

**COMBINED TECHNICAL SERVICES EXAMINATION
(NON-INTERVIEW POST)**

COMPUTER BASED TEST

DATE OF EXAM: 05.08.2025 FN

**PAPER – II – AGRICULTURE
(DEGREE STANDARD) (CODE: 491)**

1. The quarantine of germplasm pertaining to agricultural and horticultural crops is done by the following?
 - (A) Entomologist
 - (B) Plant pathologist
 - (C) Nematologist
 - (D) ☒ All the above
 - (E) Answer not known

2. Conservation of germplasm under natural habitat is referred to as
 - (A) Exsitu conservation
 - (B) ☒ Insitu conservation
 - (C) Both (A) and (B)
 - (D) Bio-diversity
 - (E) Answer not known

3. Gradual loss of variability from cultivated species and their wild forms and wild relatives are called
 - (A) Genetic recombination
 - (B) Genetic enhancement
 - (C) ☒ Genetic erosion
 - (D) None of the above
 - (E) Answer not known

4. Identify the wrong answer among the following about orthodox seeds.
- (A) Can be dried to a moisture content of 5 percent or lower
 - (B) Can be stored for longer period
 - (C) ☒ Cannot be dried below 12 percent
 - (D) Can be stored lower humidity and lower temperature
 - (E) Answer not known
5. DNA markers can be used for which of the following purposes?
- (I) Mapping of quantitative trait loci (PTL)
 - (II) Preparation of linkage maps
 - (III) Map based cloning of genes
 - (IV) Indirect selection of traits of economic importance
- (A) ☒ (I), (II), (III), (IV)
 - (B) (I), (II), (IV)
 - (C) (II), (III), (IV)
 - (D) (I), (III), (IV)
 - (E) Answer not known
6. Which of the following mapping populations used for linkage mapping of molecular markers?
- (A) Near isogenic line (NILs)
 - (B) Recombinant inbred lines (RILs)
 - (C) Backcross progeny
 - (D) ☒ Any of the above
 - (E) Answer not known

7. MAS (Marker Assisted Selection) is potentially useful for which of the following?
- (I) Selection of QTLs
 - (II) As a substitute for a disease test
 - (III) Accelerated recovery of the recurrent parent
 - (IV) For reducing linkage drag
- (A) (I), (II), (IV)
(B) (II), (IV)
(C) ☒ (I), (II), (III), (IV)
(D) (I), (IV)
(E) Answer not known
8. A substantial reduction in the number of backcross generations is achieved by which of the following?
- (A) Accurate genotyping for the gene under transfer
 - (B) ☒ Accurate genotyping at loci other than the one being transferred
 - (C) Use of larger backcross populations
 - (D) Highly efficient phenotype based selection
 - (E) Answer not known
9. DNA ligase is used for which of the following
- (A) ☒ Joining of two DNA fragments
 - (B) Synthesis of RNA
 - (C) Replication of DNA
 - (D) Replication of RNA
 - (E) Answer not known

10. The first transgenic crop commercially released was
- (A) Bt cotton
 - (B) Golden rice
 - (C) ☒ Flavr savr tomato
 - (D) Herbicide-resistant soyabean
 - (E) Answer not known
11. Which hormone combination is used for callus differentiation?
- (A) ☒ Auxin + cytokinin
 - (B) Gibberellin + ABA
 - (C) Ethylene + Auxin
 - (D) Cytokinin + Gibberellin
 - (E) Answer not known
12. First genetically engineered tomato FLAVR SAVR was commercially produced in _____ during 1994.
- (A) China
 - (B) Netherlands
 - (C) ☒ USA
 - (D) Israel
 - (E) Answer not known

13. Which of the following is not a quality trait targeted in plant breeding programme?
- (A) ✓ Disease resistance
 - (B) High vitamin content
 - (C) Improved taste
 - (D) Enhanced aroma
 - (E) Answer not known
14. The minikit trials are conducted at which of the following?
- (A) ✓ Farmer's field
 - (B) Research station
 - (C) Farms of state government
 - (D) Farms of SFCI
 - (E) Answer not known
15. What is the purpose of Distinctness, Uniformity and stability (DUS) test in variety release?
- (A) To check seed purity
 - (B) To determine yield potential
 - (C) ✓ To conform the variety has unique and stable traits
 - (D) To assess pest resistance
 - (E) Answer not known

16. Rice variety developed for drought tolerance in TamilNadu.
- (A) ADT-53
 - ☒ (B) CO-59
 - (C) CR 1009
 - (D) BPT 5204
 - (E) Answer not known
17. A dual purpose sorghum suitable for both grain and fodder with early maturity (95 days), recently released by TNAU
- (A) CO-31
 - ☒ (B) K-12
 - (C) CO5
 - (D) CO-30
 - (E) Answer not known
18. Which system is widely used for hybrid seed production in rice?
- (A) Two line
 - (B) Four line
 - ☒ (C) Three line
 - (D) Self pollination
 - (E) Answer not known
19. How are synthetic varieties developed from?
- (A) Derived from single genotypes
 - ☒ (B) Controlled crosses among selected genotypes
 - (C) Random pollination of plants
 - (D) Genetically modified organism
 - (E) Answer not known

20. The line which restores the fertility in hybrid seed production

- (A) A-line
- (B) Maintainer line
- (C) B-line
- (D) ☒ R-line
- (E) Answer not known

21. Composite varieties are popular in

- (A) Wheat
- (B) Ragi
- (C) Sunflower
- (D) ☒ Maize
- (E) Answer not known

22. Cross pollination is promoted by which of the following.

- (A) Dicliny
- (B) Dichogamy
- (C) Male sterility
- (D) ☒ All the above
- (E) Answer not known

23. Which of the following is correctly paired?

- (I) Gregor Johan Mendel – Garden pea
- (II) Hugo de vries – Linear model of DNA
- (III) James Watson and Crick – DNA double Helical structure
- (IV) Beadle and Tatum – One gene one enzyme
- (A) (II), (III), (IV)
- (B) (I), (II), (III)
- (C) ☒ (I), (III), (IV)
- (D) (I), (II), (IV)
- (E) Answer not known

24. Which method is commonly used to transfer disease resistance in crop plants?
- (A) Pureline selection (B) Mass selection
(C) ☒ Back cross breeding (D) Pedigree breeding
(E) Answer not known
25. Kufri Red potato is developed by
- (A) Pureline selection (B) Mass selection
(C) Heterosis breeding (D) ☒ Clonal selection
(E) Answer not known
26. The Genomic constitution of *G. Hirsutum* is
- (A) AA D₂ D₂ (B) ☒ AA D₁ D₁
(C) AA DD (D) A₁ A₁ D₁ D₁
(E) Answer not known
27. Total number of permanent teeth present in the upper jaw of adult cattle.
- (A) Zero (B) Six
(C) ☒ Twelve (D) Thirty two
(E) Answer not known

28. The advantages of rearing birds in cage system are

- (1) Higher stocking density
- (2) No litter-borne diseases
- (3) Less number of cracked eggs
- (4) Less broodiness

- (A) (1), (2) and (3) are correct
- (B) (1), (2) and (4) are correct
- (C) (2), (3) and (4) are correct
- (D) All are correct
- (E) Answer not known

29. Match the following based on biomass conversion processes :

Processes	Products
(a) Combustion	1. Bio ethanol
(b) Gasification	2. Bio oil
(c) Pyrolysis	3. Producer gas
(d) Fermentation	4. Heat

- | | | | | |
|-----|------------------|-----|-----|-----|
| | (a) | (b) | (c) | (d) |
| (A) | 4 | 3 | 2 | 1 |
| (B) | 4 | 2 | 3 | 1 |
| (C) | 3 | 4 | 2 | 1 |
| (D) | 3 | 1 | 4 | 2 |
| (E) | Answer not known | | | |

30. Which of the following is not renewable source of energy?

- (A) Solar
- (B) Biomass
- (C) Fossil fuels
- (D) Geothermal
- (E) Answer not known

31. The Dammer bee comb is made up of a dark material called _____ which is a mixture of wax and earth or resin.
- (A) Bee bread (B) Propolis
(C) Royal filly (D) ☒ Cerumen
(E) Answer not known
32. Which among the following is a mushroom nematode?
- (A) Helicotylenchus (B) Bursaphlenchus
(C) ☒ Ditylenchus (D) Meloidogyne
(E) Answer not known
33. Agaricus bisporus is the biological name of
- (A) ☒ Button mushroom (B) Milky mushroom
(C) Oyster mushroom (D) Paddy straw mushroom
(E) Answer not known
34. In the honey bee colony, the worker bee is a
- (A) ☒ Sterile female (B) Fertile female
(C) Sterile male (D) Fertile male
(E) Answer not known
35. The recommended number of bee hives for pollination by Indian bees is
- (A) 4/ha (B) 3/ha
(C) ☒ 5/ha (D) 6/ha
(E) Answer not known

36. Element plays important role in stability of protein structure is
(A) ☒ Sulphur (B) Phosphorus
(C) Iron (D) Manganese
(E) Answer not known
37. In _____ deficiency, yellowing starts from tips or margins of leaves extending to the centre of leaf base.
(A) Zinc (B) Boron
(C) ☒ Potassium (D) Phosphorous
(E) Answer not known
38. Water as the sole nourishment for plants was given by
(A) ☒ Van Helmont (B) Glauber JR
(C) Boussingault JB (D) Theodore de Saussure
(E) Answer not known
39. Concentrated organic manures includes
(A) Oil cakes (B) Blood meal
(C) Compost (D) ☒ Only (A) and (B)
(E) Answer not known

40. Identify the incorrect statement with respect to green manure crop.
1. It should have little water requirement.
 2. It should have fibrous root system.
 3. It should have large quantities of non fibrous tissue.
 4. It should be a legume
- (A) 1 alone incorrect (B) ☒ 2 alone incorrect
 (C) 3 and 4 are incorrect (D) 2 and 4 are incorrect
 (E) Answer not known
41. Stem nodule green manure plant sp is
- (A) ☒ *Sesbania rostrata* (B) *Sesbania speciosa*
 (C) *Sesbania aculeate* (D) *Sesbania grandiflora*
 (E) Answer not known
42. Indicate the LER of groundnut + redgram inter cropping system with the following data is,
 Sole groundnut yield - 1000 kg/ha
 Intercropped groundnut yield - 750 kg/ha
 Sole redgram yield - 800 kg/ha
 Intercropped redgram yield - 400 kg/ha
- (A) 0.250 (B) 0.375
 (C) 0.640 (D) ☒ 1.250
 (E) Answer not known
43. Growing of two or more crops on the same field in one year is called
- (A) Agroforestry (B) Alley cropping
 (C) ☒ Multiple cropping (D) Cropping system
 (E) Answer not known

44. The infiltration uniformity is increased and deep percolation is reduced in _____ irrigation.
- (A) Cablegation (B) ☒ Surge
(C) Wide spaced furrow (D) Every furrow
(E) Answer not known
45. Growing of four crops a year in sequence is
- (A) Relay cropping (B) Fallow cropping
(C) Mixed cropping (D) ☒ Quadruple cropping
(E) Answer not known
46. The term 'triple response' is connected with which hormone?
- (A) Auxin (B) Cytokinin
(C) ABA (D) ☒ Ethylene
(E) Answer not known
47. Which one of the following elements is the constituent of chlorophyll?
- (A) Fe (B) Mn
(C) ☒ Mg (D) Cu
(E) Answer not known
48. _____ is highly salt tolerant crop.
- (A) ☒ Sugar Beet (B) Maize
(C) Rice (D) Cotton
(E) Answer not known

49. Gibberellins are chemically
- (A) Sesquiterpene (B) ☒ Diterpenes
(C) Monoterpene (D) Triterpene
(E) Answer not known
50. Assertion [A] : Plants having higher proportion of saturated fatty acids in their membrane has high temperature tolerance.
- Reason [R] : Higher proportion of saturated fatty acids maintain fluidity and stability of their membrane at high temperature.
- (A) [A] is true but [R] is false
(B) ☒ Both [A] and [R] are true and [R] is the correct explanation of [A]
(C) [A] is false, [R] is true
(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
(E) Answer not known
51. The scale map used for watershed planning is
- (A) ☒ 1 : 10,000 (B) 1 : 50,000
(C) 1 : 1,00,000 (D) 1 : 2,50,000
(E) Answer not known
52. Water holding capacity is the amount of moisture content of soil when _____ are filled with water.
- (A) Macropores (B) Micropores
(C) ☒ Both macro and micropores (D) Mesopores
(E) Answer not known

53. Main purpose of soil survey is
- (A) to measure the total area
 - (B) to the fertility status of soil
 - (C) to study and mapping of soils in their natural environment
 - (D) to recognize their importance
 - (E) Answer not known
54. Multiple cropping is possible in _____ areas.
- (A) Dry farming
 - (B) Rainfed farming
 - (C) Dry land farming
 - (D) Drought
 - (E) Answer not known
55. The width of buffer strips varies from
- (A) 2 - 4 m
 - (B) 3 - 6 m
 - (C) 5 - 10 m
 - (D) 10 - 15 m
 - (E) Answer not known
56. Dryland agriculture generally receive an annual rainfall of
- (A) Greater than 900 mm
 - (B) Less than 900 mm
 - (C) Less than 750 mm
 - (D) Greater than 750 mm
 - (E) Answer not known
57. Water quality is determined according to the
- (A) Mineral content of water
 - (B) Purpose for which it is used
 - (C) Toxicity level of elements
 - (D) Electrical conductivity
 - (E) Answer not known

58. Match the water with their salt content

Water	Salt content (%)
(a) Fresh water	1. 0.05-3 %
(b) Brackish water	2. < 0.05 %
(c) Saline Water	3. > 5 %
(d) Brine	4. 3.5 %

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| (A) ✓ | 2 | 1 | 4 | 3 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 2 | 4 | 1 | 3 |
| (D) | 2 | 1 | 3 | 4 |
| (E) | Answer not known | | | |

59. Active acidity in soil is due to :

1. H^+ and Al^{3+} ions concentration in soil solution.
 2. H^+ and Al^{3+} ions concentration in soil colloids.
- (A) ✓ Statement 1 is correct
(B) Statement 1 and 2 are correct
(C) Statement 2 is correct
(D) Statement 1 and 2 are wrong
(E) Answer not known

60. Sodium adsorption Ratio (SAR)

(A) $\frac{Na}{\sqrt{\frac{Ca + Mg}{2}}}$

(B) $\frac{Na}{\frac{Ca + Mg}{2}}$

(C) $\sqrt{\frac{Na}{Ca + Mg}}$

(D) $\frac{Na}{Ca + Mg}$

(E) Answer not known

61. The Land capability classes suited to cultivation are

(A) V to VIII

(B) I to III

(C) I to IV

(D) VI to VIII

(E) Answer not known

62. The type of soil survey employed for micro level planning is

(A) Reconnaissance soil survey

(B) Exploratory survey

(C) Detailed soil survey

(D) Rapid reconnaissance soil survey

(E) Answer not known

63. Jarosite mottles are present in _____ horizon.

(A) Calcic horizon

(B) Oxic horizon

(C) Sulphuric horizon

(D) Natric horizon

(E) Answer not known

64. Soils having an EC of more than 4 dSm^{-1} and ESP of more than 15 % is classified as _____ soil
- (A) Saline (B) ☒ Saline – Sodic
 (C) Sodic (D) Cat clays
 (E) Answer not known
65. Assertion : [A] : Classes of soil structure indicates the degree of distinctness and durability of the individual peds.
- Reason : [R] : Each primary structural type of soil is differentiated into five classes.
- (A) [A] is true [R] is false
 (B) Both [A] and [R] are true and [R] is the correct explanation of [A].
 (C) Both [A] and [R] are true but [R] is not explaining [A].
 (D) ☒ [A] is false [R] is true
 (E) Answer not known
66. Assertion : [A] : Soil structure is described under three categories.
- Reason : [R] : Soil structure is described by shapes and arrangements, size and degree of distinctness and durability of the individual peds.
- (A) ☒ [A] is true and [R] is true
 (B) [A] is true and [R] is false
 (C) [A] is false and [R] is true
 (D) Both [A] and [R] are false
 (E) Answer not known

67. Match the following

- | | |
|---------------------|---------------------|
| (a) Blossom end rot | 1. Zn^{2+} |
| (b) Grey speck | 2. Cu^{2+} |
| (c) White bud | 3. Ca^{2+} |
| (d) Die-back | 4. Mn^{2+} |

- | | (a) | (b) | (c) | (d) |
|-------|-----|-----|-----|-----|
| (A) | 2 | 3 | 1 | 4 |
| (B) | 3 | 1 | 2 | 4 |
| (C) ✓ | 3 | 4 | 1 | 2 |
| (D) | 3 | 4 | 2 | 1 |

(E) Answer not known

68. Percent pore space is given by

1. $100 - \% \text{ solid space}$
2. $100 - \frac{\text{Bulk density}}{\text{Particle density}} \times 100$
3. $100 \left[1 - \frac{\text{Bulk density}}{\text{Particle density}} \right]$
4. $100 - \text{Particle density}$

(A) ✓ 1, 2 and 3 are correct

(C) 2, 3 and 4 are correct

(E) Answer not known

(B) 1, 2 and 4 are correct

(D) All the four are correct

69. Assertion : [A] : Integrated nutrient envisages the use of chemical fertilizers in conjunction with organic manures legumes, biofertilizers etc.

Reason : [R] : INM sustains soil health and productivity and produces higher crop yields.

- (A) [A] is true but [R] is false
- (B) [A] is false [R] is true
- (C) Both [A] and [R] are true and [R] is the correct explanation
- (D) Both [A] and [R] are true and [R] is not correct explanation of [A]
- (E) Answer not known

70. When single super phosphate is applied to strongly acid soil it is converted to?

- (A) Fe and Al phosphate
- (B) Calcium Phosphate
- (C) Sodium Phosphate
- (D) Organic Phosphate
- (E) Answer not known

71. The problem associated with zero tillage is

- (A) Low seed germination
- (B) Built up of volunteer plants
- (C) Low minerals
- (D) All the above
- (E) Answer not known

72. _____relies on natural process without using any external inputs.

- (A) Organic farming
- (B) Natural farming
- (C) Biodynamic farming
- (D) Permaculture
- (E) Answer not known

73. The symbiotic microbial inoculants is associated with _____ type of crops.
- (A) Cereals (B) Millets
(C) Pulses (D) Noncotic crops
(E) Answer not known
74. An example for fungal biofertilizer is
- (A) Azospirillum (B) Mycorrhiza
(C) Frankia (D) Azotobacter
(E) Answer not known
75. Which part of India is not benefited by the SW monsoon
- (A) Eastern plains of Tamilnadu
(B) Southern Tamilnadu
(C) Whole Tamilnadu
(D) East coast of Tamilnadu
(E) Answer not known
76. _____ is the process of heat transfer with in liquids and gases resulting from motions of fluid
- (A) Conduction (B) Convection
(C) Radiation (D) Light
(E) Answer not known

77. Rainfed farming is the practice of growing of crops in mean annual rainfall is
- (A) ☒ 750 mm (B) 650 mm
(C) 850 mm (D) 950 mm
(E) Answer not known
78. All India agro climatic zonal classification was done by
- (A) ICAR (B) ☒ PCI
(C) IMD (D) WMO
(E) Answer not known
79. No. of Agro-ecological zones in India is
- (A) 31 (B) ☒ 21
(C) 7 (D) 9
(E) Answer not known
80. The recording type raingauge measures the rainfall amount with respect to time, in the form of
- (A) Hyetograph (B) ☒ Mass curve
(C) Double mass curve (D) Histogram
(E) Answer not known
81. The term factors of production refers to
- (A) Land and labour
(B) Land, labour and capital
(C) Land and capital
(D) ☒ Land, labour, capital and organization
(E) Answer not known

82. How many types of agroforestry systems are those based on socio-economic principles?
- (A) 2 (B) ~~3~~
(C) 4 (D) 5
(E) Answer not known
83. The fertilizer requirement for hybrid rice is _____ kg N P₂O₅ K₂O/ha
- (A) 150 : 50 : 50 (B) 120 : 50 : 50
(C) 75 : 50 : 50 (D) ~~175 : 60 : 60~~
(E) Answer not known
84. Optimum temperature for warm season crops ranges between
- (A) 20 and 25°C (B) ~~30 and 38°C~~
(C) 38 and 45°C (D) 25 and 30°C
(E) Answer not known
85. _____ is often referred as the wonder crop due to its versatility.
- (A) Red gram (B) Groundnut
(C) Sunflower (D) ~~Soybean~~
(E) Answer not known

86. To avoid root snapping, 4 kg of _____ and 1 kg of _____/cent is to be applied in rice nursery 10 days after sowing
- (A) DAP and Gypsum (B) ☒ Gypsum and DAP
(C) Urea and Gypsum (D) Gypsum and urea
(E) Answer not known
87. The recommended dose of Kaolin concentration for foliar spray to mitigate drought is
- (A) 2% (B) 3%
(C) 4% (D) ☒ 5%
(E) Answer not known
88. The recommended spacing for YRCHZ castor is _____ in Tamil Nadu under irrigated condition.
- (A) 150 cm × 150 cm (B) ☒ 180 cm × 150 cm
(C) 90 cm × 90 cm (D) 90cm × 60 cm
(E) Answer not known
89. The ideal season for growing millets during purattasipattam is during
- (A) ☒ September to October (B) January to March
(C) June to July (D) March to April
(E) Answer not known

90. At the time of puddling water should be maintained at
- (A) 5 cm (B) 7.5 cm
(C) 2.5 cm (D) 3.5 cm
(E) Answer not known
91. The following one is not coming under the business operations of National Seed Corporation (NSC)
- (A) Production of Quality Seeds
(B) Marketing of planting material
(C) Sale of biofertilizers
(D) Export of quality seeds
(E) Answer not known
92. NATP stands for
- (A) National Agricultural Technology Project
(B) National Agricultural Transfer Project
(C) National Agricultural Technology Programme
(D) National Animal Technology Project
(E) Answer not known
93. What is the value of export of non-basmati rice from India during 23-24?
- (A) 27,522 crores (B) 47,524 crores
(C) 37,804.42 crores (D) 67,247 crores
(E) Answer not known

94. The percentage of Gross sown area of Tamil Nadu for the year 22-23 is
- (A) ✓ 48% (B) 45%
(C) 38% (D) 41%
(E) Answer not known
95. What is the productivity level of sugarcane in Tamil Nadu during 2022-23?
- (A) ✓ 111 metric tonnes/ha (B) 107 metric tonnes/ha
(C) 78 metric tonnes/ha (D) 98 metric tonnes/ha
(E) Answer not known
96. The average Irrigation intensity of Tamil Nadu in 2022-23 is
- (A) ✓ 1.32 (B) 0.90
(C) 1.82 (D) 1.75
(E) Answer not known
97. Per hectare productivity of rice in Tamil Nadu during 2011-2012 was
- (A) 2800 Kgs (B) 3200 Kgs
(C) 3540 Kgs (D) ✓ 3918 Kgs
(E) Answer not known

98. The first step towards science - based development of agriculture in the country date back to _____ when Imperial Bacteriological Laboratory was established at Pune.
- (A) ✓ 1889 (B) 1839
(C) 1879 (D) 1859
(E) Answer not known
99. The Growth percentage share of agriculture and allied sectors in the year 2022-23
- (A) 4.3% (B) ✓ 3.3%
(C) 8.00% (D) 5.7%
(E) Answer not known
100. The rate of insurance premium charges payable by the farmer under PMFBY for food and oil seeds crop for Kharif season is
- (A) ✓ 2.0% (B) 1.5%
(C) 5.0% (D) 2.5%
(E) Answer not known
101. Which of the following statements are correct regarding ATMA?
- (1) ATMA is a state level registered body
(2) SREPs are prepared at block level
(3) SAMETI is a state level training institute
(4) Farmer Friends are coordinating activities of village level
- (A) (1) and (2) (B) (2) and (3)
(C) ✓ (3) and (4) (D) (2) and (4)
(E) Answer not known

102. Lab to land programme was Launched by

- (A) Ministry of Science and Technology
- (B) ☒ Indian Council of Agr./Research (ICAR)
- (C) Department of Biotechnology
- (D) National innovation foundation
- (E) Answer not known

103. Thiru. C. Narayanasamy Naidu Award given to farmers by Government of Tamil Nadu for the highest productivity of _____ crop.

- (A) Ragi
- (B) ☒ Paddy
- (C) Sugarcane
- (D) Cotton
- (E) Answer not known

104. Arranging the degrees of Evaluation in correct order :

- (1) Extension studies
- (2) Self-checking evaluations
- (3) Casual every day evaluations
- (4) Do-it-Yourself evaluations
- (A) (2), (3), (1), (4)
- (B) ☒ (3), (2), (4), (1)
- (C) (4), (3), (2), (1)
- (D) (3), (1), (4), (2)
- (E) Answer not known

105. _____ is an outline of activities so arranged as to enable efficient execution of the entire programme.

- (A) Calender of work
- (B) ☒ Plan of work
- (C) Plan of activities
- (D) Project
- (E) Answer not known

106. _____ is the pattern of learned behaviour shared by the members of a society.
- (A) Caste (B) Taboos
(C) ☒ Culture (D) Customs
(E) Answer not known
107. Basic unit of society
- (A) Religion (B) Government
(C) ☒ Family (D) Economy
(E) Answer not known
108. SMCRE model of communication was given by
- (A) Shanon-Weaver (B) ☒ Rogers and Shoe maker
(C) Schramm (D) Aristotle
(E) Answer not known
109. Kisansuvidha app developed by
- (A) IARI – New Delhi
(B) CICR – Nagpur
(C) ☒ Department of Agriculture and Cooperation
(D) ICAR – New Delhi
(E) Answer not known
110. Grow More Food (GMF) Campaign was launched in India during
- (A) ☒ 1947 (B) 1957
(C) 1967 (D) 1977
(E) Answer not known

111. Match the following rural development programme with its initiator:

Rural Development programme	Initiator
(a) Etawah Pilot Project	1. Spencer Hatch
(b) Gurgaon Experiment	2. S. K. Dey
(c) Marthandam Project	3. F. L. Brayne
(d) Nilokheri Project	4. Albert mayer

- (a) (b) (c) (d)
- (A) (4) (1) (3) (2)
- (B) (4) (2) (1) (3)
- (C) ✓ (4) (3) (1) (2)
- (D) (3) (4) (2) (1)
- (E) Answer not known

112. The following point was discussed in the World Summit on the Information Society (WSIS) held in 2003 in Geneva?

- (A) SHGs
- (B) FPOs
- (C) ✓ ICT is vital for Women's Empowerment
- (D) Political and Women Empowerment
- (E) Answer not known

113. The stage of adoption where in group discussion is most effective

- (A) Awareness
- (B) ✓ Evaluation
- (C) Trial
- (D) Persuasion
- (E) Answer not known

114. In which of the following is the Experimentation of innovation on a limited basis?
- (A) Relative advantage (B) Compatibility
(C) Complexity (D) ☒ Trialability
(E) Answer not known
115. It is a sample which represents the whole
- (A) Diorama (B) Model
(C) ☒ Specimen (D) None of the above
(E) Answer not known
116. It is a single printed sheet of paper of small size, containing preliminary information relating to a topic
- (A) Folder (B) News letter
(C) ☒ Leaflet (D) Booklet
(E) Answer not known
117. Identify the false statement related to revamped public distribution system
- (A) Launched in the year 1992 in selected blocks of drought prone, tribal and hilly areas
(B) Items are delivered by the Government directly to fair price shops
(C) ☒ No vigilance committee for a watch on the distribution system
(D) Initially operated in 1775 blocks
(E) Answer not known

118. Which five year plan that provided large out lay for development of large irrigation projects and soil conservation programmes

- (A) Second (1956-61)
- (B) ☒ Third (1961-66)
- (C) Fifth (1974-79)
- (D) Seventh (1985-90)
- (E) Answer not known

119. PDS stands for

- (A) Private Distribution System
- (B) Public Direct Sale
- (C) Panchayat Distribution System
- (D) ☒ Public Distribution System
- (E) Answer not known

120. World Trade Organization (WTO) was established in the year

- (A) 1991
- (B) 2001
- (C) ☒ 1995
- (D) 1998
- (E) Answer not known

121. What is the role of FCI with regard is buffer stock operations?

- (i) To purchase food grains from surplus – producing regions
 - (ii) To release the buffer stock to the PDS to ensure food security
 - (iii) RBI provides buffer stock financing facility
- (A) (i) only
 - (B) ☒ (i) and (ii) only
 - (C) (ii) and (iii) only
 - (D) (i) and (iii) only
 - (E) Answer not known

122. UPOV refers to

- (A) Union for Protection of Plants
- ☒ (B) The International Union for the Protection of New Varieties of Plants
- (C) The National Union for New Varieties
- (D) The International Union for New Varieties
- (E) Answer not known

123. Match the following boards and head quarters correctly :

- | | |
|--|------------|
| (a) Spices Board | 1. Pune |
| (b) Coir Board | 2. Cochin |
| (c) National Meat and Poultry Processing Board | 3. Allepey |
| (d) Indian Grape Processing Board | 4. Delhi |

- | | (a) | (b) | (c) | (d) |
|---|------------------|-----|-----|-----|
| (A) | (2) | (1) | (4) | (3) |
| ☒ (B) | (2) | (3) | (4) | (1) |
| (C) | (3) | (2) | (1) | (4) |
| (D) | (3) | (1) | (2) | (4) |
| (E) | Answer not known | | | |

124. Which of the following is incorrectly paired?

- (1) FPO – Farmer Producer Organization
- (2) SFAC – Small Farmer's Agri-Business consortium
- (3) CBBO – Cluster Based Business Organizations
- (4) NABARD – National Bank for Agri-Development
- (A) (1) and (3) are correct
- (B) (1) and (2) are correct
- (C) (2) and (3) are correct
- ☒ (D) (3) and (4) are correct
- (E) Answer not known

125. An example for Green box subsidies in Agreement on Agriculture (AoA)

- (A) MSP
- ☒ (B) Research funding
- (C) Tariffication
- (D) disease control
- (E) Answer not known

126. The first state warehouse was setup in

- (A) Tamil Nadu
- ☒ (B) Uttar Pradesh
- (C) Karnataka
- ☒ (D) Bihar
- (E) Answer not known

127. The warehousing Development and Regulation Act was enacted in the year

- ☒ (A) 2007
- (B) 2002
- (C) 2005
- (D) 2010
- (E) Answer not known

128. Which of the following statements are true about grading

- (i) Decentralized grading system for fruits, do not require elaborate testing arrangements for quality assessment
- (ii) Grading for internal trade is voluntary
- (iii) For inspection of goods, samples of the product are drawn from the market middleman only

- (A) (i) only
(B) (i) and (iii) only
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known

129. At every stage of the marketing channel, one or other form of value is added to the product and hence it is called as

- (A) Supply chain
(B) Value chain
(C) Marketing channel
(D) Processing
(E) Answer not known

130. Which of the following statements are true about NAFED.

- (i) To promote interstate and international trade in agricultural commodities
- (ii) To act as an agent of the government for the purchase and distribution of agricultural products
- (iii) To resolve disputes in trade among the countries

- (A) (i) only
(B) (i) and (ii) only
(C) (i) and (iii) only
(D) (ii) and (iii) only
(E) Answer not known

131. Match different markets correctly with the corresponding stages :

- | | |
|------------------|-------------------------|
| (a) First stage | 1. Dealing with samples |
| (b) Second stage | 2. Dealing with grades |
| (c) Third stage | 3. Specialized markets |
| (d) Fourth stage | 4. General markets |

- | | (a) | (b) | (c) | (d) |
|-----|------------------|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 2 | 4 | 1 | 3 |
| (C) | 3 | 1 | 4 | 2 |
| (D) | 4 | 3 | 1 | 2 |
| (E) | Answer not known | | | |

132. Trading technique of transferring the future price risk is called as

- | | |
|----------------------------|------------------------------|
| (A) Hedging | (B) Speculation |
| (C) Legitimate speculation | (D) Illegitimate speculation |
| (E) Answer not known | |

133. The presence of a new firm in the market, producing either a homogenous product or products which are close but not perfect substitutes to each other is known as

- | | |
|----------------------|----------------|
| (A) Monopoly | (B) Oligopoly |
| (C) Duopoly | (D) Oligopsony |
| (E) Answer not known | |

134. A specialised market complex for turmeric is available in the district of

- | | |
|----------------------|----------------|
| (A) Erode | (B) Namakkal |
| (C) Madurai | (D) Coimbatore |
| (E) Answer not known | |

135. Match the markets and related concepts correctly :

- | | | |
|------------------------|----|-------------------|
| (a) Terminal markets | 1. | Machinery markets |
| (b) Secular markets | 2. | Share markets |
| (c) Capital markets | 3. | Sea ports |
| (d) Specialized market | 4. | Cotton markets |

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 4 | 1 | 2 | 3 |
| (B) | 3 | 1 | 2 | 4 |
| (C) | 2 | 3 | 1 | 4 |
| (D) | 2 | 1 | 4 | 3 |

(E) Answer not known

136. In ———— markets, the prices of commodities are governed mainly by the extent of demand for, rather than by the supply of, the commodity

- | | |
|-------------------------|---------------------|
| (A) Long period market | (B) Periodic market |
| (C) Short period market | (D) Secular market |
| (E) Answer not known | |

137. NABARD came into existence during

- | | |
|----------------------|-----------------------|
| (A) 12 July 1982 | (B) 12 June 1980 |
| (C) 21 July 1970 | (D) 20 September 1972 |
| (E) Answer not known | |

138. Match the following correctly :

- | | | |
|------------------------------|----|------|
| (a) Nationalization of banks | 1. | 1955 |
| (b) Imperial banks | 2. | 1935 |
| (c) RBI | 3. | 1921 |
| (d) SBI | 4. | 1969 |

- | | (a) | (b) | (c) | (d) |
|-----|------------------|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 4 | 3 | 2 | 1 |
| (C) | 2 | 4 | 3 | 1 |
| (D) | 3 | 2 | 4 | 1 |
| (E) | Answer not known | | | |

139. Assertion [A] : The purpose of introducing the RRBs is to have an institutional agency with clear understanding of rural problems and local familiarity

Reason [R] : RRBs are sponsored by scheduled commercial banks

- (A) [A] is true but [R] is false
(B) Both [A] and [R] are true, but [R] is not correct explanation
(C) [A] is false , [R] is true
(D) [A] and [R] are false
(E) Answer not known

140. Which among the following ratios reflects the extent of indebtedness in farm business?

- | | |
|----------------------|--------------------|
| (A) Acid test ratio | (B) Gross ratio |
| (C) Operating ratio | (D) Leverage ratio |
| (E) Answer not known | |

141. Under single window system, cooperative credit is under
- (A) One tier structure
 - (B) Two tier structure
 - (C) ☒ Three tier structure
 - (D) Four tier structure
 - (E) Answer not known
142. The farm business organisation in which farmers unite voluntarily, pool their lands, resources and cultivate lands jointly is known as
- (A) Peasant farming
 - (B) Capitalistic farming
 - (C) ☒ Cooperative farming
 - (D) Collective farming
 - (E) Answer not known
143. The financial risk in agriculture is due to
- (A) Changes in production costs
 - (B) Rise in temperature
 - (C) Price fluctuation
 - (D) ☒ Changes in fiscal policies of RBI
 - (E) Answer not known
144. Which of the following repayment plan is also called as Balloon repayment plan?
- (A) Amortized decreasing repayment plan
 - (B) Variable repayment plan
 - (C) ☒ Amortized even repayment plan
 - (D) Partial repayment plan
 - (E) Answer not known

145. Arrange the following procedural formalities in sanction of farm loans.

- (1) Scrutiny of records
 (2) Recovery of loan
 (3) Interview with the farmer
 (4) Sanction of loan
- (A) (4) (3) (2) (1)
 (B) (2) (3) (1) (4)
 (C) (3) (1) (4) (2)
 (D) (1) (2) (4) (3)
 (E) Answer not known

146. Among the discounted methods of investment analysis, which one is known as marginal efficiency of capital or yield on the investment.

- (A) BCR–Benefit Cost Ratio
(B) NPV–Net Present Value
(C) Profitability Index
(D) IRR–Internal Rate of Return
(E) Answer not known

147. Profit maximizing level is one when?

- (A) Marginal revenue is greater than Marginal cost
(B) Marginal revenue is equal to Marginal cost
(C) Average revenue is equal to Marginal revenue
(D) Marginal revenue is lesser than Marginal cost
(E) Answer not known

148. In a production function, when M_{pp} is zero TPP is
- (A) Increasing at increasing rate
 - (B) Increases at decreasing rate
 - (C) ☒ Maximum
 - (D) Decreases
 - (E) Answer not known
149. Which of the following is the derivative of total cost with respect to output?
- (A) Marginal Revenue
 - (B) Average cost
 - (C) ☒ Marginal cost
 - (D) Variable cost
 - (E) Answer not known
150. The additional income obtained from producing one more unit of output is called
- (A) Average Revenue
 - (B) ☒ Marginal Revenue
 - (C) Profit
 - (D) Opportunity cost
 - (E) Answer not known
151. A line which defines all possible combination of two products, which would yield same revenue is called as
- (A) ☒ Iso-revenue line
 - (B) Iso-cost line
 - (C) Iso-cline
 - (D) Iso-quant
 - (E) Answer not known

152. Under which system of farming ownership is individual and operatorship is collective?
- (A) Cooperative collective farming
 - (B) Cooperative tenant farming
 - (C) Cooperative better farming
 - (D) ✓ Cooperative joint farming
 - (E) Answer not known
153. The present value of a given income in a future year is also known as
- (A) comparative advantage
 - (B) compounding
 - (C) ✓ discounting
 - (D) time value of money
 - (E) Answer not known
154. The principle of factor substitution deals with important operational management decision of
- (A) How much to produce
 - (B) ✓ How to produce
 - (C) What to produce
 - (D) Where to produce
 - (E) Answer not known

155. Identify the following one that is not true

- (A) $MPP = \frac{P_x}{P_y}$
- (B) $MC = MR$
- (C) $\frac{\Delta X_1}{\Delta X_2} = \frac{P_{X_1}}{P_{X_2}}$
- (D) $\Delta Y \cdot P_y = \Delta X \cdot P_x$
- (E) Answer not known

156. The type of ownership is collective and that of operatorship is individual in the case of

- (A) Cooperative Tenant farming
- (B) Cooperative Joint farming
- (C) Cooperative Better farming
- (D) Cooperative Collective farming
- (E) Answer not known

157. Application of volatile chemicals into the soil to produce gas that will destroy weed is called as

- (A) Fumigation
- (B) Herbigation
- (C) Fertigation
- (D) Irrigation
- (E) Answer not known

158. Atrazine is

- (A) Pre-emergence herbicide
- (B) Insecticide
- (C) Fungicide
- (D) Nematicide
- (E) Answer not known

159. Sugar cane pyrilla is biologically controlled by the release of a parasite named

- (A) Isotima Javensis
- (B) ✓ Epiricania melanoleuca
- (C) Trichogramma chilonis
- (D) Bracon brevicornis
- (E) Answer not known

160. Treating the seffs of sugarcane with aerated steam therapy at 50°C for 1 hour reduces.

- (A) Red rot
- (B) ✓ Smut
- (C) Sett rot
- (D) Welt
- (E) Answer not known

161. Foliar spraying with azoxystrobin 16.7 % + tricyclazole 33.3 % sc @ 500 ml/ha. reduces

- (A) ✓ Blast, brown spot and sheath blight
- (B) Blast, brown spot and sheath rot
- (C) Blast, sheath blight and sheath rot
- (D) Brown spot, sheath blight and sheath rot
- (E) Answer not known

162. Match correctly the fungicides with their mode of action.

- | | |
|-------------------|-------------------------|
| (a) Metalaxyl | 1. Respiration |
| (b) Azoxystrobin | 2. Melonin biosynthesis |
| (c) Kasugamycin | 3. RNA synthesis |
| (d) Propiconazole | 4. Protein synthesis |

- | | | | | |
|-----|------------------|-----|-----|-----|
| | (a) | (b) | (c) | (d) |
| (A) | (4) | (3) | (2) | (1) |
| (B) | (3) | (1) | (4) | (2) |
| (C) | (3) | (1) | (2) | (4) |
| (D) | (2) | (3) | (4) | (1) |
| (E) | Answer not known | | | |

163. Find the odd one from the following

- | | |
|----------------------|-----------------|
| (A) Trifloxystrobin | (B) Fludioxonil |
| (C) Pymetrozine | (D) Prochloraz |
| (E) Answer not known | |

164. The scientific name of Rice weevil is

- | | |
|---------------------------------|---------------------------------|
| (A) <u>Sitophilus oryza L</u> | (B) <u>Rhizopertha dominica</u> |
| (C) <u>Sitotriga cerellella</u> | (D) <u>Tribolium castaneum</u> |
| (E) Answer not known | |

165. The insecticide value of tobacco is due to the alkaloids

- (1) Nicotine and Narnicotine
- (2) Nicotine
- (3) Nicotine and Anabasin
- (4) Anabasin
- (A) (1) only correct
- (B) ☒ (1) and (4) are correct
- (C) (2) and (4) are correct
- (D) (1) and (2) are correct
- (E) Answer not known

166. Marigold crop is used as antagonistic crop to reduce the hematode load by releasing the following root exudate in soils

- (A) α -Bithenyl compounds
- (B) β -Terthinyl compounds
- (C) ☒ α -Terthinyl compounds
- (D) Allyl isothiocyanates
- (E) Answer not known

167. Which of the following is incorrectly paired?

- (1) Pine apple wilt – Mealy bug
- (2) Papaya ring spot – Aphids
- (3) Cassava Mosaic – White fly
- (4) Tomato leaf curl – Thrips
- (A) (1), (3) and (4) are correct
- (B) (2), (3) and (4) are correct
- (C) (1), (2) and (4) are correct
- (D) ☒ (1), (2) and (3) are correct
- (E) Answer not known

168. Find out the odd pair among the following

- (A) Coconut lethal yellowing – sugarcane grassy shoot
- (B) Sesame phyllody – Brinjal little leaf
- (C) ✓ Citrus greening – Citrus tristeza
- (D) Rice bakanae – Rice dirty panicle
- (E) Answer not known

169. Golden nematode of potato is endemic in

- (A) Darjeeling
- (B) Kodaikanal
- (C) Shimla
- (D) ✓ Nilgiris
- (E) Answer not known

170. Which among the following abiotic disorder to due is air pollutant?

- (A) Green netting of citrus
- (B) Marginal drying of Banana
- (C) ✓ Black Tip of Mango
- (D) Hen and Chicken disease of grapevine
- (E) Answer not known

171. The specific a type of parasitism present in the Encarsia formosa attacking scale insects and whiteflies is

- (A) Superparasitism
- (B) Hyperparasitism
- (C) ✓ Adelphoparasitism
- (D) Simple parasitism
- (E) Answer not known

172. Which one of the following is an effective pollinator in nature?

- (A) Honeybees
- (B) Syrphids
- (C) ☒ Bumble bees
- (D) Black ants
- (E) Answer not known

173. The proportion of warfarin with bait material for rat management is

- (A) 1 : 50
- (B) 1 : 99
- (C) ☒ 1 : 95
- (D) 1 : 49
- (E) Answer not known

174. Which one of the following is found to have an Insect Growth Regulator (IGR) action?

- (A) ☒ Buprofezin
- (B) Imidacloprid
- (C) Fipronil
- (D) Chlorantraniliprole
- (E) Answer not known

175. Which of the insects and the causal symptom is incorrectly paired?

- (1) Paddy yellow stem borer – White ear
 - (2) Brinjal Epilachna beetle – Leaf galls
 - (3) Mango Gall midge – Skeletonization
 - (4) Pepper pollu beetle – Pollu berries Berries crumble when pressed
- (A) (1) and (2) are correct
 - (B) (2) and (3) are correct
 - (C) (3) and (4) are correct
 - (D) ☒ (1) and (4) are correct
 - (E) Answer not known

176. Match the categories of pests with their appropriate example.

- | | |
|----------------------|---|
| (a) Seasonal pests | 1. <u>Leptocorisa acuta</u> |
| (b) Occasional pests | 2. <u>Amsacta albistriga</u> |
| (c) Sporadic pest | 3. Rice case worm (<i>Nymphula depunctalis</i>) |
| (d) Endemic pests | 4. <u>Holotrichia consanguinea</u> |

- | | (a) | (b) | (c) | (d) |
|-----|------------------|-----|-----|-----|
| (A) | 3 | 2 | 4 | 1 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 2 | 3 | 1 | 4 |
| (D) | 3 | 2 | 1 | 4 |
| (E) | Answer not known | | | |

177. Root exudation of maize inhibits the growth of

- (A) *Cyperus rotundus*
 (B) *Amaranthus* sp.
 (C) *Chenopodium album*
 (D) *Eichhornia crassipes*
 (E) Answer not known

178. Which one of the following insect pest is called as Indigo caterpillar?

- | | |
|---------------------------------------|--------------------------------------|
| (A) <u><i>Earias fabia</i></u> | (B) <u><i>Spodoptera exeigua</i></u> |
| (C) <u><i>Utetheisa pulchella</i></u> | (D) <u><i>Sylepta derogata</i></u> |
| (E) Answer not known | |

179. The constant watch on the population dynamics of pests, its incidence and damage on each crop at fixed intervals is referred as
- (A) Population assessment (B) ☒ Pest surveillance
(C) Pest forecasting (D) Pest outbreak
(E) Answer not known
180. Bronzing symptoms appearing on leaves are caused by
- (A) Rice BPH (B) Rice GLH
(C) ☒ Cotton leaf hopper (D) Rice earhead bug
(E) Answer not known
181. Which of the following is incorrectly paired?
- (A) Roll mill – Difference in texture of seed coat
(B) ☒ Magnetic separator – Degree of its ability to roll
(C) Inclined draper – shape and surface texture of seed
(D) Spiral separator – shape or degree of its ability to roll
(E) Answer not known
182. Which of the following is considered is the basis seed - cleaning machine in seed processing units?
- (A) ☒ Air screen machine (B) Spiral separator
(C) Length separator (D) Gravity separator
(E) Answer not known

183. Which of the following seed invigouration method is ideal for seeds of soaking injury prone crops?

- (A) Soaking - Drying
- (B) Dipping - Drying
- (C) Spraying - Drying
- (D) Moisture equilibration
- (E) Answer not known

184. Which among the following is the most ideal container for seed storage in high humidity locations with inadequate seed storage facilities?

- (A) Gunny bags
- (B) Polythene bags of < 700 gauge thickness
- (C) Rigid plastic containers
- (D) Cloth bags
- (E) Answer not known

185. Which of the following is incorrectly paired?

- (1) Phenol test – Varietal identification
 - (2) Electrophoresis – Seed viability testing
 - (3) TZ test – Varietal identification
 - (4) Peroxidase test – Varietal identification
- (A) (1) and (2)
 - (B) (2) and (3)
 - (C) (3) and (4)
 - (D) (1) and (4)
 - (E) Answer not known

186. Which of the following statements are true about seed sampling devices?

- (1) The Nobbe Trier is suitable for sampling seed in bulk but not in bags
 - (2) The stick/sleeve trier is used for sampling seed in both bulk and bags
 - (3) Sampling of seed lots from bins is done by bin sampler
 - (4) Hand sampling is the most satisfactory method for sampling free-flowing seeds
- (A) (1) only
 - (B) (1) and (2) only
 - (C) (2) and (3) only
 - (D) (1) and (4) only
 - (E) Answer not known

187. Which of the following is correctly paired?

- (1) Ferric chloride test – Mechanical damage
 - (2) Brick gravel test – Seed viability
 - (3) Excised embryo test – Seed vigour
 - (4) Tetrazolium test – Quick viability
- (A) (1) and (2) are correct
 - (B) (1) and (3) are correct
 - (C) (1) and (4) are correct
 - (D) (2) and (4) are correct
 - (E) Answer not known

188. The Garnet divider used for mixing and dividing of seed samples is also called as

- (A) Boerner divider
(B) ☒ Centrifugal divider
(C) Soil divider
(D) Conical divider
(E) Answer not known

189. Match the seed processing machine with their principle of operation

- | | |
|-----------------------|---|
| (a) Disc separator | 1. Shape or degree of its ability to roll |
| (b) Roll Mill | 2. Shape and size |
| (c) Gravity separator | 3. Difference in texture of seed coat |
| (d) Spiral separator | 4. Floatation principle |

- | | (a) | (b) | (c) | (d) |
|---|------------------|-----|-----|-----|
| (A) | 3 | 4 | 1 | 2 |
| (B) ☒ | 2 | 3 | 4 | 1 |
| (C) | 1 | 4 | 2 | 3 |
| (D) | 4 | 2 | 3 | 1 |
| (E) | Answer not known | | | |

190. Assertion [A] : In hybrid seed production, the seed producer can use proper Chemical Hybridising Agents (CHAs) in order to induce male sterility.

Reason [R] : The hybrid seed produced through the application of chemical hybridising agent (CHAs) shall be compulsorily subjected to grow out test as a prerequisite for grant of certificate.

- (A) [A] is true but [R] is false
(B) ☒ Both [A] and [R] are true and [R] is the correct explanation of [A]
(C) [A] is false, [R] is true
(D) Both [A] and [R] are true; but [R] is not correct explanation of [A] is correct
(E) Answer not known

191. Which among the following is not a field standard to be verified by the seed certification officer during field inspection?

- (A) Isolation
- (B) Land requirements
- (C) ✓ Seed germination
- (D) Off types
- (E) Answer not known

192. Choose the right matches among type :

- (1) CSCB – Central Seed Certification Bureau
- (2) SSCL – State Seed Certification Agency
- (3) CSTL – Central Seed Testing Lab
- (4) CHA – Chemical Hybridizing Agency
- (A) (1) and (2) are correct
- (B) (2) and (4) are correct
- (C) (1) and (3) are correct
- (D) ✓ (2) and (3) are correct
- (E) Answer not known

193. Unwanted plants growing from residual seeds of previous crops remaining in the field are referred as

- (A) Inseparable other crop plants
- (B) ✓ Volunteer plants
- (C) Weed plants
- (D) Designated plants
- (E) Answer not known

194. Given below are the two statements :

Statement I : The validity period of seed certification tag shall be 9 months from the date of test at the time of initial certification.

Statement II : The extension of validity period of certified seeds shall be for a period of 4 months.

Choose the most appropriate answer from the options given below :

- (A) Both Statement I and Statement II are true
- (B) ✓ Statement I is true and Statement II is false
- (C) Statement II is true and Statement I is false
- (D) Both Statement I and Statement II are false
- (E) Answer not known

195. Which of the following statements are true about seed lot size?

- (i) A seed lot would represent any quantity of agricultural seeds upto a maximum of 20,000 kg for seeds of the size of rice or wheat.
 - (ii) A seed lot would represent any quantity of agricultural seeds upto a maximum of 10,000 kg for seeds smaller than rice.
 - (iii) A seed lot would represent any quantity of agricultural seeds upto a maximum of 30,000 kg for maize.
- (A) (i) only
 - (B) ✓ (i) and (ii)
 - (C) (ii) and (iii)
 - (D) (i) and (iii)
 - (E) Answer not known

196. A thick and massive structure made up of elongated cells containing abundant starch present in the mature seed and serves as food storage organ in monocot is referred as
- (A) Cotyledon (B) ☒ Endosperm
(C) Embryo (D) Perisperm
(E) Answer not known
197. Varieties being grown for seed production should periodically be tested for genetic purity by
- (A) Seed germination test (B) Seed vigour test
(C) Seed viability test (D) ☒ Grow out test
(E) Answer not known
198. Under which of the following condition five generation system of seed multiplication is followed :
- (i) Seed multiplication ratio is very less
(ii) Cross pollinated crop
(iii) Less demand
(iv) Self pollinated crop
- (A) (i) and (ii) only (B) (i) and (iii) only
(C) ☒ (i) and (iv) only (D) (ii) and (iv) only
(E) Answer not known
199. Breeder seed can be used for raising seed farm after expiry of validity period under seed certification programme upto
- (A) 9 months (B) 12 months
(C) 6 months (D) ☒ 4 months
(E) Answer not known

200. S.R.R. stands for

- (A) Seed Replacement Ratio
 - (B) ✓ Seed Replacement Rate
 - (C) Seed Renewal Ratio
 - (D) Seed Reproduction Rate
 - (E) Answer not known
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