

Sl. No.

00140441

AGAC

Register  
Number

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**2012  
AGRICULTURE**

Time Allowed : 3 Hours ]

[ Maximum Marks : 300

**Read the following instructions carefully before you begin to answer the questions.**

**IMPORTANT INSTRUCTIONS**

1. This Booklet has a cover ( this page ) which should not be opened till the invigilator gives signal to open it at the commencement of the examination. As soon as the signal is received you should tear the right side of the booklet cover carefully to open the booklet. Then proceed to answer the questions.
2. This Question Booklet contains **200** questions.
3. Answer **all** questions.
4. **All** questions carry equal marks.
5. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
6. An Answer Sheet will be supplied to you separately by the Invigilator to mark the answers. You must write your Name, Register No., Question Booklet Sl. No. and other particulars on side 1 of the Answer Sheet provided, failing which your Answer Sheet will not be evaluated.
7. You will also encode your Register Number, Subject Code, Question Booklet Sl. No. etc., with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, your Answer Sheet will not be evaluated.
8. Each question comprises *four* responses (A), (B), (C) and (D). You are to select **ONLY ONE** correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
9. In the Answer Sheet there are **four** brackets [ A ] [ B ] [ C ] and [ D ] against each question. To answer the questions you are to mark with Ball point pen **ONLY ONE** bracket of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. e.g. If for any item, (B) is the correct answer, you have to mark as follows :

[ A ]  [ C ] [ D ]

10. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
11. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.
12. Do not tick-mark or mark the answers in the Question Booklet.

Tear here ✂

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Tear here ✂

1. Gross cropped area in Tamil Nadu during 2010-11 was
- A) 65.40 Lakh ha                      B) 55.72 Lakh ha ✓  
C) 73.12 Lakh ha                      D) 45.75 Lakh ha.
2. Cotton cultivation is comparatively less in all districts *except*
- A) Thiruvallur                              B) Thiruvannamalai  
C) Salem ✓                              D) Kancheepuram.
3. Consider the following statements :
- Statement I : India is self sufficient in oilseed production.  
Statement II : Often India imports vegetable oils.
- Select your answer according to the codes given below :
- A) Both statements I and II are true  
B) Both statements I and II are false  
C) Statement I is true, but statement II is false  
D) Statement I is false, but statement II is true. ✓
4. The crop which ranks second in area and production in India is
- A) sugarcane ✓                              B) paddy  
C) groundnut                              D) cotton.
5. In India, fruit crop which occupies more than 50% area of the total fruit cultivation is
- A) Mango ✓                              B) Sapota  
C) Ber                                      D) Papaya.
6. Percentage of Indian population that depends on Agriculture is
- A) 35 %                                      B) 45 %  
C) 58 % ✓                                      D) 80 %.
7. The largest rice producing state in India is
- A) Andhra Pradesh                      B) Tamil Nadu  
C) Uttar Pradesh                      D) West Bengal. ✓

8. In India the percentage of rice grown as rainfed crop is

- A) 20 %  
B) 30 %  
C) 35 %  
D) 55 %

9. Choose the correct table of Five-Year plans :

- A) I 1951 - 1956  
II 1956 - 1961  
III 1961 - 1966  
IV 1969 - 1974  
V 1974 - 1979  
VI 1980 - 1985  
VII 1985 - 1990
- B) I 1951 - 1956  
II 1956 - 1961  
III 1961 - 1966  
IV 1966 - 1971  
V 1971 - 1976  
VI 1980 - 1985  
VII 1985 - 1990
- C) I 1951 - 1956  
II 1956 - 1961  
III 1961 - 1966  
IV 1966 - 1971  
V 1971 - 1976  
VI 1980 - 1985  
VII 1985 - 1990
- D) I 1951 - 1956  
II 1956 - 1961  
III 1961 - 1966  
IV 1969 - 1974  
V 1974 - 1979  
VI 1979 - 1984  
VII 1985 - 1990

10. The development of Hybrid rice is pursued since the year

- A) 1950  
B) 1969  
C) 1990  
D) 2000.

11. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
a)	National Commission on Farmers	1.	Wheat
b)	Green Revolution	2.	Karnal
c)	Directorate of Wheat Research	3.	C. Subramaniam
d)	Uttar Pradesh	4.	M. S. Swaminathan.

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	3	2	4	1
B)	3	4	1	2
C)	4	3	2	1
D)	4	1	2	3.

12. In which of the following districts of Tamil Nadu, is tapioca cultivation predominant ?

- I) Tirunelveli
- II) Salem
- III) Namakkal
- IV) Kanyakumari

- A) II and III
- B) I and IV
- C) I and II
- D) I and III.

13. The word 'Brix' is related to

- A) sunflower
- B) sugarcane
- C) rice
- D) pulses.

14. In India, bamboo cultivation is predominant in the

- A) East Coast plains zone
- B) Western zone
- C) North Eastern hill zone
- D) West Coast plains zone.

15. Kodo millet refers to
- A) Tenai                                      B) Samari  
C) Panivaragu                                D) Varagu.
16. The state that has highest area under cotton cultivation is
- A) Maharashtra                              B) Gujarat  
C) Karnataka                                D) Tamil Nadu.
17. The maximum oil yield per unit area can be obtained from
- A) coconut                                    B) groundnut  
 C) oil palm                                      D) sesame.
18. The percentage of agricultural production utilized by industries is
- A) 13    B) 23  
C) 33    D) 43.
19. Which crop is predominantly cultivated in all the districts of Tamil Nadu ?
- A) groundnut                                B) cotton  
 C) paddy                                        D) sugarcane.
20. The Special Economic Zone for cashew crop is at
- A) Enode                                        B) Namakkal  
C) Coimbatore                                D) Cuddalore.
21. In Tamil Nadu, turmeric cultivation is popular in
- A) Nilgiri Dist                                B) Thiruvannamalai Dist  
 C) Erode Dist                                D) Cuddalore Dist.
22. Green Revolution was successfully implemented in which Five-Year plan ?
- A) I    B) II  
C) III    D) IV.
23. Tenth Five-Year Plan of Govt. of India was executed during the period of
- A) 2001 - 2006                                B) 2002 - 2007  
 C) 2003 - 2008                              D) 2004 - 2009.

24. The percentage of the national budget allocation to agricultural and allied agro-based cottage industries during Eighth Five. Year plan was

- A) 13  
 B) 23  
 C) 33  
 D) 43.

25. Non-leguminous nitrogen fixing tree is

- A) acacia  
 B) casuarina  
 C) teak  
 D) subabul.

26. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
a)	Kisan Credit Card	1.	2001 - 2002
b)	Macro-Management Concept	2.	1999 - 2000
c)	Rashtriya Krishi Bima Yojana	3.	2000 - 2001
d)	Rural Godown Scheme	4.	1998 - 1999

Codes :

- |    | <b>a</b> | <b>b</b> | <b>c</b> | <b>d</b> |
|----|----------|----------|----------|----------|
| A) | 3        | 2        | 1        | 4        |
| B) | 4        | 3        | 2        | 1        |
| C) | 1        | 2        | 3        | 4        |
| D) | 3        | 4        | 2        | 1.       |

27. Orobanchi is a parasitic weed in

- A) Paddy  
 B) Guava  
 C) Mango  
 D) Sugarcane.

28. Which one of the following is correctly matched ?

- A) Central Arid Zone Research Institute : Hyderabad  
 B) National Research Centre for Banana : Thiruvananthapuram  
 C) Central Rice Research Institute : Cuttack  
 D) Central Tuber Crops Research Institute : Kasargod.

29. Contribution of Agriculture to the national GDP is

- A) 17 %                                      B) 45 %  
 C) 35 %                                      D) 25 %.

30. Which one of the following is not correctly matched ?

- A) Green Revolution – High yielding varieties  
 B) Yellow Revolution – Oilseed production  
 C) White Revolution – Egg production  
 D) Blue Revolution – Fish production.

31. When in a corn plant, old leaves are drying at the tips and young leaves are uniformly pale yellow, it shows the deficiency of

- A) Copper                                      B) Magnesium  
 C) Iron                                      D) Zinc.

32. Phosphorus is a necessary participant in

- A) Photosynthesis  
 B) Synthesis of starch, fats and proteins  
 C) Glycolysis  
 D) All these processes.

33. Drought that occurs due to abnormal failure of rainfall is known as

- A) contingent drought                      B) invisible drought  
 C) seasonal drought                      D) atmospheric drought.

34. In rainfed agriculture, rain water loss is minimized by

- I. contour bunding  
 II. mulching  
 III. dead furrows  
 IV. levelling.

Of these :

- A) I, II and IV                                       B) I, II and III  
 C) II, III and IV                                      D) I, III and IV.



35. Ammonia is transformed into nitrate by
- A) Algae  B) Bacteria   
 C) Actinomycetes  D) Fungi.
36. Which one of the following is correctly matched ?
- A) *Rhizobium* - Apple   
 B) *Azospirillum* - Sorghum   
 C) BGA - Coffee   
 D) VAM - Paddy.
37. Which one of the following increases 'P' uptake in soil ?
- A) Frankia  B) Nostoc   
 C) *Herbaspirillum*  D) Arbuscular mycorrhiza.
38. Green manure increases the availability of nutrients through its favourable effects on
- A) Chemical properties of soil  B) Physical properties of soil   
 C) Biological properties of soil  D) All of these.
39. "POUDRETTE" is a useful organic manure derived out of
- A) Farmyard manure  B) Night soil   
 C) Poultry manure  D) Sewage and sludge.
40. Vermicompost contains
- A) 2.5 % N, 7.01 %  $P_2O_5$ , 0.5 %  $K_2O$   B) 1.5 % N, 3 %  $P_2O_5$ , 0.2 %  $K_2O$    
 C) 1.6 % N, 5.04 %  $P_2O_5$ , 0.8 %  $K_2O$   D) 2 % N, 3 %  $P_2O_5$ , 0.3 %  $K_2O$ .
41. The organic matter content of soil varies with
- A) vegetation  B) climate   
 C) biological activities  D) all of these.
42. The "whiptail" of cauliflower is the deficiency symptom of
- A) Cl  B) Mo   
 C) Na  D) N.



43. In furrow method of irrigation
- A) only  $\frac{1}{4}$  th of the furrow is wetted      B) only  $\frac{4}{5}$  th of the furrow is wetted
- C) only  $\frac{1}{2}$  of the furrow is wetted       D) only  $\frac{3}{4}$  the of the furrow is wetted.
44. For raising direct seeded crop of rice, the amount of seed required to broadcast in one hectare is
- A) 80 – 100 kg      B) 60 – 70 kg
- C) 40 – 50 kg      D) 100 – 125 kg.
45. Rice crop should be harvested when the grains have
- A) 12 % moisture       B) 14 % moisture
- C) 16 % moisture      D) 18 % moisture.
46. What is the recommended spacing for short duration rice variety grown under high fertile soil and BPH endemic areas ?
- A) 15 × 10 cm       B) 20 × 10 cm
- C) 20 × 20 cm      D) 20 × 15 cm.
47. The top portion of sugarcane should be selected for seed purpose because bud tissues are rich in
- A) sucrose       B) glucose
- C) galactose      D) maltose.
48. The depth of sowing in bajra is
- A) 1 – 2 cm      B) 3 – 4 cm
- C) 4 – 5 cm      D) 5 – 6 cm.
49. The relative proportion of sand, silt and clay in the soil is known as
- A) soil structure       B) soil texture
- C) soil consistency      D) none of these.
50. In sodic soil, the soil structure is
- A) blocky       B) columnar
- C) single grained      D) prismatic.

51. Consider the following statements :

- I. Lime is used for correcting soil acidity.
- II. Gypsum is used for reclamation of alkali soils.

Of these :

- |                        |                         |
|------------------------|-------------------------|
| A) Only (I) is correct | B) Only (II) is correct |
| C) Both are correct    | D) None is correct.     |
52. Water held between field capacity and wilting point is
- |                        |                      |
|------------------------|----------------------|
| A) Available water     | B) Hygroscopic water |
| C) Gravitational water | D) None of these.    |
53. The term "hue" refers to
- |                              |                                |
|------------------------------|--------------------------------|
| A) Homogeneity of the soil   | B) Variability of soil colour  |
| C) Heterogeneity of the soil | D) Soil odour just after rain. |
54. Soils having a hard subsoil will affect the
- |             |                     |
|-------------|---------------------|
| A) drainage | B) cropping pattern |
| C) erosion  | D) all of these.    |
55. Fertilizer Control Order was implemented by Government of Tamil Nadu during 1985 mainly to
- A) reduce the fertilizer application
  - B) avoid wastage of fertilizers
  - C) assure standard quality parameters
  - D) control the distribution of fertilizers.
56. Which of the following fertilizers supply nitrogen to the crop ?
- I. Ammonium sulphate
  - II. Ammonium chloride
  - III. Diammonium phosphate
  - IV. Ammonium phosphate sulphate.

Of these :

- |                |                     |
|----------------|---------------------|
| A) I, II & IV  | B) I, III & IV      |
| C) I, II & III | D) I, II, III & IV. |

57. The blanket fertilizer recommendation for rainfed rice is

- A) 50 : 25 : 25 kg N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O / ha
- B) 100 : 50 : 50 kg N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O / ha
- C) 200 : 100 : 100 kg N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O / ha
- D) 80 : 40 : 40 kg N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O / ha

58. SRI means

- A) System of Rice Intensification
- B) Systematic Rice Improvement
- C) Scheme for Rice Improvement
- D) Scheme for Rice Intensification.

59. Which one of the following instruments is used for measuring solar radiation ?

- A) Thermometer
- B) Evaporimeter
- C) Lucimeter
- D) Assmann's psychrometer.

60. Which of the following states is are having 2 to 4 months of rain from September ?

- A) Tamil Nadu, Andhra Pradesh, Karnataka
- B) Kerala, Maharashtra
- C) Madhya Pradesh
- D) Gujarat.

61. In saline - alkali soil the electrical conductivity is

- A) 8 dsm<sup>-1</sup>
- B) 6 dsm<sup>-1</sup>
- C) 4 dsm<sup>-1</sup>
- D) 2 dsm<sup>-1</sup>.

62. A month is said to be humid, when

- A) the monthly potential evapotranspiration exceeds the monthly precipitation
- B) the monthly potential evapotranspiration is equal to monthly precipitation
- C) the monthly precipitation exceeds monthly potential evapotranspiration
- D) all of these.

63. Short range weather forecast is valid for  
 A) 3 days  
 B) 3 – 5 days  
 C) one day  
 D) seven days.
64. State the sequence of structure of atmosphere :  
 A) Troposphere, Stratosphere, Mesosphere and Thermosphere  
 B) Troposphere, Mesosphere, Stratosphere and Thermosphere  
 C) Troposphere, Thermosphere, Stratosphere and Mesosphere  
 D) Troposphere, Mesosphere, Thermosphere and Stratosphere.
65. The major cropping pattern followed in Indo-Gangetic Plain region is  
 A) Maize - groundnut  
 B) Rice - wheat  
 C) Rice - mustard  
 D) Rice - sorghum.
66. Type of soil in which exchangeable sodium percentage is less than 15 mmhos.cm and exchangeable pH is less than 8.5 is known as  
 A) Sodic soil  
 B) Saline Alkali soil  
 C) Saline soil  
 D) None of these.
67. Suffocation is  
 A) cold injury  
 B) heat injury  
 C) physical injury  
 D) none of these.
68. Reconnaissance is a kind of  
 A) Soil conservation  
 B) Soil sampling  
 C) Soil survey  
 D) Soil testing.
69. Any direct or indirect harmful effect that one plant has on another through the production of chemical substances that secrete into environment is known as  
 A) Ammonification  
 B) Nitrification  
 C) Allelopathy  
 D) Fermentation.
70. If the soil pH is below 4.5, the soil is designated as  
 A) Extremely Acidic  
 B) Neutral  
 C) Slightly Acidic  
 D) Medium Acidic.

71. The male sterile line in a cross to produce hybrid seed is known as

- A) A line
- B) C line
- C) B line
- D) R line.

72. The formula  $\frac{3n(n-1)(n-2)(n-3)}{24}$

(where  $n$  = number of inbred lines) indicates

- A) Double cross numbers
- B) Single cross numbers
- C) Both of these
- D) None of these.

73. Maize belongs to the group of

- A)  $C_4$  plants
- B)  $C_3$  plants
- C) Day neutral plants
- D) Self pollinated plants.

74. National Bureau of Plant Genetic Resources is located at

- A) Chennai
- B) Nagpur
- C) Ahmedabad
- D) New Delhi.

75. The process of removal of male part of a flower is called

- A) crossing
- B) pure line selection
- C) back cross
- D) emasculation.

76. The most effective method for the transfer of oligogenic character is

- A) Bulk breeding
- B) Back cross breeding
- C) Disruptive mating
- D) Pedigree method.

77. Which one of the following is an alkylating chemical mutagen ?

- A) Ethyl methane sulphonate
- B) Bromouracil
- C) Thiamine
- D) Adenine.

78. Which one of the following is suitable for asexually propagated crops ?

- A) Top cross
- B) Pedigree method
- C) Heterosis breeding
- D) Clonal selection.

79. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
a)	Single cross	1.	$(A \times B) \times (C \times D)$
b)	Three way cross	2.	$A \times B \rightarrow F_1 \times C$
c)	Double cross	3.	$A \times B \rightarrow F_1 \times A \rightarrow BC_1 \times A \rightarrow Bca$
d)	Back cross	4.	$A \times B$

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	4	3	2	1
B)	1	2	3	4
C)	3	4	1	2
<input checked="" type="checkbox"/> D)	4	2	1	3.

80. Nuclear (genic) male sterility system is followed for hybrid seed production in

- A) rice  B)  cotton  
C) pulses  D)  vegetables.

81. Heterosis is much exploited in which of the following crops ?

- A) Tomato  B)  Brinjal  
C) Pepper  D)  All of these.

82. Pure line variety is

- A) Homozygous - Heterogeneous  B)  Homozygous - Homogeneous  
C) Heterogeneous - Heterogeneous  D)  Heterogeneous - Homozygous.

83. Bulk population breeding is suitable for

- A)  fruit crops  B)  vegetable crops  
 C)  small grain crops  D)  flower crops.

84. In back cross breeding, repeated crossing with recurrent parent is done to

- A) transfer the desirable gene from donor parent   
B) break desirable linkage   
C) retain the intensity of desirable gene   
 D)  completely recover the genotype of recurrent parent.

85. The headquarters of the Union for the Protection of New Plant Varieties (UPOV) is located at

- A) Bangkok
- B) Washington
- C) Moscow
- D) Geneva.

86. Which one of the following is a popular white seeded sesame variety in Tamil Nadu ?

- A) APK 1
- B) SUPR 1
- C) TPS 1
- D) VBN 1.

87. Which one of the following is the latest rice hybrid in Tamil Nadu ?

- A) ADT RH2
- B) TRY (R) 2
- C) CORH 3
- D) CORH 2.

88. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>	<b>List II</b>
(Crop)	(Hybrid variety)
a) Maize	1. Savithri
b) Jowar	2. CSH - 1
c) Cotton	3. TXD
d) Coconut	4. Ganga - 1

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	1	2	4	3
B)	4	2	3	1
C)	4	2	1	3
D)	1	2	3	4.

89. The first cotton hybrid developed in India was

- A) H<sub>4</sub>
- B) Varalaxmi
- C) Suguna
- D) None of these.



90. The irrigated Redgram Hybrid suitable for all tracts of Tamil Nadu is
- A) CO (RG) 7  
B) Vamban 2  
C) COPH 2  
D) BSR 1.
91. The correct expansion of ELISA is
- A) Enzyme liberated spectrometer absorption  
B) Enzyme linked instrumented absorbent  
C) Enzyme linked interior standard absorbent  
D) Enzyme linked immunosorbent assay.
92. The first molecular marker developed for application in plant breeding was
- A) RFLP  
B) RAPD  
C) STS  
D) STMS.
93. Who among the following is called as Father of Plant tissue culture ?
- A) Haberlandt  
B) Mendel  
C) Philip R. White  
D) Schleiden and Schwann.
94. Fruit crop propagated by tissue culture on a commercial scale is
- A) Guava  
B) Mango  
C) Banana  
D) Kiwi fruit.
95. Commonly used medium for plant tissue culture is
- A) Potato Dextrose Agar Medium  
B) Knudson Solution - C Medium  
C) Hoaglands Medium  
D) Murashige and Skoog Medium.
96. The genes in transgenic plants are regulated by
- A) chromochrome  
B) photochrome  
C) phytochrome  
D) transochrome.
97. In which one of the following crops, the first transgenic plant resistant against hornworm, *Manduca sexta* was produced ?
- A) Sugarcane  
B) Tomato  
C) Rice  
D) Tobacco.

98. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
(Flowers)		(Methods of Propagation)	
a)	Gladiolus	1.	Bulbs
b)	Jasmine	2.	Corms
c)	Marigold	3.	Layering
d)	Tuberose	4.	Seeds.

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	1	3	2	4
<input checked="" type="radio"/> B)	2	3	4	1
C)	3	2	4	1
D)	3	4	1	2.

99. Separation of the field of a variety to the prescribed distance from that of another variety to avoid contamination is called

- A) Segregation                      B) Purification  
 C) Isolation                            D) Selection.

100. Which one of the following is the correct expansion for the acronym 'SVRC' ?

- A) State Variety Records Committee    B) State Variety Release Centre  
 C) State Variety Release Committee    D) State Variety Release Corporation.

101. Which one of the following methods of breaking dormancy in seed is related to low temperature treatment ?

- A) Scarification                       B) Stratification  
 C) Impaction                          D) None of these.

102. Tetrazolium test is used to assess

- A) Seed viability                      B) Seed vigour  
 C) Seed Index                          D) None of these.

103. The most important factor which determines the stability of seed is

- A) light                                  B) temperature  
 C) moisture                              D) nutrient.

104. Improved seed distributed to farmers for commercial cultivation is

- A) Nucleus seed                                 B) Breeder seed  
 C) Foundation seed                             D) Certified seed.

105. In seed testing, the grow out test is conducted to determine

- A) physical purity                                 B) seed viability  
 C) genetic purity                                 D) none of these.

106. Seed of rice is called

- A) caryopsis                                       B) berry  
 C) droop                                          D) silicua.

107. Breeder seed is the progeny of

- A) foundation seed                               B) registered seed  
 C) nucleus seed                                  D) certified seed.

108. Seed Replacement Ratio (SRR) for hybrids is

- A) 10 %                                          B) 20 %  
 C) 100 %                                         D) 50 %.

109. The colour of tag to be used for Breeder seeds is

- A) white                                          B) blue  
 C) golden yellow                                D) green.

110. The seed multiplication rate for sorghum is

- A) 1 : 125                                        B) 1 : 100  
 C) 1 : 75                                          D) 1 : 200.

111. Photosynthetically Active Radiation (PAR) is in the range of

- A) 400 – 700 nm                                 B) 300 – 600 nm  
 C) 500 – 800 nm                                 D) all of these.

112. Annual crop losses due to pests are valued in India as

- A) Rs. 4500 crores                               B) Rs. 450 crores  
 C) Rs. 4500 million                             D) none of these.

113. Basic components of pest surveillance include

- A) Determination of the level of incidence of the pest species
- B) Determination of what loss the incidence will cause
- C) Determination of the economic benefits
- D) all of these.

114. Most important environmental factor used in pest forecasting is

- A) Relative Humidity
- B) Sunshine
- C) Rain
- D) Temperature.

115. The principal factor(s) necessary to forecast critical infestation of pests is are

- A) Biotic
- B) Topographic
- C) Climatic
- D) All of these.

116. ETL for leaf folder in rice is

- A) 1 damaged leaf/ hill
- B) 2 damaged leaf/hill
- C) 5 damaged leaf/hill
- D) 10 damaged leaf/hill.

117. Match the **Pests** in **List I** correctly with the **Host** plants in **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
<b>(Pests)</b>		<b>(Host)</b>	
a)	White tip nematode	1.	Potato
b)	Burrowing nematode	2.	Tomoto
c)	Root knot nematode	3.	Paddy
d)	Cyst nematode	4.	Banana.

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	2	4	1	3
B)	3	2	4	1
<input checked="" type="checkbox"/> C)	3	4	2	1
D)	4	3	2	1.

118. Piercing of citrus fruit and subsequent premature falling is due to damage by

- A) citrus butterfly  
 B) citrus moth  
 C) fruit sucking moth  
 D) all of these.

119. Diamond (V) shaped cutting of fronds are typical example of damage caused by

- A) red palm weevil  
 B) rhinoceros beetle  
 C) black headed caterpillar  
 D) mites.

120. Crinkling or curling of leaves is caused by insects like

- A) Aphides and thrips  
 B) Beetles  
 C) Borers  
 D) Lepidopteran larvae.

121. Silver shoot symptom in paddy is caused by

- A) Stem borer  
 B) Leaf folder  
 C) Gallfly  
 D) Green leaf hopper.

122. Match environment factors in **List I** correctly with the diseases in **List II** and select your answer using the codes given below :

- | <b>List I</b>                          | <b>List II</b>                       |
|--|--------------------------------------|
| a) High temperature<br>(30° C - 35° C) | 1. Tomato leaf curl                  |
| b) Low temperature<br>( < 20° C)       | 2. Rice blast and loose smut         |
| c) High moisture                       | 3. Powdery mildew and bacterial wilt |
| d) Low light                           | 4. Downy mildew.                     |

Codes :

- |  | <b>a</b> | <b>b</b> | <b>c</b> | <b>d</b> |
|--|----------|----------|----------|----------|
| <input checked="" type="checkbox"/> A) | 3        | 2        | 4        | 1        |
| B)                                     | 3        | 2        | 1        | 4        |
| C)                                     | 3        | 4        | 1        | 2        |
| D)                                     | 3        | 1        | 2        | 4.       |

123. Match **List I** correctly with **List II** and select your answer using the codes given below :

<b>List I</b>		<b>List II</b>	
<b>(Crop)</b>		<b>(Diseases)</b>	
a)	Rice	1.	Pineapple disease
b)	Wheat	2.	Bud necrosis disease
c)	Sugarcane	3.	Tundu disease
d)	Groundnut	4.	Sesame leaf spot disease.

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
<b>A)</b>	4	3	1	2
B)	4	2	3	1
C)	4	1	2	3
D)	4	3	2	1.

124. The symptom(s) of Thanjavur wilt of coconut is (are)

- A) exudation of reddish brown liquid
- B) yellowing and drooping of leaves
- C) flaccidity of spindle leaf
- D) all of these.**

125. The disease caused by Mycoplasma like organisms (MLO) is

- A) Brinjal little leaf
- B) Rice yellow dwarf
- C) Sugarcane grassy shoot
- D) All of these.**

126. 'Late blight' of potato is caused by

- A) *Phytophthora infestans***
- B) *Pythium aphanidermatum*
- C) *Plasmopara viticola*
- D) *Physoderma zeaemaydis*.

127. Solar energy treatment of wheat seed is recommended for the control of

- A) Loose smut**
- B) Karnal bunt
- C) Hill bunt
- D) Black rust.

128. Citrus Canker (Lesions) is caused by pathogen
- A) *Xanthomonas campestris pv. citri*      B) *Albugo candida*  
C) *Erwinia amylovora*                      D) *Claviceps fusiformis*.
129. The rust fungi completing their life cycle on one host are called
- A) Polymorphic                                      B) Autoecious  
C) Heteroecious                                      D) None of these.
130. Which one of the following is internally seed-borne ?
- A) Black rust of wheat                              B) Peach leaf curl  
C) Loose smut of wheat                              D) Sheath blight of rice.
131. Infection of smut of maize occurs
- A) during vegetative stage                              B) during reproductive stage  
C) after flowering                                      D) before sowing.
132. Which one of the following fungicides is not systemic in nature ?
- A) Vitavax    B) Thiram  
C) Benlate    D) Topsin.
133. The fungicides which are absorbed into the system of the plant and move to the remote site of infection are known as
- A) systematic    B) systemic  
C) dessers    D) fungistatic.
134. The crop raised around chillies for the control of fruit borer is
- A) cotton    B) bhendi  
C) castor    D) cow pea.
135. In sugarcane trash mulching or earthing up is recommended to minimise the attack of
- A) leafhoppers    B) termites  
C) shoot borers    D) white grubs.



136. Bonfire is a typical management practice for control of  
 A) red hairy caterpillar                      B) slug caterpillar  
 C) weevil    D) aphids.
137. In coconut Iron hooks are used to hook out  
 A) Red palm weevil                               B) Rhinoceros beetles  
 C) Black headed caterpillar                      D) All of these.
138. A chemical compound which is volatile at ordinary temperature and sufficiently toxic is known as  
 A) Insecticide                                       B) Fungicide  
 C) Acaricide                                         D) Fumigant.
139. Which one of the following is an egg parasitoid used against sugarcane borers ?  
 A) Zygotogramma                                B) Trichoderma  
 C) Trichogramma                                D) Ganoderma.
140. The bioagent used to control yellow stem borer in Rice is  
 A) Granulovirus (GV)                             B) *Trichogramma japonicum*  
 C) *Telenomous remus*                            D) *Chrysoperla*.
141. Nuclear polyhedrosis virus (NPV) is the most effective for control of  
 A) *Chilo partellus*                                B) *Pectinophora gossypiella*  
 C) *Helicoverpa armigera*                        D) *Diacrisia obliqua*.
142. Which one of the following pesticides is available in granular form ?  
 A) Cypermethrin                                B) Sulphur  
 C) Furadon                                        D) All of these.
143. Which one of the following is correctly matched ?

**Plant Protection****appliances**

- 
- A) Rocker sprayer
- 
- 
- B) Foot sprayer
- 
- 
- C) Knapsack sprayer
- 
- 
- D) Mist blower

**Spray fluid requirement****(Per ha)**

- 
- 500 - 750 litres
- 
- 
- 300 - 400 litres
- 
- 
- 100 litres
- 
- 
- 250 litres.

144. Flat Fan Nozzle is commonly used for spraying

- A) Herbicides                      B) Insecticides  
C) Fungicides                      D) All of these.

145. Madras Agricultural Pests and Disease Act was enacted in which year ?

- A) 1919                      B) 1949  
C) 1969                      D) 1999.

146. *Sitotroga cerealela* is the scientific name of

- A) Grain moth                      B) Tuber moth  
C) Both of these                      D) None of these.

147. Hidden infestation of stored grains can be detected by

- A) Staining method                      B) Ninhydrin method  
C) KOH method                       D) All of these.

148. Sanjose scale is a pest of

- A) Apple and almond                      B) Banana and papaya  
C) Mango and guava                      D) Plum and pear.

149. Which one of the following is a common grassy weed ?

- A) Cyperus                       B) Echinochloa  
C) Cleome                      D) Eichornia.

150. Which one of the following insects is used to control the infestation of a weed *Opuntia* sp. ?

- A) *Agromyza* sp.                      B) *Thelca bazochi*  
 C) *Dactylopius indicus*                      D) *Procecidochares utilis*.

151. The weedicide recommended by the Tamil Nadu Agriculture Department to control weeds of Rainfed and Semi-dry rice is

- A) Butachlor                      B) Fernoxone 80% WP  
 C) Pretilachlor                      D) None of these.

152. Which of the following are the recent programmes in Tamil Nadu, being implemented to encourage women in agriculture ?

- I) TNSWAN
- II) TANWABE
- III) TANWA
- IV) TWAD.

Of these :

- A) I and II
- B) II and III
- C) III and IV
- D) II and IV.

153. Sodicty hazard in irrigation water is evaluated based on

- A) EC
- B) RSC
- C) SAR
- D) pH.

154. Water requirement (WR) includes the losses due to

- A) Evapotranspiration and application of water
- B) Consumptive use of water and application of water
- C) Consumptive use, water required for special operations and other economically unavoidable losses of water
- D) ET and water required for special operations.

155. The domestic honeybee is

- A) *Apis floreae*
- B) *Apis dorsata*
- C) *Apis cerana*
- D) none of these.

156. Break-even point in farm financial analysis is a point at which

- A) the producer neither loses money nor makes a profit
- B) all costs allotted to a product are equal to all revenues from its sale
- C) the total cost curve and total revenue curve intersect
- D) all of these.

157. Cono weeder is highly suitable for carrying out weeding in
- A) Groundnut  
B) Sugarcane  
C) Paddy  
D) Mango.
158. Which of the following consists of a series of individual charts which are bound together and hung on a supporting stand ?
- A) Bar charts  
B) Job charts  
C) Flip charts  
D) Tree charts.
159. TANWABE stands for
- A) Tamil Nadu Women in Agricultural Business and Education  
B) Tamil Nadu Women in Agri Business and Employment  
C) Tamil Nadu Women in Agri Business and Extension  
D) Tamil Nadu Women in Agro Based Employment.
160. A good quality irrigation water should have an EC of
- A) < 4.5 dS/m  
B) < 1.5 dS/m  
C) < 0.5 dS/m  
D) 3 to 5 dS/m.
161. The district famous for bee-keeping in Tamil Nadu is
- A) Coimbatore  
B) Madurai  
C) Kanyakumari  
D) Theni.
162. Growing of coconut, black pepper and ginger simultaneously in the same field is called
- A) Relay cropping  
B) Intercropping  
C) Multiple cropping  
D) Multistoried cropping.
163. All silkworms belong to the insect order
- A) Hemiptera  
B) Lepidoptera  
C) Coleoptera  
D) Hymenoptera.
164. The country plough produced in which of the following places is very famous in Tamil Nadu ?
- A) Cholavandhan  
B) Kangeyam  
C) Melur  
D) Thiruppachethi.

165. Planting of succeeding crop before harvesting the preceding crop is known as

- A) Ratoon cropping  
 B) Mono-cropping  
 C) Sequence cropping  
 D) Relay cropping.

166. The Water Management Training Centre of Tamil Nadu State Department of Agriculture to impart training to farmers is located at

- A) Kumulur  
 B) Swamimalai  
 C) Thuvakudy  
 D) Vinayagapuram.

167. Which one of the following is the latest milky mushroom variety released in Tamil Nadu ?

- A) MDU 2  
 B) Co. 2  
 C) APK 2  
 D) PKM 2.

168. Which one of the following mulberry varieties is correctly matched ?

Varieties	Leaf Yield (t/ha/yr)
A) Kanva 2	60 - 65
B) MR 2	35 - 40
C) DD	15 - 20
D) V1	20 - 25.

169. The National Research Centre for Mushroom is located at

- A) Dehradun  
 B) Mussorie  
 C) Nainital  
 D) Solan.

170. Eri silkworm is commonly reared on

- I. Mulberry  
 II. Cassava  
 III. Castor  
 IV. Oak

Of these

- A) I and II  
 B) I and IV  
 C) II and III  
 D) I and III.

171. Helical blade puddler, Green manure trampler and Cage wheel are

- A) Levelling implements
- B) Implements for wetland operations
- C) Implements used for ploughing
- D) Cultivators and harrows.

172. Under Law of Diminishing Marginal Returns

- A) Total output increase at a diminishing rate
- B) Average output decreases
- C) Marginal output decreases
- D) All of these.

173. The average biogas production estimated per kg of dry matter is

- A) 160 lts
- B) 100 lts
- C) 50 lts
- D) 20 lts.

174. In Farm Business Rate of turn-over is

- A)  $\frac{\text{Total assets} \times 100}{\text{Gross income}}$
- B) Total assets  $\times$  Gross income
- C)  $\frac{\text{Total assets}}{100}$
- D)  $\frac{\text{Gross income}}{\text{Total assets}} \times 100$ .

175. The production function of the form  $y = a + bx + cx^2$  is

- A) Linear equation
- B) Cobb-Douglas function
- C) Square root function
- D) Quadratic equation.

176. To estimate additional costs and return from growing 1ha of hybrid rice in place of local rice which of the following budgetings is followed ?

- A) Enterprise budgeting
- B) Partial budgeting
- C) Complete budgeting
- D) none of these.

177. Agricultural Development Banks are sponsored by

- A) Co-operative Banks
- B) Nationalized Banks
- C) Reserve Bank of India
- D) State Bank of India.

178. Eliminating unhealthy practices and reducing market changes with a view to benefitting the producer is the aim of

- A) Super market
- B) Wholesale market
- C) Regulated market
- D) Small market.

179. Match the **Agency** in **List I** correctly with **Activity** in **List II** and select your answer using the codes given below :

List I (Agency)	List II (Activity)
a) AGMARK	1. Co-operative marketing
b) APEDA	2. Warehousing
c) NAFED	3. Quality Grading
d) CWC	4. Export development

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	3	1	4	2
B)	3	4	1	2
C)	4	3	1	2
D)	4	1	3	2

180. Money serves as a function of

- A) Medium of exchange
- B) A store of value
- C) A measure of value
- D) all of these.

181. The agricultural market found in villages is called as

- A) Primary market
- B) Secondary market
- C) Terminal market
- D) none of these.



182. Vishesh Krishi Upaj Yojana (Special Agricultural Produce Scheme) was a special scheme of India's Trade Policy introduced for

- I. Enhancing export of fruits, vegetables, flowers  
 II. Enhancing import of fruits, vegetables, flowers

- A) only (I) is correct                      B) only (II) is correct  
 C) both are correct                      D) none is correct.

183. The total number of Regulated Markets in Tamil Nadu is

- A) 237    B) 260  
 C) 270    D) 285.

184. Match **Agri Export Zones** in Tamil Nadu of **List I** correctly with **Districts** in **List II** and select your answer using the codes given below :

**List I**  
**(Agri Export Zones)**

- a) Cut flowers  
 b) Flowers  
 c) Mango  
 d) Cashew

**List II**  
**(Districts)**

1. Nilgiris  
 2. Dharmapuri  
 3. Cuddalore  
 4. Theni.

Codes :

- |    | <b>a</b> | <b>b</b> | <b>c</b> | <b>d</b> |
|----|----------|----------|----------|----------|
| A) | 1        | 2        | 4        | 3        |
| B) | 4        | 1        | 2        | 3        |
| C) | 2        | 1        | 4        | 3        |
| D) | 1        | 3        | 2        | 4.       |

185. The Indian Patent Act was passed in the year

- A) 1960    B) 1970  
 C) 1980    D) 1990.

186. Match **List 1** correctly with **List 2** and select your answer using the codes given below :

	<b>List 1</b>		<b>List 2</b>
a)	Lab to land Programme	1.	1974
b)	Krishi Vigyan Kendra	2.	1979
c)	Jawahar Rozgar Yojana	3.	1953
d)	National Extension Service	4.	1989

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	1	3	4	1
B)	2	4	3	1
C)	2	1	3	4
<input checked="" type="checkbox"/> D)	2	1	4	3.

187. Basically GATT is aimed at

- A) Facilitating accords on the most favoured nation status to the trading partners
- B) Reciprocity and transparency in global trade
- C) Tariff reduction through trade negotiations
- D) all of these.

188. Ministry of Agriculture, Govt. of India launched Agriclincs and Agribusiness centres during the year

- A) 1998
- B) 2001
- C) 2002
- D) 2000.

189. Which category of land covers all grazing lands whether they are permanent pastures or meadows, village commons and grazing lands ?

- A) Land under non-agricultural use
- B) Barren and unculturable land
- C) Permanent pastures and other grazing lands
- D) Culturable wastelands.

190. The Command Area Development Authority was constituted in the year

- A) 1973 - 74  
 B) 1974 - 75  
 C) 1975 - 76  
 D) 1976 - 77.

191. If we want to impress people about a particular recommended practice suitable for a specific area, then effective extension method is

- A) Demonstration  
 B) Pamphlets  
 C) Radio  
 D) TV.

192. Match the **Irrigation method** in **List I** correctly with the **Crop** in **List II** and select your answer using the codes given below :

<b>List I</b>	<b>List II</b>
<b>(Irrigation method)</b>	<b>(Crop)</b>
a) Check basin	1. Coconut
b) Flooding	2. Sorghum
c) Furrow	3. Paddy
d) Drip	4. Groundnut

Codes :

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
A)	2	3	4	1
B)	4	3	2	1
C)	4	3	1	2
D)	2	3	1	4.

193. The critical stage for which irrigation is required in cotton, is

- A) preflowering stage  
 B) root initiation stage  
 C) flowering stage  
 D) boll bursting stage.

194. Water use efficiency is given by the formula

- A)  $Y/ET$   
 B)  $Y \times ET$   
 C)  $ET/Y$   
 D) none of these.

195. The climatic factor(s) influencing water evaporation is/are

- A) wind  
B) temperature  
C) humidity  
D) all of these.

196. Services of a lead bank extend to

- A) Taluk level  
B) Block level  
C) District level  
D) State level.

197. The quality of irrigation water is determined by

- A) total concentration of soluble salts  
B) relative proportion of sodium  
C) concentration of boron  
D) all of these.

198. Which of the following is high yielding honeybee ?

- A) Indian bee  
B) Rock bee  
C) Little bee  
D) Italian / European bee.

199. For assessing land and water resource which plays a pivotal role ?

- A) monitoring  
B) fixed plot survey  
C) random survey  
D) remote sensing.

200. The instrument used for measuring the depth of water table is known as

- A) Lysimeter  
B) Odometer  
C) Piezometer  
D) Evaporimeter.