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COMBINED COMPETITIVE (PRELIMINARY) EXAMINATION, 2012

Serial No. ____

AGRICULTURE

Code No. 01

A

Time Allowed : Two Hours

Maximum Marks : 300

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C OR D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE RESPONSE SHEET.
3. You have to enter your Roll Number on this Test Booklet in the Box provided alongside. *DO NOT* write *anything else* on the Test Booklet.

   Your Roll No. _____
4. This Booklet contains 120 items (questions). Each item comprises *four* responses (answers). You will select *one* response which you want to mark on the Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
5. In case you find any discrepancy in this test booklet in any question(s) or the Responses, a written representation explaining the details of such alleged discrepancy, be submitted within three days, indicating the Question No(s) and the Test Booklet Series, in which the discrepancy is alleged. Representation not received within time shall not be entertained at all.
6. You have to mark all your responses ONLY on the separate Response Sheet provided. *See directions in the Response Sheet.*
7. All items carry equal marks. Attempt ALL items. Your total marks will depend only on the number of correct responses marked by you in the Response Sheet.
8. Before you proceed to mark in the Response Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Response Sheet as per instructions sent to you with your Admit Card and Instructions.
9. While writing Centre, Subject and Roll No. on the top of the Response Sheet in appropriate boxes use **"ONLY BALL POINT PEN".**
10. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator only the Response Sheet. You are permitted to take away with you the Test Booklet.

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ROUGH WORK

1. The contribution of agriculture towards the national income (recent) is about .....
   (A) 35—45% (B) < 27%
   (C) 45—70% (D) > 75%

2. The average rainfall of India is .....
   (A) 90 cm (B) 125 cm
   (C) 750 cm (D) 112 cm

3. Which monsoon of India contributes maximum rainfall in the country ?
   (A) Post monsoon (B) Winter monsoon
   (C) South-west monsoon (D) North-east monsoon

4. The State of India having highest area under rice crop is .....
   (A) Bihar (B) Punjab
   (C) Kerala (D) West Bengal

5. The State of India having highest productivity of groundnut is .....
   (A) Gujarat (B) M.P.
   (C) Maharashtra (D) Andhra Pradesh

6. Total pulse production in India is maximum in .....
   (A) U.P. (B) M.P.
   (C) Punjab (D) Tamil Nadu

7. The maximum production of wheat is in .....
   (A) Maharashtra (B) Punjab
   (C) M.P. (D) U.P.

8. The sowing time of the Boro rice grown in West Bengal is .....
   (A) May-June (B) June-July
   (C) January-February (D) September-October

9. Recommended depth of sowing for dwarf wheat varieties is .....
   (A) 5 cm (B) 9 cm
   (C) 3 cm (D) 7.5 cm

10. The conversion factor to convert % P to % P_2O_5 is
    (A) 1.29 (B) 2.90
    (C) 2.29 (D) 0.43

11. The seed rate of desi gram (chick-pea) crop should be .....
(A) 50 to 60 kg per ha (B) 60 to 90 kg per ha
(C) 90 to 120 kg per ha (D) 100 to 110 kg per ha

12. The row to row distance of long duration arhar (pigeon-pea) varieties is 75 cm and plant to plant distance is .....
(A) 25 to 30 cm (B) 40 to 45 cm
(C) 10 to 12 cm (D) 15 to 18 cm

13. For weed control of Urad (Black gram) hand weeding should be given at ..... days after sowing.
(A) 25—30 (B) 40—50
(C) 50—55 (D) 15—20

14. The best time of sowing for field pea crop in north India is .....
(A) 15 to 25 October (B) 10 to 25 November
(C) 5 to 10 October (D) 25 to 30 November

15. The optimum seed rate of small seeded varieties of lentil crop is .....
(A) 15 to 20 kg per ha (B) 35 to 40 kg per ha
(C) 40 to 50 kg per ha (D) None of these

16. Soybean is a .....
(A) short day plant (B) long day plant
(C) day-neutral plant (D) all of these

17. The row to row distance of spreading type groundnut crop should be .....
(A) 30 cm (B) 45 cm
(C) 55 cm (D) 20 cm

18. The most essential stages for irrigation in Sarson (mustard) is/are .....
(A) flowering stage (B) fruiting stage
(C) early growth stage (D) all of above

19. Seed rate of sesame is .....
(A) 3 to 5 kg per ha (B) 2 to 3 kg per ha
(C) 8 to 10 kg per ha (D) 10 to 15 kg per ha

20. The nitrogen requirement for one hectare of linseed under irrigated conditions will be about .....
(A) 50 to 60 kg (B) 60 to 90 kg
(C) 40 to 45 kg (D) None of these

21. Which crop(s) is/are sown as intercrop in October sown sugarcane ?
(A) Wheat (B) Brassica
(C) Radish (D) All of above

22. The most suitable soil for cotton cultivation in India is .....
(A) Red soil (B) Laterite soil
(C) Hill soil (D) Black soil

23. The most critical stage/s for irrigation in potato is/are .....
(A) stolon formation stage (B) tuberization stage
(C) 25% tuber formation stage (D) all of these

24. As per principles of crop rotation, legume should be included in rotation because .....
(A) it increases the total pulse production
(B) emphasis has been given on pulses production
(C) it helps in maintenance of soil fertility
(D) it increases cropping intensity

25. Which one of the following is a variety of wheat crop ?
(A) PR-116 (B) PBW550
(C) PMH-1 (D) SML668

26. Growing of a crop in between two rows of another crop is known as .....
(A) Inter cropping (B) Mixed cropping
(C) Multiple cropping (D) Intensive cropping

27. Growing of more than two crops in a year in the same field is known as .....
(A) Mixed cropping (B) Multiple cropping
(C) Relay cropping (D) Inter cropping

28. Growing of two or more than two crops in a field in the same season is called as .....
(A) Mixed farming (B) Multiple cropping
(C) Mixed cropping (D) Relay cropping

29. A well developed soil has .....
(A) A horizon (B) B horizon
(C) C horizon (D) All of these

30. What fraction of soil nitrogen is present in inorganic form ?
(A) 1 to 5% (B) < 1%
(C) 7% (D) 10%

31. A soil is said to be medium in organic matter if organic matter content is .....
(A) 0.86 to 1.29% (B) 1.29 to 2%
(C) 0.86 to 1% (D) 0.5 to 0.9%

32. Mineralization of nitrogen refers to the conversion of .....
(A) organic form into inorganic form
(B) inorganic form into organic form
(C) organic form to nitrogenous compound
(D) all of these

33. The carbon content of organic matter is .....
(A) 40% (B) 32%
(C) 58% (D) 68%

34. Which nutrient is applied in large quantity for raising the cereal field crops ?
(A) Nitrogen (B) Potash
(C) Phosphorus (D) Sulphur

35. Bulk density of normal soil is .....
(A) 1.33 g/cc (B) 1.8 g/cc
(C) 2.66 g/cc (D) < 1.0 g/cc

36. The quantity of urea required to supply 120 kg N/ha is .....
(A) 120 kg (B) 240 kg
(C) 260 kg (D) 60 kg

37. The pH range of sodic soil is .....
(A) 6.6 to 7.3 (B) 6.0 to 8.0
(C) 7.0 to 8.0 (D) 8.5 to 10.5

38. Generally C.N. ratio of normal soil is .....
(A) 10 : 1 (B) 15 : 1
(C) 16 : 1 (D) 5 : 1

39. Bacteria present in the root nodules of legumes plants is .....
(A) Clostridium (B) Azospirillum
(C) Rhizobium (D) Azotobacter

40. Rhizosphere refers to the small area .....
(A) around the root
(B) on the root
(C) near the primary root
(D) all of these

41. The enzyme responsible for the conversion of molecular nitrogen into NH_3 is .....
(A) Nitrogenase (B) Urease
(C) Aminase (D) Nuclease

42. When organic matter with C : P ratio greater than 300 : 1 is added in soil then net ..... will take place.
(A) mineralization (B) immobilization
(C) both of these (D) none of these

43. Muriate of potash is more effective in ..... soils.
(A) saline (B) neutral
(C) alkaline (D) acidic

44. If the soil contains 110 to 280 kg K_2O per ha, then soil will be ..... in this regard.
(A) high (B) low
(C) very high (D) medium

45. The conversion of ammonia into nitrate by micro-organisms is known as .....
(A) Nitrogen fixation (B) Nitrification
(C) Denitrification (D) Loss of nitrogen

46. Which micronutrient is maximum available in the soil ?
(A) Fe (B) Bo
(C) Zn (D) Cu

47. Which of the following fertilizer has maximum number of primary plant nutrients ?
(A) DAP (B) TSP
(C) Murate of Potash (D) Ammonium nitrate

48. The fertilizers which have two or more than two major plant nutrients in their chemical compound form are called .....
(A) Double fertilizer (B) Complex fertilizer
(C) Mixed fertilizer (D) Organic fertilizer

49. The ratio between CO_2 produced and O_2 consumed indicates .....
(A) respiration ratio (B) energy ratio
(C) respiration quotient (D) none of these

50. $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$—17 K Cal energy. The reaction indicates .....
(A) anaerobic respiration (B) aerobic respiration
(C) photosynthesis (D) none of these

51. Ascorbic acid is .....
(A) enzyme (B) vitamin
(C) hormone (D) mineral

52. Which of the following restricts coverage of wheat in India ?
(A) Photoperiod (B) Temperature
(C) Light intensity (D) Irrigation

53. Transportation of water to different plant parts is done by .....
(A) xylem cells (B) phloem cells
(C) both of these (D) none of these

54. One atmosphere pressure can pull the water in plant cells up to ..... (approximately).
(A) 100 feet (B) 200 feet
(C) 30 feet (D) 5 feet

55. When plant cells are fully turgid, then .....
(A) OP = TP (B) OP = DPD
(C) both of these (D) none of these

56. Under the plasmolysis condition, ...
(A) OP = TP (B) DPD = OP
(C) DPD = TP (D) DPD = Zero

57. The water loss through transpiration during the whole life of maize plant is about .....
(A) 100 litres (B) 200 litres
(C) 400 litres (D) 500 litres

58. How much percent of total area of leaf in field crops is covered by stomata ?
(A) 5 to 10% (B) 10 to 15%
(C) 1 to 2% (D) None of these

59. During the photosynthesis, the light ..... colour(s) which is/are absorbed to the maximum.
(A) yellow (B) green
(C) blue and red (D) all of these

60. If relative humidity of atmosphere is low, then transpiration rate will be .....
(A) more (B) less
(C) remains same (D) none of these

61. In active uptake of nutrients by plant, ...
(A) energy will be required (B) no energy will be required
(C) both of these (D) can not be said

62. Downward translocation of nutrients occurs by .....
(A) xylem cells (B) phloem cells
(C) both of these (D) none of these

63. Which of the following controls the cell elongation, apical dominance, root initiation etc. ?
(A) Gibberellins (B) Abscisic acid
(C) Auxins (D) Ethylene

64. Under the deficiency of ....., the new leaves turn yellow, roots and stems become abnormally long and develop woodiness.
(A) Fe (B) P
(C) K (D) S

65. In the deficiency of ....., the older leaves of the plants become yellowish or pale green.
(A) N (B) P
(C) K (D) Mg

66. The term genetics was coined by .....
(A) Charles Darwin (B) Lamarck
(C) Mendel (D) Bateson

67. Segregation occurs during .....
(A) Mitosis (B) Endomitosis
(C) Meiosis (D) All of these

68. In a genome, each type of chromosome is represented .....
(A) only once (B) twice
(C) thrice (D) many times

69. The term heterosis was coined by .....
(A) East (1908) (B) Davenport (1908)
(C) Shull (1914) (D) Jones (1917)

70. The science which is used for genetic improvement of crop plants is referred to as .....
(A) plant breeding
(B) science of crop improvement
(C) crop improvement technology
(D) all of these

71. Self pollination is a form of .....
(A) inbreeding (B) outbreeding
(C) random mating (D) none of these

72. Homozygous population includes .....
(A) pure lines (B) inbred lines
(C) multi lines (D) all of these

73. Hybrid progeny from a cross between two inbreds is known as .....
(A) single cross hybrid (B) double cross hybrid
(C) three way cross hybrid (D) multiple cross hybrid

74. Synthetic variety is constituted/synthesized by mixing .....
(A) all possible crosses among inbreds with good gca
(B) several pure lines
(C) several open pollinated genotypes
(D) several inbred lines

75. Indian Institute of Sugarcane Research is located at .....
(A) Coimbatore (B) Kanpur
(C) Lucknow (D) Sholapur

76. Directorate of Rapeseed and Mustard Research is located at .....
(A) Kanpur (B) Bharatpur
(C) Hissar (D) Varanasi

77. Single seed descent method was first proposed by .....
(A) Goulden (1939) (B) Grafius (1965)
(C) Thoday (1960) (D) Mather (1953)

78. Sum total of genes in a species is called .....
(A) Genetic diversity (B) Genetic variability
(C) Gene pool (D) Gene bank

79. Which of the following is cool season crop ?
(A) Potato (B) Cucumber
(C) Bean (D) Pumpkin

80. Which of the following is warm season crop ?
(A) Cabbage (B) Potato
(C) Tomato (D) Pea

81. Alternate bearing is most common in .....
(A) Citrus (B) Mango
(C) Papaya (D) Guava

82. The depth of pits for orchard plantation should generally be .....
(A) 1 meter (B) ½ meter
(C) 5 meters (D) 2 meters

83. The filler tree in mango orchard is .....
(A) Ber (B) Papaya
(C) Apple (D) Litchi

84. The seed rate for onion should be .....
(A) 5 kg/ha (B) 18 kg/ha
(C) 10 to 12 kg/ha (D) 1 to 2 kg/ha

85. The yield of tomato (tonnes/ha) is .....
(A) 40 to 45 (B) 20 to 25
(C) 10 to 15 (D) 50 to 55

86. Snow ball-16 is a variety of .....
(A) Cauliflower (B) Cabbage
(C) Potato (D) Tomato

87. In fruits and vegetables, waxing is done to reduce .....
(A) Transpiration (B) Respiration
(C) Both (A) and (B) (D) None of these

88. Pectin is the most important ingredient in the preparation of .....
(A) Jam (B) Jelly
(C) Murabba (D) Candy

89. Fruit ripening hormone is .....
(A) Ethrel (B) Auxin
(C) GA_3 (D) None of these

90. By which of the following treatment, the wilt disease of gram crop can be controlled ?
(A) Deep ploughing and late sowing (B) Treating seeds with fungicides
(C) BHC (D) All of these

91. Which of the following is an example of biological pest control ?
(A) Use of pesticides (B) Parasitic insects
(C) Environmental effect (D) None of these

92. High volume spraying is that in which we can give complete coverage to one hectare crop with more than ..... litre of liquid.
(A) 1000 (B) 1500
(C) 100 (D) 250

93. Late blight of potato can be controlled by .....
(A) BHC dust 5% (B) Bordeux mixture 4 : 4 : 50
(C) DDT (D) All of these

94. Which of the following is/are systemic fungicide(s) ?
(A) Vitavax (B) Benlate
(C) Bristol (D) All of these

95. Which of the following types of insecticides are used against food grain pests in storage ?
(A) Organic insecticides (B) Fumigants
(C) Inorganic insecticides (D) All of these

96. Host resistance and insect-disease belong to which one of the following pest control measures ?
(A) Natural control (B) Physical control
(C) Chemical control (D) Biological control

97. Flooding and drying for pest control is .....
(A) natural control (B) physical control
(C) cultural control (D) none of these

98. Seed born and soil born diseases can be controlled by .....
(A) organo-mercurials (B) copper fungicides
(C) copper sulphates (D) zinc sulphates

99. The cost which do vary with the output is called .....
(A) average variable cost (B) average fixed cost
(C) variable cost (D) none of these

100. Which of the following is not considered as component of farm business ?
(A) Capital (B) Land
(C) Environment (D) Management

101. In India first State Agricultural University was established at .....
(A) Ludhiana (B) Banglore
(C) Pantnagar (D) Anand

102. Short term loans are mainly given for the purchase of .....
(A) Seeds (B) Bullocks
(C) Pumpset (D) Heavy machinery

103. A small garden or keeping few birds with the main enterprise is known as .....
(A) supplementary enterprise (B) complementary enterprise
(C) major enterprise (D) competitive enterprise

104. Which of the following is an economic factor affecting the type or system of farming ?
(A) Availability of capital (B) Water
(C) Land (D) All of these

105. The owner of land in state farming is .....
(A) farmer (B) government
(C) capitalist (D) none of these

106. The basic objective of extension education is .....
(A) development of the people of BDO
(B) development of the people in general
(C) development of the relatives of Pradhan
(D) none of these

107. Effective extension service is a process of .....
(A) helping the people to help themselves
(B) profiting the local leaders
(C) helping the BDO
(D) all of these

108. After a suitable extension teaching, the villagers attain desirable changes in their .....
(A) behaviour (B) habits
(C) health (D) all of these

109. Which of the following body(ies) is/are responsible for development at base level ?
(A) Block (B) Panchayat
(C) District (D) All of these

110. A farmer, which has land holding between 1 to 2 hectare, is known as .....
(A) marginal farmer (B) optimal farmer
(C) small farmer (D) big farmer

111. Diversified farming is a kind of .....
(A) system of farming (B) type of farming
(C) both of these (D) none of these

112. Which of the following is not a method of group communication ?
(A) Conferences (B) Field trips
(C) National demonstrations (D) Farm and home visits

113. The pilot project in rural development was started in 1948 at .....
(A) Etawah (B) Patna
(C) Gurgaon (D) Ludhiana

114. Panchayat Raj System was established in India in the year .....
(A) 1958 (B) 1959
(C) 1947 (D) 1950

115. Maximum variability is found in .....
(A) F_1 generation (B) F_2 generation
(C) F_3 generation (D) F_4 generation

116. Which of the following is used to control soil pests ?

(A) Endrin (B) Aldrin

(C) Malathion (D) Parathion

117. Which of the following variety of rice is a cross between IR262 and TKM6 evolved at IRRI, Philippines ?

(A) IR 8 (B) Pusa 2-21

(C) IR 20 (D) Ratna

118. Which of the following is a growth retardant ?

(A) Alar (B) GA 4

(C) IBA (D) Kinetin

119. Which of the following selections is used in potato improvement ?

(A) Hybridization (B) Clonal selection

(C) Pure line selection (D) Mass selection

120. PBW 343 is a popular variety of .....

(A) Rice (B) Maize

(C) Barley (D) Wheat

ROUGH WORK