1. AI and data analytics detects disease early, predicts yield and offer data-driven solutions through platforms both via mobile apps by _____ in India.

(A) Kisan Suvidha
(B) PM – Kisan Sampada Yojana
(C) PM – Kisan Samman Nidhi
(D) Whatsapp
(E) Answer not known

2. The short form of National Innovations in Climate Resilient Agriculture is _____

(A) NICRA
(B) NAICRA
(C) NCRA
(D) NACRA
(E) Answer not known

3. Dapog method of raising nursery has been introduced in India from _____

(A) Philippines
(B) North East Asia
(C) Thailand
(D) South Asia
(E) Answer not known

4. Choose the most appropriate nutrient that plays an important role during the first phase of fibre development in cotton

(A) Nitrogen
(B) Calcium
(C) Magnesium
(D) Potassium
(E) Answer not known

5. Match correctly the set rate and the number of sets.

(a)	3 budded	1.	80,000 sets/ha
(b)	2 budded	2.	1,20,000 sets/ha
(c)	1 budded	3.	35,000 – 40,000 sets/ha

	(a)	(b)	(c)
(A)	1	2	3
(B)	2	3	1
(C)	3	1	2
(D)	3	2	1

(E) Answer not known

6. Which of the following characteristics are not true with the companion cropping in sugarcane?

(i) Intercrop should be less than 4 months duration,

(ii) Intercrop should be competitive for resources

(iii) Intercrop should have similar root system

(iv) Intercrop should not host pests.

(A) (i) only

(B) (ii) and (iii) only

(C) (iii) only

(D) (i) and (iii) only

(E) Answer not known

7. "In Situ" moisture conservation for most efficient land management practice evolved by ICRISAT is

(A) Basin listing

(B) Tied ridging

(C) Broad bed furrow

(D) Ridges and furrow

(E) Answer not known

8. The processes of exchange of heat and moisture between earth and atmosphere over a long period of time related to large areas is called as

(A) Meteorology

(B) Climate

(C) Weather

(D) Agricultural meteorology

(E) Answer not known

9. As per Hargreaves (1971), Moisture Availability Index (MAI) value of 0.34 to 0.67 indicates _____ category of moisture deficit.

(A) Moderately deficient
(B) Adequate moisture
(C) Very deficient
(D) Excessive moisture
(E) Answer not known

10. Find the incorrectly matched pair(s)

(i) Auxin – Apical dominance
(ii) Cytokinin – Inhibits apical dominance
(iii) Ethylene – Ripening of fruits
(iv) Abscisic acid – Promotes seed germination and leaf production

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

11. Which one of the following is not true with surfactants?

(A) They enhance the absorption of aqueous solutions of polar herbicides
(B) Surfactants are herbicidal compounds
(C) They reduce the surface tension between plant surface and spray particles
(D) The surfactant molecule has both the hydrophilic and lipophilic portions.
(E) Answer not known

12. If a herbicide with 50% a.i. is to be applied at the rate of 1.25 kg a.i/ha. Find out the commercial product required to spray one ha?

(A) 2.25 kg
(B) 625 g
(C) 2.50 g
(D) 2.50 kgs
(E) Answer not known

13. The 'trap crop' for witch weed is

(A) Sorghum
(B) Maize
(C) Cotton
(D) Millets
(E) Answer not known

14. The insect biocontrol agent reported to control parthenium hysterophorus

(A) Ctenopharyngdon idella
(B) Dactylopius tomentosus
(C) Zygogramma bicolorata
(D) Neochetina bruchi
(E) Answer not known

15. _____ is a perennial grass.

(A) cynodon dactylon
(B) cyperus rotundus
(C) digitaria sanguinalis
(D) echinochloa crus-galli
(E) Answer not known

16. Match the herbicides with the chemical family.

(a)	Dinitro Anilines	1.	Chlorimuron
(b)	Sulfonyl ureas	2.	Simazine
(c)	Triazines	3.	Pendimethalin
(d)	Ureas	4.	Diuron

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

(E) Answer not known

17. Weed that exhibits features of both annual and biennial weed

(A) malva neglecta
(B) convolvulus arvensis
(C) cyperus rotundus
(D) cynodan dactylon
(E) Answer not known

18. Choose the write matches of weeds and bio-agents.

1. Alternanthera philoxeroides – Agaricles hygrophila
2. Opuntia spp. – Rhizoctonia solani
3. Aeschynomene sp. – Colletotrichum gleosporoides
4. Sorghum halepense – Phytophthora palmivora

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

19. An efficient drip irrigation system for sugarcane is _____

(A) Biwall system
(B) Typhoon system
(C) Microjet system
(D) Gun system
(E) Answer not known

20. Area irrigated per cumec of discharge running for base period of crop is termed as _____

(A) water allowance
(B) command area
(C) catchment area
(D) duty of water
(E) Answer not known

21. Which of the following is effective rainfall?

(A) rainfall minus losses due to evaporation

(B) rainfall minus losses due to infiltration

(C) available soil moisture stored in root zone after rainfall

(D) rainfall quantity occurred at critical growth stages

(E) Answer not known

22. About _____ litres of water is necessary for the production of a kilo of plant dry matter.

(A) 200 to 300

(B) 300 to 400

(C) 400 to 500

(D) 500 to 600

(E) Answer not known

23. A soil with moisture content of 15% at FC and 5% at PWP has to be irrigated when 50% of the ASM is depleted. The soil moisture (%) content at which irrigation has to be given is _____

(A) 20

(B) 15

(C) 10

(D) 5

(E) Answer not known

24. Water management in Agriculture includes the following practice(s)

1. Irrigation
2. Drainage
3. Fertilizer application

(A) 1 only
(B) 2 only
(C) 1 and 2 only
(D) 1 and 3 only
(E) Answer not known

25. The boron content in the irrigation water is considered severely toxic to the plants at the concentration of _____

(A) 0.5 ppm
(B) 0.75 ppm
(C) 1.5 ppm
(D) 2.5 ppm
(E) Answer not known

26. _____ Ec (ds/m) value of ground water quality stated as poor quality of irrigation water.

(A) < 1
(B) 1 – 2
(C) < 2
(D) > 4
(E) Answer not known

27. _____ crop classified as very high ranging (1000-2250 mm) crop based on crop water requirement.

(A) black gram
(B) green gram
(C) sorghum
(D) sugarcane
(E) Answer not known

28. The methods adopted to measure the ET (or) actual consumptive use is by _____

(A) Lysimeter
(B) USWB open pan evaporimeter
(C) Thermometer
(D) Thermograph
(E) Answer not known

29. The following factors are affecting the ET

(A) Temperature and wind
(B) Temperature and RH
(C) Wind and RH
(D) Temperature, wind and RH
(E) Answer not known

30. The Broad Bed Furrow system of Land Preparation is suitable for _____ in Dryland Agriculture.

(A) Mixed Cropping
(B) Multiple Cropping
(C) Inter Cropping
(D) Mono Cropping
(E) Answer not known

31. Soil and vegetation primarily store carbon through :

(A) Respiration
(B) Erosion
(C) Biomass accumulation
(D) Industrial processes
(E) Answer not known

32. Carbon trading also known as _____

(A) Carbon emissions trading
(B) To prevent the development of renewable energy sources
(C) To increase the cost of fossil fuels
(D) To create more jobs in the energy sector
(E) Answer not known

33. Match the following

Crop	Biofertilizer
(a) Rice	1. Frankia
(b) Sugarcane	2. Rhizobium
(c) Pulses	3. Azospirillum
(d) Casuarina	4. Azotobacter

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

(E) Answer not known

34. Match the Host Group to Rhizobium Species

(a) Pea	1. Rhizobium trifoli
(b) Soyabean	2. Rhizobium leguminosorum
(c) Alfalfa	3. Rhizobium japonicum
(d) Clover	4. Rhizobium meliloti

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

(E) Answer not known

35. The most common Azolla species in India is _____

(A) Azolla nilotica

(B) Azolla filiculoides

(C) Azolla pinnata

(D) Azolla mexicana

(E) Answer not known

36. Assertion [A] : Increasing soil acidity with nitrification is a natural process.

Reason [R] : Nitrification of 1 mole of NH_4^+ produces 2 moles of H^+

(A) Both [A] and [R] are false

(B) Both [A] and [R] are true; but [R] is correct explanation of [A]

(C) [A] is true but [R] is false

(D) [A] is false but [R] is true

(E) Answer not known

37. An example for non volatile sulphur compounds produced through microbial transformations under aerobic condition is _____

(A) dimethyl sulfide (CH_3SCH_3)

(B) sulphate (SO_4^{2-})

(C) carbon disulfide (CS_2)

(D) methyl mercaptan (CH_3SH)

(E) Answer not known

38. Which of the following is an international organic certification body?

(A) WHO
(B) FAO
(C) IFOAM
(D) WTO
(E) Answer not known

39. In which year was the International Federation of Organic Agriculture Movements (IFOAM) created?

(A) 1940
(B) 1962
(C) 1972
(D) 1991
(E) Answer not known

40. In the case of ion absorption by plants energy is required for _____

(A) active ion uptake
(B) root interception
(C) mass flow
(D) diffusion
(E) Answer not known

41. The soils with weak aggregates non-capillary poses and very poor soil structure are classified under _____ soils.

(A) slowly permeable
(B) surface crusting
(C) excessively permeable
(D) sub-soil hardpan
(E) Answer not known

42. The saline soils characteristics should be

(A) SAR (>13)
(B) SAR (<13)
(C) SAR (>15)
(D) SAR (>20)
(E) Answer not known

43. Identify the INCORRECT with respect to maintenance of soil structure

(A) application of huge quantity of nitrogenous fertilizers
(B) inclusion of suitable legumes in the crop rotation
(C) application of sufficient quantity of organic manure
(D) application of pond sediments to coarse textured soils
(E) Answer not known

44. The high amount of base saturation present in the soil order is _____

(A) oxisols
(B) ultisols
(C) alfisols
(D) mollisols
(E) Answer not known

45. Identify the factor which does not influence the buffering capacity of soils.

(A) CEC
(B) Types of clay and its content
(C) Soil organic matter
(D) Soil structure
(E) Answer not known

46. Browning disease in rice is caused due to

(A) the toxic effect of copper and zinc as a result of alkalinity
(B) the toxic effect of iron and manganese as a result of acidity
(C) the deficiency of copper and zinc as a result of alkalinity
(D) the deficiency of iron and manganese as a result of acidity
(E) Answer not known

47. Match the following :

(a) Sivagangai soil series	1. Low pH and low CEC
(b) Pechiparai soil series	2. Lateritic soils
(c) Kalathur soil series	3. Sandy soils and low CEC
(d) Nagapattinam soil series	4. Swell shrink soils and high CEC

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

(E) Answer not known

48. The deficiency symptom of _____ nutrient is always appear first on younger leaves.

(A) nitrogen
(B) phosphorus
(C) iron
(D) magnesium
(E) Answer not known

49. Assertion [A] : DRIS is a new approach to interpreting leaf (or) plant analysis.

Reason [R] : DRIS is a comprehensive system which identifies all the nutritional factors limiting crop production.

(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 but [R] is true

(D) Both [A] and [R] are true; but [R] is not the correct explanation of [A]

(E) Answer not known

50. Assertion [A] : K uptake by plants would be reduced as Ca^{2+} and Mg^{2+} concentration are increased in soil.

Reason [R] : Both Ca^{2+} and Mg^{2+} compete with K^{+} for entry into plants; thus, soils high in one or both of these cations require high levels of K^{+} for satisfactory nutrition of crops.

(A) Both [A] and [R] are true; but [R] is correct explanation to [A]

(B) Both [A] and [R] are false

(C) [A] is true but [R] is false

(D) [A] is false but [R] is true

(E) Answer not known

51. Identify the INCORRECT statement with respect to nutrient concentration in plants.

(A) severe nutrient deficiency exhibits a visual deficiency symptoms

(B) plants which are moderately deficient usually exhibit no symptoms

(C) luxury consumption of nutrients results in increased growth and yield

(D) nutrient toxicity decreases plant growth

(E) Answer not known

52. The molybdenum deficiency may occur in

(i) acid soils

(ii) highly podzolized soils

(iii) well developed clay soils

(A) (i) only

(B) (i) and (ii) only

(C) (i), (ii) and (iii)

(D) (ii) and (iii)

(E) Answer not known

53. Assertion [A] : Mycorrhizal roots can take up several times more 'p' per unit root length than non-mycorrhizal roots.

Reason [R] : Mycorrhizal root have large surface area resulting from the growth of hyphae.

(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 of [A]

(D) Both [A] and [R] are true; but [R] is not correct explanation of [A] is correct

(E) Answer not known

54. Assertion [A] : The INM helps in restoring and sustaining soil fertility and crop productivity.

Reason [R] : The above possible is due to

(1) Enhancement in physical environment of soil

(2) Decrease in biological activity

(A) Assertion is correct, both Reasons R1 and R2 are correct

(B) Assertion is correct, Reason R1 is correct but R2 is wrong

(C) Assertion is correct, both Reasons R1 and R2 are wrong

(D) Assertion is correct, R2 is correct, R1 is wrong

(E) Answer not known

55. _____ is an example for neonicotinoid group of insecticide.

(A) chlorantraniliprole

(B) thiamethoxam

(C) fipronil

(D) cyantraniliprole

(E) Answer not known

56. Which organization in India sets safety standards for pesticide residues in food?

(A) ICAR
(B) FSSAI
(C) CIBRC
(D) NABARD
(E) Answer not known

57. A pesticide restricted to used on tea is _____

(A) Dazomet
(B) Triazophos
(C) Monocrotophos
(D) Malathion
(E) Answer not known

58. Active principle present in sweet flag Acorus Calamus is

(A) limonin
(B) trans-asarone
(C) turmerone
(D) carone
(E) Answer not known

59. Cereal grains are stored at _____ percentage of moisture content to prevent pest incidence.

(A) 10 – 12%
(B) 14 – 16%
(C) 13 – 15%
(D) 7 – 9%
(E) Answer not known

60. A parasitoid is attacked by another parasitoid is called as _____ kind of parasitism.

(A) multiple parasitism
(B) hyper parasitism
(C) super parasitism
(D) simple parasitism
(E) Answer not known

61. Pyrethrum is obtained from dried flower of

(A) Derris eliptica
(B) Nicotiana spp.
(C) Chrysanthemum cinerariifolium
(D) Sabadila
(E) Answer not known

62. Utilization of disease causing organisms to reduce the population of insect pests below the damaging level is known as

(A) Microbial control
(B) Behavioural control
(C) Physical control
(D) Chemical control
(E) Answer not known

63. Which of the following is true regarding Bacillus thuringiensis?

(i) it is rod shaped gram positive bacteria
(ii) spore forming, crystalliferous bacteria
(iii) aerobic and facultative bacteria

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

64. The term antixenosis was proposed by

(A) Kogan & Ortman
(B) Panda & Khush
(C) Snelling & Beck
(D) Pathak & Dhaliwal
(E) Answer not known

65. Methyl bromide is primarily used as a

(A) aerosol
(B) baits
(C) fumigant
(D) micro encapsulations
(E) Answer not known

66. For effective insecticide resistance management, Insecticide Resistance Action Committee (IRAC) was formed in the year

(A) 1984
(B) 1983
(C) 1982
(D) 1981
(E) Answer not known

67. The type of resistance is effective against certain specific biotypes of the insect but not others is known as _____

(A) Ecological resistance
(B) Sympatric resistance
(C) Vertical resistance
(D) Horizontal resistance
(E) Answer not known

68. The first instance of insecticide resistance in India towards HCH and DDT was reported in 1963 on

(A) Singhara beetle
(B) Brown plant hopper
(C) Diamond back moth
(D) Tobacco caterpillar
(E) Answer not known

69. Pollination through honey bee is called as _____

(A) Entomophily
(B) Mellitophily
(C) Buzz pollination
(D) Sphingophily
(E) Answer not known

70. The rice leaf folder resistant variety is _____

(A) ADT – 43
(B) ADT – 45
(C) ADT – 40
(D) ADT – 44
(E) Answer not known

71. Those heritable characteristics possessed by the plant which influence the ultimate degree of damage done by the insect is the definition of hostplant resistance was given by

(A) Maxwell
(B) Kogan
(C) Painter
(D) Snelling
(E) Answer not known

72. Growing resistant varieties are comes under which method of pest control.

(A) legal control
(B) cultural control
(C) mechanical control
(D) physical control
(E) Answer not known

73. The term "ecology" was for the first time proposed by

(A) Ernst Haeckel
(B) Carl Linnaeus
(C) A.G. Tansley
(D) Carles S. Elton
(E) Answer not known

74. The term biological control coined by

(A) H.S. Smith
(B) Gier & Clark
(C) Gurr & Wratten
(D) A. Fitch
(E) Answer not known

75. Choose the nematode which do not act as vector for the plant diseases.

(A) Xiphinema index
(B) Trichodorus pachydermus
(C) Both (A) and (B)
(D) Aphelenchoides fragariae
(E) Answer not known

76. Insect control obtained by the operation of natural factors but not influenced by man is termed as

(A) applied control
(B) prophylactic control
(C) natural control
(D) biological control
(E) Answer not known

77. Which one of the following is a introduced pest of apple in the hill region of India?

(A) Phthorimaea operculella
(B) Plutella xylostella
(C) Quadraspidiotus perniciosus
(D) Scelodonta strigicollis
(E) Answer not known

78. The insects which occur mostly during a particular part of the year are called _____

(A) seasonal pests
(B) regular pests
(C) occasional pests
(D) sporadic pests
(E) Answer not known

79. The insects which occur on a crop almost throughout the year are called _____

(A) regular pests
(B) persistent pests
(C) seasonal pests
(D) sporadic pests
(E) Answer not known

80. The Foraging range of Indian Species of Xylocopa is _____.

(A) 12 km
(B) 20 km
(C) 6 km
(D) 5 km
(E) Answer not known

81. _____ has a vital and catalytic role for agri-economic development of the farmer.

(A) Farm finance
(B) Loan
(C) Money
(D) Interest
(E) Answer not known

82. _____ scheme aims at providing adequate and timely credit to the farmers to meet their short term credit needs.

(A) Self Help Groups (SHG)
(B) Kisan Credit Card (KCC)
(C) Lead Bank Scheme
(D) Crop Insurance Scheme
(E) Answer not known

83. _____ is an example of a processing co-operative in India.

(A) NAFED
(B) AMUL
(C) KRIBHCO
(D) IFFCO
(E) Answer not known

84. Farmer Service Societies (FSS) came into existence based on the recommendation of _____

(A) B. Sivaraman committee
(B) National Commission on Agriculture (NCA)
(C) M. Narasimham Committee
(D) Bawa team
(E) Answer not known

85. Agribusiness incubation is most useful during _____ stage.

(A) decline stage
(B) maturity stage
(C) innovative early stage
(D) exit stage
(E) Answer not known

86. The minimum number of members required to form a farmer producer company is _____

(A) 5
(B) 7
(C) 10
(D) 20
(E) Answer not known

87. Agribusiness incubation reduces start-up failure by providing _____

(A) free land
(B) legal immunity
(C) technical and business support
(D) guaranteed loans
(E) Answer not known

88. National Agricultural Co-Operative Marketing Federation of India Ltd. deals in

(1) Procurement
(2) Distribution
(3) Export and Import
(4) Regulate the markets

Which of the following combination is true

(A) (1), (2), (3) only
(B) (2), (3), (4) only
(C) (1), (2), (4) only
(D) (1), (3), (4) only
(E) Answer not known

89. _____ is prepared at the beginning of the agricultural year and checked every quarterly.

(A) income statement
(B) balance sheet
(C) cash flow statement
(D) revenue statement
(E) Answer not known

90. Adoption of a particular type of crops by the farmers in a particular district level is known as

(A) cropping pattern
(B) cropping scheme
(C) cropping system
(D) pattern of agriculture
(E) Answer not known

91. Choose the right matches among type :

1. Income statement – Networth statement
2. Balance sheet – Profit and loss statement
3. Debt-equity ratio – Leverage ratio
4. Cash flow statement – Cash flow budget

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

92. If the marginal rate of product substitution of two enterprises is less than zero, then the two products are

(A) competitive
(B) supplementary
(C) complementary
(D) joint products
(E) Answer not known

93. An example for working capital is

(A) buildings
(B) fertilizers and wages
(C) land
(D) tractor shed
(E) Answer not known

94. Which one of the methods of valuation of assets is best suitable for working assets like breeding livestock and machineries?

(A) income capitalisation method
(B) cost minus depreciation
(C) replacement cost minus depreciation
(D) cost or market price whichever is lower
(E) Answer not known

95. One of the below mentioned curve is not representing Iso-quant

(A) Iso-product curve
(B) Product indifference curve
(C) Iso-input curve
(D) Equal product curve
(E) Answer not known

96. The ownership is _____ in capitalistic farming

(A) individual
(B) group
(C) government
(D) partnership
(E) Answer not known

97. The important characteristic of good farm plan is _____

(A) rigid
(B) more compact
(C) flexible
(D) more risk
(E) Answer not known

98. This stage of farm planning envisages the usage of all the recommended practices simultaneously on all enterprises in the farm

(A) Stage – 1
(B) Stage – 2
(C) Stage – 3
(D) Stage – 4
(E) Answer not known

99. When the farms are managed by government officials, the system of farming is called as

(A) Capitalist farming
(B) Collective farming
(C) State farming
(D) Peasant farming
(E) Answer not known

100. _____ is the method to evaluate the assets at what it would cost to reproduce them at present prices, and under present method of production.

(A) Income capitalisation method
(B) Cost minus depreciation
(C) Replacement cost minus depreciation
(D) Net selling price
(E) Answer not known

101. Which of the following is correctly paired?

1. CCE – Crop Competition Experiment
2. CSS – Cascading Style Sheets
3. IVRS – Interactive Voice Response System
4. VOIP – Voice Over Internet Principle

(A) 1 and 4
(B) 2 and 3
(C) 2 and 1
(D) 3 and 4
(E) Answer not known

102. e-Choupal is an initiative of

(A) Reliance group
(B) TATA group
(C) ITC's Agri Business Division
(D) Pepsi & Co group
(E) Answer not known

103. The term 'SITE' stands for

(A) Satellite Indian Teachers Experiment
(B) Satellite International Television Experiment
(C) Satellite Instructional Teachers Education
(D) Satellite Instructional Television Experiment
(E) Answer not known

104. The phases of PTD process is _____

(A) 2

(B) 3

(C) 6

(D) 5

(E) Answer not known

105. Assertion : In PTD, the innovations must be input saving, cost reducing and risk reducing.

Reason : The situation of resource poor farmers is complex, in terms of biological, physical, socio-economic and resources, hence it is essential.

(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

106. This is a cost effective approach to extend innovate technologies especially to remote areas.

(A) farmer to scientist extension approach

(B) farmer to extension agent approach

(C) farmer to change agent approach

(D) farmer to farmer extension approach

(E) Answer not known

107. Choose the right sequence regarding video shooting.

1. storyboard
2. proposal
3. video shooting
4. shooting script

(A) 1, 3, 2, 4
(B) 2, 3, 1, 4
(C) 2, 4, 1, 3
(D) 4, 2, 1, 3
(E) Answer not known

108. First farm journal in the world was published name was

(A) American Agriculturist Rural New Yorker
(B) Census of Agriculture
(C) Wisconsin Agriculturalist
(D) "De agriculture De France"
(E) Answer not known

109. The purpose of lab to land programme was

(A) vocational training to rural youth
(B) transferring technologies to farmers
(C) conducting research in farmers fields
(D) training to the extension functionaries
(E) Answer not known

110. _____ are given before a group to show how to carry out an entirely new practice or an old practice in a better way in a short period.

(A) Result demonstration
(B) Method demonstration
(C) On-farm trial
(D) Front line demonstration
(E) Answer not known

111. The perfect stage of Pyricularia from cultivated cereals and wild grasses was first reported in the year _____

(A) 1980
(B) 1981
(C) 1970
(D) 1971
(E) Answer not known

112. _____ disease produces fishy smell in wheat grains.

(A) Karnal bunt
(B) Loose smut
(C) Flag smut
(D) Ear cockle
(E) Answer not known

113. Temperature has been studied more thoroughly than any other factor and appears to have a great influence on the symptoms of mosaic diseases. Considering this match an appropriate temperature at which mosaic symptom do not develop from the following.

(a)	Tobacco mosaic	1.	16°C
(b)	Potato mosaic	2.	12 – 18°C
(c)	Bean mosaic	3.	36 – 37°C
(d)	Cucumber mosaic	4.	20 – 24°C

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

(E) Answer not known

114. The pathogen produce acervuli in chilli fruit rot disease is _____

(A) pythium aphanidermatum

(B) cercospora capsici

(C) colletotrichum capsici

(D) leveillula taurica

(E) Answer not known

115. Which type of bacterial secretion is transporting effector proteins across the bacterial membrane and into the plant cell?

(A) Type – II SS

(B) Type – III SS

(C) Type – VI SS

(D) Type – V SS

(E) Answer not known

116. _____ gene is coding for resistance to rice bacterial blight caused by Xanthomonas oryzae pv. oryzae

(A) DRR – 206

(B) Xa 21

(C) Cry – 1

(D) Yr – 36

(E) Answer not known

117. Quantitative resistance is generally governed by

(A) single major R gene

(B) effector specific recognition

(C) minor genes

(D) absence of pathogen recognition

(E) Answer not known

118. The genes showing leaf rust resistance in wheat crop is

(A) Lr 43 & Lr 73
(B) Lr 34 & Lr 37
(C) Lr 42 & Lr 72
(D) Lr 44 & Lr 74
(E) Answer not known

119. Syringomycin is produced by

(A) pseudomonas fluorescens
(B) pseudomonas syringae
(C) pseudomonas putida
(D) xanthomonas albilineans
(E) Answer not known

120. Match the following :

(a) Rotylenchulus similis	1. Arthrobotrys oligospora
(b) Neoplectana spp	2. Arthrobotrys musiformis
(c) Meloidogyne incognita	3. Glomus mosseae
(d) Rotylenchulus reniformis	4. Arthrobotrys dactyloides

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

(E) Answer not known

121. The number of amino acids in the protein subunit of TMV is

(A) 58
(B) 100
(C) 150
(D) 158
(E) Answer not known

122. Host specificity of a plant pathogen is determined by

(A) hrp genes
(B) Avr genes
(C) Pat genes
(D) Vir genes
(E) Answer not known

123. The biocontrol product Ampelomyces quisqualis 2.0% WP is effective against _____ disease in Okra (Bhendi)

(A) Leaf spot disease
(B) Downy mildew disease
(C) Yellow vein mosaic virus disease
(D) Powdery mildew disease
(E) Answer not known

124. Choose the correct quality standards for antagonistic fungi of Trichoderma spp formulations as per Insecticide Act 1968.

(i) Colony Forming Unit (CFU) count on selective medium should be minimum of 7×10^8 per ml (or) gm.

(ii) Stability of CFU counts at 30°C and 65% RH

(iii) Chemical/botanical pesticide contaminants may be present

(A) (i) only

(B) (i) and (iii) only

(C) (i) and (ii) only

(D) (ii) and (iii) only

(E) Answer not known

125. Hypersensitive response conserved (Hrc) genes encode protein components for

(A) Type – I secretion system

(B) Type – II secretion system

(C) Type – III secretion system

(D) Type – IV secretion system

(E) Answer not known

126. Xanthomonas axonopodis pv. phaseoli can survive is bean seed for _____

(A) 1 year

(B) 2 – 5 years

(C) 15 – 20 years

(D) 13 – 15 years

(E) Answer not known

127. Which of the following is incorrectly paired?

(A) BLITECAST – Late blight of potato

(B) FAST – Fusarium wilt of tomato

(C) PLAM – Peanut leaf spot

(D) TOMCAST – Tomato early blight

(E) Answer not known

128. The ideology behind the crop rotation in plant disease management is _____

1. Saprophytic life of soil borne pathogens destroyed
2. To make best use of nutrients in different depth of soil
3. Biological control of soil borne plant pathogens
4. Field sanitation with fungicides

(A) 1 and 4 is right

(B) 2 and 4 is right

(C) 1, 3 and 4 is right

(D) 1, 2 and 3 is right

(E) Answer not known

129. Match the following :

(a)	Hypotrophy	1.	Increase in number of cell
(b)	Hypoplasia	2.	Decrease in size of cell
(c)	Hypertrophy	3.	Decrease in number of cell
(d)	Hyperplasia	4.	Increase in size of cell

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

(E) Answer not known

130. The most common mycoparasitic fungus is

(A) Trichoderma harzianum
(B) Coniothyrium minitans
(C) Laetisaria arvalis
(D) Talaromyces flavus
(E) Answer not known

131. _____ disease on strawberries have been suppressed by UV light exposure.

(A) Verticillium root rot
(B) Powdery mildew
(C) Phytophthora root rot
(D) Grey mold
(E) Answer not known

132. Excessive heat and high humidity in green houses generally favor _____

(A) Root knot nematodes
(B) Powdery mildew and downy mildew diseases
(C) Seed born virus disease
(D) Cercospora leaf spot
(E) Answer not known

133. _____ factor intensified by warming, creates ideal conditions for diseases like powdery mildew.

(A) Dry weather
(B) Low CO_2 level
(C) High O_2 level
(D) High humidity with warm days (15 – 30°C)
(E) Answer not known

134. Elevated CO_2 concentration generally results in _____

(A) reduced leaf area
(B) eradication of fungal pathogen
(C) eradication of viral pathogen
(D) increased canopy density and microclimate favorable for disease
(E) Answer not known

135. Epigenetic variation is important in

(A) Mutation breeding
(B) Transgenic breeding
(C) Polyploid breeding
✓(D) Somaclonal variation
(E) Answer not known

136. Mutation frequency is influenced most by

(A) temperature
(B) photoperiod
(C) plant fertility
✓(D) mutagen dose
(E) Answer not known

137. Pure line selection is effective in

(A) Cross-pollinated crops
(B) Vegetatively propagated crops
✓(C) Self-pollinated crops
(D) Apomictic crops
(E) Answer not known

138. Low erucic acid is a breeding objective in :

(A) soyabean
✓(B) mustard
(C) groundnut
(D) sesame
(E) Answer not known

139. Fibre fineness is a key objective in

(A) jute

(B) cotton

(C) flax

(D) all of the above

(E) Answer not known

140. Among the oil seed crop most targeted for resistance to alternaria blight is _____

(A) groundnut

(B) rape seed

(C) soyabean

(D) sesame

(E) Answer not known

141. Pure DNA (ds.) has the following value when its absorbance ratio of A_{260} / A_{280} is calculated

(A) 0.5

(B) 0.75

(C) 1.00

(D) 1.80

(E) Answer not known

142. Why are RADD markers known for having low reproducibility?

(A) they use specific primers

(B) they are co-dominant

(C) low annealing temperatures and random primers are used

(D) high stringency washings of blots

(E) Answer not known

143. Agrobacterium mediated transformation is more efficiently used in _____

(A) algae

(B) fungi

(C) monocotyledons

(D) dicotyledons

(E) Answer not known

144. The ultimate goal of Marker-Assisted plant breeding is to :

(A) Substitute phenotypic evaluation with automated genomic algorithms

(B) Enhance the selection efficiency and genetic gain per unit of time

(C) Circumvent the requirement of multi-location field trials

(D) Facilitate the exclusive development of transgenic crop varieties

(E) Answer not known

145. Why use a permutation test for LOD thresholds in QTL mapping?

(A) to lower the detection threshold

(B) to estimate physical distances

(C) to find dataset-specific significance thresholds

(D) to normalize phenotypic data

(E) Answer not known

146. In a "Backcross" population used for mapping, the expected segregation ratio for a single marker in "BC1" is :

(A) 3 : 1

(B) 1 : 2 : 1

(C) 1 : 1

(D) 9 : 3 : 3 : 1

(E) Answer not known

147. In plant breeding ,a "haplotype" is referred to :

(A) a physical grouping of linked alleles inherited as a unit

(B) a single-set chromosomal complement within gametic cells

(C) a distinct phenotypic variant within a heterozygous population

(D) a localized segment of DNA exhibiting random assortment

(E) Answer not known

148. The classical example of transgenic crop for insect resistance is _____

(A) Golden rice
(B) Flavr Savr tomato
✓(C) Bt cotton
(D) Soyabean
(E) Answer not known

149. The Glyphosate herbicide resistance in transgenic maize work on the mechanism of _____

(A) Inhibition of photosystem II
(B) Inhibition of Glutamine biosynthesis
✓(C) Over expression of EPSPS gene
(D) Inhibition of branched chain amino acids
(E) Answer not known

150. Auto tetraploidy is most successful in which type of plant species?

(i) cross pollinated species
(ii) crops developed for vegetative parts
(iii) specimens with lower chromosome number

✓(A) (i), (ii) & (iii)
(B) (i), (iii)
(C) (i), (ii)
(D) (ii), (iii)
(E) Answer not known

151. The cells containing the nucleus of one species but the cytoplasm from both the parental species is called _____

(A) Hybrid
(B) Homokaryons
(C) Cybrid
(D) Heterokaryons
(E) Answer not known

152. The oldest breeding method which is most suitable for cross pollinated crop is _____

(A) mass selection
(B) clonal propagation
(C) mutation breeding
(D) pure line selection
(E) Answer not known

153. The fusion of one of the two sperm cells with the secondary nucleus is called

(A) Apomixis
(B) Fertilization
(C) Triple fusion
(D) Pesudogamy
(E) Answer not known

154. Cross pollination is promoted by

1. Dicliny
2. Dichogamy
3. Self-incompatibility
4. Male sterility

(A) 1 only
(B) 2 only
(C) 3 only
(D) 1, 2, 3 & 4
(E) Answer not known

155. Field gene banks are most appropriate for conserving

(A) recalcitrant seed species
(B) orthodox seed species
(C) annual cereals
(D) pulses
(E) Answer not known

156. The major genetic risk in cryopreservation is

(A) polyploidy induction
(B) chromosome loss
(C) genetic drift
(D) somaclonal variation
(E) Answer not known

157. Base collections in gene banks are intended for

(A) evaluation
(B) distribution
(C) long term storage
(D) hybridization
(E) Answer not known

158. In situ conservation involves

(A) cryopreservation
(B) seed banks
(C) biosphere reserves
(D) cold storage
(E) Answer not known

159. Match the following type of genetic material with that of conservation method :

(a) Wild relative of crops	1. Short term storage
(b) Variability in crop plants	2. Gene sanctuary
(c) Recalcitrant seeded crops	3. Cryopreservation
(d) Cells and organs	4. Seed gene banks

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

(E) Answer not known

160. Global/World Sugarcane germplasm collection is preserved at

(A) Bambey, Senegal
(B) Cambridge, USA
(C) Canal point, Florida
(D) Wisconsin, USA
(E) Answer not known

161. The pods are harvested for seed purpose in bhendi, when the pods develops

(A) rattling sound
(B) hairline cracks along the ridges
(C) green colour
(D) yellowing of fruits/pods
(E) Answer not known

162. The most important factor influencing seed viability during storage is

(A) genetic purity
(B) seed size
(C) moisture content
(D) physical purity
(E) Answer not known

163. In maize sheller, what is the optimum cylinder shaft speed to get satisfactory maize shelling

(A) 450 – 500

(B) 500 – 550

(C) 550 – 600

(D) 600 – 650

(E) Answer not known

164. Depending upon length of style how many types of flowers are reported in Brinjal.

(A) 3

(B) 4

(C) 6

(D) 2

(E) Answer not known

165. To prevent entry of new diseases insects and weeds from other countries is called _____

(A) Dus certificate

(B) Certification

(C) Quarantine

(D) Phytosanitary certificate

(E) Answer not known

166. Match the following:

(a)	The Seeds Act	1.	1983
(b)	The Seed (control) order	2.	1955
(c)	The Seed Rules	3.	1966
(d)	Essential Commodities Act	4.	1968

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

(E) Answer not known

167. Identify the component which is not included in The "Doctage"

(A) Purity percentage

(B) Weed seed percentage

(C) Other crop seed percentage

(D) Inert matter percentage

(E) Answer not known

168. The fruits of cabbage is called

(A) berry

(B) achene

(C) siliqua

(D) caryopsis

(E) Answer not known

169. Brock gravel seed vigour test otherwise called as

(A) TZ test

(B) Coal test

(C) Hiltner test

(D) Conductivity test

(E) Answer not known

170. _____ is the sum of the properties which determine the potential level of the activity or functioning of the seeds during emergence of the seedling.

(A) Seed germination

(B) Seed viability

(C) Seed vigour

(D) Seed storability

(E) Answer not known

171. A legally sanctioned system for quality control of seed multiplication and production is

(A) seed legislation

(B) seed testing

(C) seed certification

(D) seed marketing

(E) Answer not known

172. AFLP techniques combines

(A) RFLP with the flexibility of PCR

(B) Electrophoresis and hybridization

(C) PCR and sequencing

(D) SNP genotyping

(E) Answer not known

173. Identify the chemical/reaction not related with varietal identification.

(A) Phenol colour reaction

(B) Iodine solution

(C) 2, 3, 5 triphenyl tetrazolium chloride

(D) Peroxides reaction

(E) Answer not known

174. As per the Seed Act 1966 under which section varieties are notified and power of seed inspectors dealt with

(A) section 8 and 9

(B) section 4 and 7

(C) section 5 and 14

(D) section 11 and 13

(E) Answer not known

175. In India, there is an urgent need to increase the SRR (Seed Replacement Rate) in all the states. Because there is direct _____ between SRR and productivity.

(A) positive correlation
(B) negative correlation
(C) no correlation
(D) linear correlation
(E) Answer not known

176. In onion, the type of inflorescence is

(A) Panicle
(B) Raceme
(C) Spike
(D) Umbel
(E) Answer not known

177. The pollen grain contains

(A) One vegetative nucleus and one generative nucleus
(B) One vegetative nucleus and two generative nuclei
(C) Two vegetative nucleus and one generative nucleus
(D) Two vegetative nucleus and two generative nuclei
(E) Answer not known

178. Seed coat dormancy in combination with deep dormancy is called as

(A) Embryo dormancy
(B) Secondary dormancy
(C) Double dormancy
(D) Chemical dormancy
(E) Answer not known

179. Match the following terms with its meaning :

(a) Seed disinfection	1. Protection of seeds and seedlings from soil organism
(b) Seed disinfestation	2. Break in the seed coat
(c) Seed protection	3. Eradication of fungal spores in seed coat or deep seated tissue
(d) Seed injury	4. Destruction of surface borne organisms

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

(E) Answer not known

180. Blending is permitted in case of _____

(A) same varieties
(B) different varieties of same species
(C) composites
(D) all
(E) Answer not known

181. _____ refers to the size of the smallest object that can be detected in an image in remote sensing.

(A) Spatial resolution
(B) Spectral resolution
(C) Radiometric resolution
(D) Spectral coverage
(E) Answer not known

182. _____ nutrient plays important role in maintenance of membrane integrity.

(A) Calcium
(B) Magnesium
(C) Manganese
(D) Molybdenum
(E) Answer not known

183. Common name for Ailanthus excelsa

(A) Malabar tree
(B) Tree of heaven
(C) Beef wood
(D) Pupil tree
(E) Answer not known

184. When the seed is sown into moist soil, it absorbs water _____ its weight.

(A) two times
(B) three times
(C) four times
(D) one and half times
(E) Answer not known

185. The rate of Zn application varies from _____ depending upon the soil and crops.

(A) 2.5 to 25 kg Zn/ha

(B) 2.5 to 50 kg Zn/ha

(C) 2.5 to 30 kg Zn/ha

(D) 2.5 to 35 kg Zn/ha

(E) Answer not known

186. Fertilizer which contain two or more plant nutrients, of which two major nutrients are in chemical combination.

(A) Straight fertilizer

(B) Complex fertilizer

(C) Mixed fertilizer

(D) Mono fertilizer

(E) Answer not known

187. The Disc Plough the diameter of the steel discs with sharp cutting edge is in the range of

(A) 40 - 80 cm

(B) 50 - 90 cm

(C) 60 - 100 cm

(D) 70 - 110 cm

(E) Answer not known

188. Which of the following statement are true for farm forestry?

(i) An integration of farming with forestry on the farm to benefit agriculture

(ii) A practice of small woods on the farm in addition to normal cultivation for indirect benefits.

(iii) Programme to promote commercial tree growing by farmers on their own land.

(A) (i) only

(B) (i) and (ii) only

(C) (i) and (iii) only

(D) (i), (ii) and (iii)

(E) Answer not known

189. Most important agroforestry practice from "Kangeyan Tract of Tamilnadu" is

(A) Acacia leucophloea + panicum antidotale

(B) Acacia catechu + guinea grass

(C) Acacia leucophloea + cenchrus setigerus

(D) Acacia catechu + dicanthium annulatum

(E) Answer not known

190. Consider the following statements about characteristic of tree species for agroforestry and choose the incorrect :

(i) ability to fix atmospheric nitrogen

(ii) supply nutritive and palatable fodder

(iii) self pruning or capacity to withstand heavy pruning

(iv) heavy branching with low light penetration to ground

(A) (ii) only

(B) (i), (ii) and (iii)

(C) (i) only

(D) (iv) only

(E) Answer not known

191. Assertion [A] : Ravines and Gullies are caused by deforestation for agriculture purpose.

Reason [R] : Unscientific agricultural methods of soil working.

(A) [A] is true, [R] is false

(B) [A] is true, [R] is true but [R] is not the correct explanation of [A]

(C) Both [A] and [R] are true; [R] is the correct explanation of [A]

(D) [A] is false, [R] is true

(E) Answer not known

192. Match the following antitranspirants with chemicals :

(a)	Stomatal closing type	1.	Mobileaf
(b)	Film-forming type	2.	Kaolin
(c)	Reflectant type	3.	Cycocel
(d)	Growth retardants	4.	Atrazine

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

(E) Answer not known

193. Which of the following statements are true with sequential cropping?

(i) the succeeding crop is planted after the preceding crop has been harvested

(ii) a second crop is planted before the harvest of the first crop

(iii) crop intensification is only in time dimension

(A) (i) only

(B) (i) and (ii) only

(C) (ii) and (iii) only

(D) (i) and (iii) only

(E) Answer not known

194. Which among below is not the component of watershed management?

(i) Soil and water conservation

(ii) Shifting cultivation

(iii) Waste reuse

(iv) Rural energy management

(A) (i) only

(B) (ii) and (iv) only

(C) (iii) and (iv) only

(D) (ii) only

(E) Answer not known

195. Match correctly the excavated things with their corresponding excavation sites :

(a) Shrinkage limit	1. Thin film of water acts as lubricant
(b) Plastic limit	2. Difference between shrinkage and plastic limits
(c) Friability index	3. Index of workability
(d) Plastic index	4. Soil passes from moist to dry appearance

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

(E) Answer not known

196. Rain water harvesting is possible even in areas with average annual rainfall by inducing run off methods like

(i) Land alteration

(ii) Chemical treatment

Choose the correct answer below.

(A) (i) true (ii) false

(B) (i) true (ii) true

(C) (i) false (ii) false

(D) (i) false (ii) true

(E) Answer not known

197. Puddling is mixing soil with water to render it _____

(A) Compaction

(B) Inversion

(C) Impervious

(D) Heterogenous

(E) Answer not known

198. Which of the following factors influencing preparatory tillage is true?

(i) Crops to be grown

(ii) Soil type

(iii) Building structures

(A) (i) only

(B) (i) and (ii) only

(C) (i) and (iii) only

(D) (ii) and (iii) only

(E) Answer not known

199. Late season droughts are due to

(A) Late onset of monsoon

(B) Early cessation of monsoon

(C) Intermittent dry spell

(D) Prolonged dry spell

(E) Answer not known

200. Practicing zero tillage will result in :

(A) Low storage of water in soil profile

(B) Required filth for a crop

(C) Inversion of organic residues into soil

(D) Good internal drainage

(E) Answer not known