 122 | B | 156 | C | 190 | D |
| 21. | A | 55. | D | 89 | A | 123 | D | 157 | C | 191 | C |
| 22. | B | 56. | B | 90 | C | 124 | B | 158 | A | 192 | D |
| 23. | B | 57. | C | 91 | D | 125 | B | 159 | D | 193 | A |
| 24. | A | 58. | B | 92 | C | 126 | B | 160 | B | 194 | A |
| 25. | A | 59. | C | 93 | D | 127 | C | 161 | D | 195 | A |
| 26. | C | 60. | A | 94 | B | 128 | A | 162 | C | 196 | D |
| 27. | B | 61. | B | 95 | D | 129 | D | 163 | D | 197 | A |
| 28. | B | 62. | C | 96 | A | 130 | C | 164 | A | 198 | A |
| 29. | D | 63. | B | 97 | D | 131 | C | 165 | D | 199 | B |
| 30. | C | 64. | A | 98 | A | 132 | C | 166 | A | 200 | B |
| 31. | B | 65. | D | 99 | C | 133 | B | 167 | C | | |
| 32. | B | 66. | B | 100 | D | 134 | D | 168 | B | | |
| 33. | A | 67. | D | 101 | A/C | 135 | B | 169 | B | | |
| 34. | C | 68. | C | 102 | A | 136 | A | 170 | A | | |

**Answer Key PG Agri B**

| Q. No. | Ans | Q. No. | Ans | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | B | 35. | D | 69. | A | 103 | A | 137 | B | 171 | A |
| 2. | A | 36. | C | 70. | A | 104 | D | 138 | C | 172 | B |
| 3. | B | 37. | A | 71. | D | 105 | B | 139 | A | 173 | B |
| 4. | A | 38. | B | 72. | B | 106 | C | 140 | D | 174 | A |
| 5. | D | 39. | A | 73. | D | 107 | C | 141 | C | 175 | A |
| 6. | B | 40 | C | 74. | B | 108 | A | 142 | D | 176 | C |
| 7. | C | 41. | D | 75. | B | 109 | D | 143 | A | 177 | B |
| 8. | B | 42. | C | 76. | B | 110 | B | 144 | A | 178 | B |
| 9. | C | 43. | D | 77. | C | 111 | D | 145 | A | 179 | D |
| 10. | A | 44. | B | 78. | A | 112 | C | 146 | D | 180 | C |
| 11. | B | 45. | D | 79. | D | 113 | D | 147 | A | 181 | B |
| 12. | C | 46. | A | 80. | C | 114 | A | 148 | A | 182 | B |
| 13. | B | 47. | D | 81. | C | 115 | D | 149 | B | 183 | A |
| 14. | A | 48. | A | 82. | C | 116 | A | 150 | B | 184 | C |
| 15. | D | 49. | C | 83. | B | 117 | C | 151 | A | 185 | D |
| 16. | B | 50. | D | 84. | D | 118 | B | 152 | C | 186 | C |
| 17. | D | 51. | A/C | 85 | B | 119 | B | 153 | B | 187 | D |
| 18. | C | 52. | A | 86 | A | 120 | A | 154 | C | 188 | A |
| 19. | A | 53. | C | 87 | A | 121 | B | 155 | A | 189 | C |
| 20. | A | 54. | A | 88 | C | 122 | C | 156 | D | 190 | A |
| 21. | A | 55. | B/C | 89 | B | 123 | B | 157 | C | 191 | B |
| 22. | B | 56. | C | 90 | D | 124 | B | 158 | C | 192 | C |
| 23. | A | 57. | B | 91 | D | 125 | C | 159 | B | 193 | C |
| 24. | D | 58. | B | 92 | B | 126 | A | 160 | C | 194 | D |
| 25. | D | 59. | B | 93 | B | 127 | A | 161 | B | 195 | A |
| 26. | B | 60. | C | 94 | A | 128 | A | 162 | C | 196 | D |
| 27. | D | 61. | B | 95 | D | 129 | C | 163 | C | 197 | A |
| 28. | B | 62. | B | 96 | D | 130 | B | 164 | A | 198 | C |
| 29. | C | 63. | C | 97 | B | 131 | B | 165 | D | 199 | B |
| 30. | C | 64. | C | 98 | C | 132 | B | 166 | A | 200 | C |
| 31. | B | 65. | A | 99 | B | 133 | C | 167 | B | | |
| 32. | C/D | 66. | C | 100 | C | 134 | B | 168 | C | | |
| 33. | D | 67. | C | 101 | B | 135 | A | 169 | B | | |
| 34. | B | 68. | A | 102 | C | 136 | A | 170 | D | | |

**Answer Key PG Agri C**

| Q. No. | Ans | Q. No. | Ans | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | A/C | 35. | B | 69. | B | 103 | B | 137 | D | 171 | A |
| 2. | A | 36. | A | 70. | A | 104 | C | 138 | A | 172 | B |
| 3. | C | 37. | A | 71. | B | 105 | A | 139 | C | 173 | A |
| 4. | A | 38. | C | 72. | C | 106 | D | 140 | A | 174 | D |
| 5. | B/C | 39. | B | 73. | B | 107 | C | 141 | B | 175 | D |
| 6. | C | 40 | D | 74. | B | 108 | C | 142 | C | 176 | B |
| 7. | B | 41. | D | 75. | C | 109 | B | 143 | C | 177 | D |
| 8. | B | 42. | B | 76. | A | 110 | C | 144 | D | 178 | B |
| 9. | B | 43. | B | 77. | A | 111 | B | 145 | A | 179 | C |
| 10. | C | 44. | A | 78. | A | 112 | C | 146 | D | 180 | C |
| 11. | B | 45. | D | 79. | C | 113 | C | 147 | A | 181 | B |
| 12. | B | 46. | D | 80. | B | 114 | A | 148 | C | 182 | C/D |
| 13. | C | 47. | B | 81. | B | 115 | D | 149 | B | 183 | D |
| 14. | C | 48. | C | 82. | B | 116 | A | 150 | C | 184 | B |
| 15. | A | 49. | B | 83. | C | 117 | B | 151 | B | 185 | D |
| 16. | C | 50. | C | 84. | B | 118 | C | 152 | A | 186 | C |
| 17. | C | 51. | B | 85 | A | 119 | B | 153 | B | 187 | A |
| 18. | A | 52. | C | 86 | A | 120 | D | 154 | A | 188 | B |
| 19. | A | 53. | A | 87 | B | 121 | A | 155 | D | 189 | A |
| 20. | A | 54. | D | 88 | C | 122 | B | 156 | B | 190 | C |
| 21. | D | 55. | B | 89 | A | 123 | B | 157 | C | 191 | D |
| 22. | B | 56. | C | 90 | D | 124 | A | 158 | B | 192 | C |
| 23. | D | 57. | C | 91 | C | 125 | A | 159 | C | 193 | D |
| 24. | B | 58. | A | 92 | D | 126 | C | 160 | A | 194 | B |
| 25. | B | 59. | D | 93 | A | 127 | B | 161 | B | 195 | D |
| 26. | B | 60. | B | 94 | A | 128 | B | 162 | C | 196 | A |
| 27. | C | 61. | D | 95 | A | 129 | D | 163 | B | 197 | D |
| 28. | A | 62. | C | 96 | D | 130 | C | 164 | A | 198 | A |
| 29. | D | 63. | D | 97 | A | 131 | B | 165 | D | 199 | C |
| 30. | C | 64. | A | 98 | A | 132 | B | 166 | B | 200 | D |
| 31. | C | 65. | D | 99 | B | 133 | A | 167 | D | | |
| 32. | C | 66. | A | 100 | B | 134 | C | 168 | C | | |
| 33. | B | 67. | C | 101 | A | 135 | D | 169 | A | | |
| 34. | D | 68. | B | 102 | C | 136 | C | 170 | A | | |

**Answer Key PG Agri D**

| Q. No. | Ans | Q. No. | Ans | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer | Q. No. | Answer |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | B | 35. | A | 69. | B | 103 | B | 137 | A | 171 | D |
| 2. | C | 36. | A | 70. | D | 104 | A | 138 | B | 172 | B |
| 3. | A | 37. | B | 71. | A | 105 | D | 139 | A | 173 | D |
| 4. | D | 38. | C | 72. | B | 106 | B | 140 | C | 174 | B |
| 5. | B | 39. | A | 73. | B | 107 | C | 141 | D | 175 | B |
| 6. | C | 40 | D | 74. | A | 108 | B | 142 | C | 176 | B |
| 7. | C | 41. | C | 75. | A | 109 | C | 143 | D | 177 | C |
| 8. | A | 42. | D | 76. | C | 110 | A | 144 | B | 178 | A |
| 9. | D | 43. | A | 77. | B | 111 | B | 145 | D | 179 | D |
| 10. | B | 44. | A | 78. | B | 112 | C | 146 | A | 180 | C |
| 11. | D | 45. | A | 79. | D | 113 | B | 147 | D | 181 | C |
| 12. | C | 46. | D | 80. | C | 114 | A | 148 | A | 182 | C |
| 13. | D | 47. | A | 81. | B | 115 | D | 149 | C | 183 | B |
| 14. | A | 48. | A | 82. | **B** | 116 | B | 150 | D | 184 | D |
| 15. | D | 49. | B | 83. | A | 117 | D | 151 | A/C | 185 | B |
| 16. | A | 50. | B | 84. | C | 118 | C | 152 | A | 186 | A |
| 17. | C | 51. | A | 85 | D | 119 | A | 153 | C | 187 | A |
| 18. | B | 52. | C | 86 | C | 120 | A | 154 | A | 188 | C |
| 19. | B | 53. | B | 87 | D | 121 | A | 155 | B/C | 189 | B |
| 20. | A | 54. | C | 88 | A | 122 | B | 156 | C | 190 | D |
| 21. | B | 55. | A | 89 | C | 123 | A | 157 | B | 191 | D |
| 22. | C | 56. | D | 90 | A | 124 | D | 158 | B | 192 | B |
| 23. | B | 57. | C | 91 | B | 125 | D | 159 | B | 193 | B |
| 24. | B | 58. | C | 92 | C | 126 | B | 160 | C | 194 | A |
| 25. | C | 59. | B | 93 | C | 127 | D | 161 | B | 195 | D |
| 26. | A | 60. | C | 94 | D | 128 | B | 162 | B | 196 | D |
| 27. | A | 61. | B | 95 | A | 129 | C | 163 | C | 197 | B |
| 28. | A | 62. | C | 96 | D | 130 | C | 164 | C | 198 | C |
| 29. | C | 63. | C | 97 | A | 131 | B | 165 | A | 199 | B |
| 30. | B | 64. | A | 98 | C | 132 | C/D | 166 | C | 200 | C |
| 31. | B | 65. | D | 99 | B | 133 | D | 167 | C | | |
| 32. | B | 66. | A | 100 | C | 134 | B | 168 | A | | |
| 33. | C | 67. | B | 101 | B | 135 | D | 169 | A | | |
| 34. | B | 68. | C | 102 | A | 136 | C | 170 | A | | |