

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SOSubject Code :

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Test Booklet No. : 00573

TEST BOOKLET**AGRICULTURE****Time Allowed : 2 (Two) Hours****Full Marks : 200****INSTRUCTIONS**

1. The name of the Subject, Roll Number as mentioned in the Admission Certificate, Test Booklet No. and Subject Code shall be written legibly and correctly in the space provided on the Answer Sheet with black ball pen.
2. **Space provided for Series in the Answer Sheet is not applicable for Optional Subject. So the space shall be left blank.**
3. All questions carry equal marks. Your total marks will depend only on the number of correct responses marked by you in the Answer Sheet.
4. No candidate shall be admitted to the Examination Hall/Room 20 minutes after commencement of distribution of the paper. The Supervisor of the Examination Hall/Room will be the timekeeper and his/her decision in this regard is final.
5. No candidate shall leave the Examination Hall/Room without prior permission of the Supervisor/Invigilator. No candidate shall be permitted to hand over his/her Answer Sheet and leave the Examination Hall/Room before expiry of the full time allotted for each paper.
6. No Mobile Phone, Pager, etc., are allowed to be carried inside the Examination Hall/Room by the candidates. Any Mobile Phone, Pager, etc., found in possession of the candidate inside the Examination Hall/Room, even if on off mode, shall be liable for confiscation.
7. No candidate shall have in his/her possession inside the Examination Hall/Room any book, notebook or loose paper, except his/her Admission Certificate and other connected paper permitted by the Commission.
8. Complete silence must be observed in the Examination Hall/Room. No candidate shall copy from the paper of any other candidate, or permit his/her own paper to be copied, or give, or attempt to give, or obtain, or attempt to obtain irregular assistance of any kind.
9. After you have completed filling in all your responses on the Answer Sheet and the Examination has concluded, you should hand over to the Invigilator *only the Answer Sheet*. You are permitted to take away with you the Test Booklet.
10. Violation of any of the above Rules will render the candidate liable to expulsion from the Examination Hall/Room and disqualification from the Examination, and according to the nature and gravity of his/her offence, he/she may be debarred from future Examinations and Interviews conducted by the Commission for appointment to Government Service.
11. Smoking inside the Examination Hall/Room is strictly prohibited.
12. **This Test Booklet contains one sheet (two pages) for Rough Work at the end.**

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[No. of Questions : 100]

SEAL

AGRICULTURE

1. Growing four crops in a year in sequence is termed as

- (A) double cropping
- (B) multistoried cropping
- (C) quadruple cropping
- (D) tetra cropping

2. Shade-loving plants are known as

- (A) heliophytes
- (B) hydrophytes
- (C) xerophytes
- (D) sciophytes

3. A separate department of agriculture was created first at national level in

- (A) 1861
- (B) 1871
- (C) 1885
- (D) 1890

4. A silt loam is considered ideal for crop growth when solid : liquid : air proportion by volume is at

- (A) 70:20:10
- (B) 60:20:20
- (C) 50:30:20
- (D) 50:25:25

5. The oil content of groundnut is

- (A) 45 percent
- (B) 35 percent
- (C) 40 percent
- (D) 48 percent

6. The hormone associated with 'acid growth theory' is

- (A) GA₃
- (B) cytokinin
- (C) auxin
- (D) ethylene

7. Translocation of carbohydrates mostly takes place in the form of

- (A) glucose
- (B) sucrose
- (C) fructose
- (D) maltose

8. The end product of photosynthesis is

- (A) pyruvic acid
- (B) protein
- (C) starch
- (D) malic acid

9. The source of dwarfing gene in wheat is

- (A) Dee-Gee-Woo-Gen
- (B) Norin-10
- (C) Opaques
- (D) Hipsoli

10. Seedless watermelon is a

- (A) diploid
- (B) triploid
- (C) tetraploid
- (D) hexaploid

11. Which of the following crops is known as 'white gold'?

- (A) Opium
- (B) Cotton
- (C) Maize
- (D) Soybean

12. In India, which of the following fruits has the highest production?

- (A) Mango
- (B) Citrus
- (C) Grape
- (D) Banana

13. The edible portion of pomegranate is

- (A) aril
- (B) thalamus
- (C) mesocarp
- (D) endocarp

14. Botanically pineapple fruit is

- (A) balusta
- (B) sorosis
- (C) berry
- (D) pome

15. Leafless variety of pea is

- (A) Bonneville
- (B) T-163
- (C) L-H6
- (D) Aparna

16. The tuber crop which is rich in protein is

- (A) Colocasia
- (B) yam
- (C) potato
- (D) sweet potato

17. Pungency of radish is due to
- solanin
 - capsaicin
 - isothiocyanate
 - calcium acetate
18. Nozzle is a part of
- rotary duster
 - cynogas pump
 - hand compressor sprayer
 - ULV applicator
19. Which of the following is a genetic parthenocarpic fruit?
- Guava
 - Apple
 - Sapote
 - Grape
20. C_4 plants normally give more biological yield than C_3 plants because of
- less respiration
 - more photosynthesis
 - more photophosphorylation
 - less photophosphorylation
21. Neem products are found effective in reducing
- fruit borer attack of cucumber
 - stem borer attack of rice
 - fruit borer attack of brinjal
 - fruit borer attack of okra
22. Wilting syndrome, known as 'kresek', occurs in
- bacterial blight of rice
 - bacterial wilt of cotton
 - brown spot of rice
 - rice blast
23. Citrus tristeza virus is transmitted by
- beetles
 - thrips
 - aphids
 - nematodes
24. Genetic transfer between bacterial cells mediated by bacteriophage is
- transformation
 - conjugation
 - transduction
 - temperate phage

25. Blossom end rot of tomato is due to deficiency of

- (A) Zn
- (B) B
- (C) Mo
- (D) Ca

26. 'Ug 99' is a race specific to

- (A) *Puccinia striiformis*
- (B) *Puccinia recondita*
- (C) *Puccinia graminis tritici*
- (D) *Puccinia sorghi*

27. The Destructive Insect and Pest Act was implemented in India during

- (A) 1910
- (B) 1914
- (C) 1916
- (D) 1918

28. 'Phyllody' is a common disease of

- (A) sesame
- (B) groundnut
- (C) soybean
- (D) niger

29. The basic principle of extension education is

- (A) learning by doing
- (B) learning by seeding
- (C) learning by reading
- (D) learning by hearing

30. The T and V system of agricultural extension was first introduced in the year

- (A) 1954
- (B) 1964
- (C) 1974
- (D) 1984

31. *Ghare-Pathare*, a periodical, is published by the

- (A) Department of Agriculture, Assam
- (B) Irrigation Department of Assam
- (C) Directorate of Extension Education, AAU, Jorhat
- (D) Directorate of Research, AAU, Jorhat

32. 'Loose smut' of wheat is a/an _____ disease.
- (A) soil-borne
 - (B) internally seed-borne
 - (C) externally seed-borne
 - (D) airborne
33. The concept of 'zero' tillage was first postulated by
- (A) Jethro Tull
 - (B) Wilcox
 - (C) Gardner and Gardner
 - (D) Russell
34. Plant growth is measured by
- (A) photometer
 - (B) auxanometer
 - (C) luxmeter
 - (D) manometer
35. Indian Agricultural Research Institute (IARI) was set up at Pusa (Bihar) in
- (A) 1905
 - (B) 1929
 - (C) 1934
 - (D) 1942
36. Glyphosate is a _____ herbicide.
- (A) selective
 - (B) pre-emergence
 - (C) non-selective
 - (D) pre-planting
37. A short-duration crop in between two main crops is termed as
- (A) cash crop
 - (B) catch crop
 - (C) companion crop
 - (D) nurse crop
38. Thinning is an important cultural process of
- (A) potato
 - (B) jute
 - (C) sugarcane
 - (D) rice
39. In India, pigeon pea is the second-most important pulse crop after
- (A) green gram
 - (B) black gram
 - (C) lentil
 - (D) gram

40. The main constituent of chlorophyll is

- (A) manganese
- (B) magnesium
- (C) copper
- (D) iron

41. Which of the following parts of the plant cell is known as 'powerhouse'?

- (A) Mitochondrion
- (B) Ribosome
- (C) Chloroplast
- (D) Golgi apparatus

42. Papaya is a rich source of

- (A) vitamin A
- (B) vitamin B
- (C) vitamin C
- (D) vitamin E

43. Indian Institute of Vegetable Research is located at

- (A) Ajmer
- (B) Varanasi
- (C) Lucknow
- (D) Kanpur

44. A plant in which a gene has been transferred through genetic engineering is called

- (A) hybrid plant
- (B) pure line
- (C) backcross line
- (D) transgenic plant

45. NBPGR was established by ICAR in New Delhi in the year

- (A) 1976
- (B) 1966
- (C) 1956
- (D) 1946

46. The bordeaux mixture was discovered in

- (A) 1885
- (B) 1875
- (C) 1865
- (D) 1855

47. NABARD was established in

- (A) 1956
- (B) 1966
- (C) 1976
- (D) 1986

48. MANAGE was established in
- (A) 1986
 - (B) 1987
 - (C) 1988
 - (D) 1989
49. To be effective, extension works should be started from the
- (A) grassroot level
 - (B) district level
 - (C) state level
 - (D) national level
50. In Ireland, the potato famine occurred in
- (A) 1845
 - (B) 1945
 - (C) 1854
 - (D) 1645
51. Maximum genetic diversity of crop plants occurs where agriculture is
- (A) modern
 - (B) rainfed
 - (C) primitive
 - (D) subsistence
52. Natural resistance of *Phytophthora infestans* in potato is present in
- (A) *Solanum tuberosum*
 - (B) *Solanum acaule*
 - (C) *Solanum stoloniferum*
 - (D) *Solanum demissum*
53. The gynophore of groundnut is commonly known as
- (A) peg
 - (B) penrith
 - (C) moradesph
 - (D) ovale
54. CIMMYT is working primarily for
- (A) cotton
 - (B) maize
 - (C) wheat
 - (D) rice
55. Indian Standard Institute was established in
- (A) 1948
 - (B) 1945
 - (C) 1947
 - (D) 1946

56. The establishment of ICAR is based on the recommendation of
- (A) Famine Commission
 - (B) Grow More Food Commission
 - (C) Royal Commission of Agriculture
 - (D) Balwant Rai Mehta Commission
57. The optimum temperature for rotting of jute is
- (A) 21 °C
 - (B) 30 °C
 - (C) 40 °C
 - (D) 34 °C
58. According to Levitt, which of the following ions is responsible for stomatal movement?
- (A) Fe^{2+}
 - (B) K^+
 - (C) Zn^{2+}
 - (D) Na^+
59. In light phase of photosynthesis, there is formation of
- (A) ATP
 - (B) NADPH_2
 - (C) carbohydrates
 - (D) both ATP and NADPH_2
60. The isotope of carbon used extensively for studies in photosynthesis is
- (A) ^{12}C
 - (B) ^{14}C
 - (C) ^{13}C
 - (D) ^{16}C
61. The nutrient requirement for ATP synthesis is
- (A) Ca
 - (B) P
 - (C) S
 - (D) Fe
62. Which of the following is not a phytohormone?
- (A) IAA
 - (B) GA
 - (C) Florigen
 - (D) Phytochrome
63. If plants stop photosynthesis, which gas will disappear?
- (A) N_2
 - (B) O_2
 - (C) NH_3
 - (D) H_2

64. Which one of the following is an essential amino acid?
- (A) Adenine
 - (B) Proline
 - (C) Lysine
 - (D) Serine
65. Solar treatment is used for
- (A) loose smut of wheat
 - (B) stem rust of wheat
 - (C) blast of rice
 - (D) wilting of tomato
66. Which one of the following is an insect trap crop?
- (A) Bhendi
 - (B) Rice
 - (C) Potato
 - (D) Pigeon pea
67. The process of desuckering is essential in
- (A) potato
 - (B) tobacco
 - (C) sugarcane
 - (D) paddy
68. 'Hay' is prepared from crop rich in
- (A) protein
 - (B) crude fibre
 - (C) fat
 - (D) vitamins
69. Most of the plants absorb nitrogen from the soil in the form of
- (A) nitrate
 - (B) nitrite
 - (C) nitric acid
 - (D) free nitrogen gas
70. Autumn rice in Assam is also known as
- (A) Boro
 - (B) Sali
 - (C) Ahu
 - (D) Aman
71. The inflorescence of sugarcane is termed as
- (A) arrow
 - (B) panicle
 - (C) tassel
 - (D) head

72. Suitable age of paddy seeding for transplantation in normal Kharif season is

- (A) 21-25 days
- (B) 27-32 days
- (C) 15-20 days
- (D) 11-14 days

73. Kjeldahl method is used to determine

- (A) total nitrogen in soil
- (B) total phosphorus in soil
- (C) total potassium in soil
- (D) total organic carbon in soil

74. Weeds that occur within the geographical limits of the origin are termed as

- (A) noxious weeds
- (B) obligate weeds
- (C) alien weeds
- (D) native weeds

75. Gramaxone is a trade name of

- (A) MCPA
- (B) Simazine
- (C) Paraquat
- (D) Moraron

76. Hard fruit of citrus is due to deficiency of

- (A) B
- (B) N
- (C) Ca
- (D) Fe

77. At optimum level of output, the marginal return should be

- (A) positive
- (B) negative
- (C) equal to average return
- (D) zero

78. Which of the following is not a factor of production?

- (A) Land
- (B) Labour
- (C) Capital
- (D) Crop

79. Which one of the following is not a method of mass contact?
- (A) Circular letter
 - (B) Television
 - (C) Result demonstration
 - (D) Leaflet
80. Wilt pathogen is mainly
- (A) airborne
 - (B) seed-borne
 - (C) waterborne
 - (D) soil-borne
81. Which of the following is organochlorine?
- (A) Malathion
 - (B) Parathion
 - (C) DDT
 - (D) Aldicarb
82. Pedology is a study of
- (A) soil
 - (B) water
 - (C) rock
 - (D) diseases
83. Tilt angle of disc furrow is
- (A) 10°
 - (B) 20°
 - (C) 30°
 - (D) 40°
84. Corn stunt disease is caused by
- (A) spiroplasma
 - (B) phytoplasma
 - (C) viroid
 - (D) virusoid
85. The length of a body tube of a compound microscope is
- (A) 10 cm
 - (B) 16 cm
 - (C) 20 cm
 - (D) 25 cm
86. Crystallization of virus was first done by
- (A) Adolf Mayer
 - (B) M. W. Beijerinck
 - (C) D. I. Ivanovsky
 - (D) W. M. Stanley

87. That phytoplasma can cause plant disease was first reported by
- (A) T. O. Diener
(B) Dai et al
(C) K. Kasperis
(D) P. d'Honnelle
88. The first antibiotic discovered was
- (A) penicillin
(B) streptomycin
(C) tetracycline
(D) erythromycin
89. Who first proved that fungus causes plant disease?
- (A) P. A. Micheli
(B) Tillet
(C) Prévost
(D) P. A. Millardet
90. The first identified bacterial disease of plant, the fire blight of apple, was discovered by
- (A) M. E. Beck
(B) T. J. Burdell
(C) E. F. Smith
(D) Adolf Mayer
91. The recommended seed rate for direct-seeded upland rice for Assam is
- (A) 25 kg/ha
(B) 50 kg/ha
(C) 75 kg/ha
(D) 100 kg/ha
92. In which of the following groups of crops, the requirement of sulphur is more?
- (A) Sugar crop
(B) Pulses
(C) Forage crop
(D) Oilseeds
93. Who among the following is considered as the father of phytopathology in India?
- (A) M. K. Patel
(B) S. P. Raychaudhuri
(C) E. J. Butler
(D) B. B. Mundkur
94. The scientific journal, *Phytopathology* is regularly published from
- (A) India
(B) Russia
(C) China
(D) USA

95. The system of rice intensification (SRI) was developed in
- (A) China
 - (B) Indonesia
 - (C) Madagascar
 - (D) Japan
96. 'Triticale' is a cross between
- (A) wheat and barley
 - (B) wheat and rye
 - (C) wheat and oat
 - (D) wheat and maize
97. The main source of agar-agar is
- (A) alga
 - (B) bacterium
 - (C) fungus
 - (D) virus
98. Which of the following parts of roots absorbs water and minerals?
- (A) Root hair
 - (B) Root cap
 - (C) Epidermis
 - (D) Endodermis
99. Citrus greening diseases are transmitted in Asian countries by
- (A) *Trioza erytreae*
 - (B) *Diaphorina citri*
 - (C) nematode
 - (D) fungi
100. The place of origin of potato is
- (A) South America
 - (B) USSR
 - (C) India
 - (D) Afghanistan