

SEAL

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T.B.C. : AAO – 2/25

Test Booklet Series

Serial No. 25149

A

TEST BOOKLET
ASSISTANT AGRICULTURE OFFICER
PAPER – II

Time Allowed : 2 hrs.

Maximum Marks : 100

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5. This Test Booklet contains **100** items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses **ONLY** on the separate Answer Sheet provided, by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the OMR Answer Sheet.
7. All items (questions) carry **01 (one)** mark. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. **There shall be penalty for incorrect answer with a deduction of 25% mark for each wrong answer.**
8. Before you proceed to mark (darken) in the Answer Sheet the responses to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the Answer Sheet issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.
11. **After completion of the Written Examination, the Provisional Answer Key shall be uploaded in the website of the Commission i.e. www.opsc.gov.in within 10 (Ten) days of the examination, inviting suggestions/objections, if any, from the candidates. Those candidates who do not challenge the Provisional Answer Key shall forfeit their right to agitate the matter subsequently in any forum in any other manner.**

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|---|--|
| <p>1. Restriction enzymes are used in genetic manipulation because</p> <p>(A) They always tend to join different DNA fragments</p> <p>(B) They are proteolytic enzymes which can degrade harmful enzymes</p> <p>(C) They can cut DNA at variable sites</p> <p>(D) They can cleave DNA at a specific target site</p> <p>2. Changing behavior by rewarding or punishing is called</p> <p>(A) Behavior Modification</p> <p>(B) Behavior Modeling</p> <p>(C) Behavior Reshaping</p> <p>(D) Behavior Management</p> <p>3. Har Khet ko Pani / Per Drop More Crop is the tag line of which programme?</p> <p>(A) Pradhan Mantri Fasal Bima Yojana</p> <p>(B) Pradhan Mantri Krishi Sinchai Yojana</p> <p>(C) Atal Mission</p> <p>(D) PM-Kisan</p> <p>4. In perfect competition, the shape of Average Revenue Curve is</p> <p>(A) Parallel to Y-axis</p> <p>(B) Parallel to X-axis</p> <p>(C) Convex</p> <p>(D) Downward sloping curve from left to right</p> | <p>5. Leaf water potential is measured with the help of</p> <p>(A) Pressure bomb apparatus</p> <p>(B) Hygrometer</p> <p>(C) Porometer</p> <p>(D) Spectrophotometer</p> <p>6. The notified variety that is in public domain is called</p> <p>(A) Extant variety</p> <p>(B) Extinct variety</p> <p>(C) Derived variety</p> <p>(D) Farmers variety</p> <p>7. Which form of the Mo is mostly taken up by the plants?</p> <p>(A) MoO_4^-</p> <p>(B) MoO_4^{2-}</p> <p>(C) MoO_4^{3-}</p> <p>(D) MoO_4^{+++}</p> <p>8. Who had given idea of nanotechnology first time?</p> <p>(A) Nori Taniguchi</p> <p>(B) Richard Feynman</p> <p>(C) Richard Flemming</p> <p>(D) Richard Williams</p> |
|---|--|

9. What is the range of Phosphorus use efficiency in India?
- (A) 15 – 20 %
(B) 25 – 35 %
(C) 35 – 45 %
(D) 45 – 55 %
10. Microbes which generally grow in presence of oxygen but can also adopt themselves to grow under an oxygen depleted environment are termed as
- (A) Facultative anaerobic
(B) Facultative aerobic
(C) Obligate aerobic
(D) Obligate anaerobic
11. Salt affected soils are mostly formed in
- (A) Arid and semi-arid regions with high rainfall and high evaporation
(B) Arid and semi-arid regions with high rainfall and low evaporation
(C) Arid and semi-arid regions with low rainfall and high evaporation
(D) Arid and semi-arid regions with low rainfall and low evaporation
12. The isolation distance recommended in meters for pureline variety
- (A) 100 m
(B) 200 m
(C) 3 m
(D) 300 m
13. Which of the following breeding scheme is the most suited to handle wide crosses?
- (A) Recurrent selection
(B) Diallel selective mating
(C) Pedigree scheme
(D) Backcross method
14. Mendal's law of segregation, as applied to the behavior of chromosomes in meiosis, means that
- (A) Pairing of homologous will convert one allele into the other, leading to separation of the types
(B) Alleles of a gene separate from each other when the homologs separate during meiosis I
(C) Genes on the same chromosome will show 50% recombination
(D) Alleles of a gene will be linked and passed on together through meiosis
15. Base pair substitutions involving replacement of a purine for a pyrimidine base and vice versa are called
- (A) Transition
(B) Transcription
(C) Transversion
(D) Frameshift
16. Apparant free space is
- (A) Intercellular space
(B) Part of plant cell or tissue which allow free diffusion of ions
(C) Part of plant cell or tissue which allow active uptake of ions
(D) Space in a tissue in which ion accumulate after diffusion

17. The elements present in the chlorophyll molecule are

- (A) C, H, O
- (B) C, H, N, Mg
- (C) C, H, O, Mg
- (D) C, H, O, Mg, N

18. T and V system is a good example of

- (A) Training Approach
- (B) Extension Approach
- (C) Co-operative Self help Approach
- (D) Integrated Development Approach

19. Choose the correct order of microorganisms based on total weight of biomass in soil.

- (A) Bacteria > Fungi > Actinomycetes
- (B) Fungi > Bacteria > Actinomycetes
- (C) Bacteria > Actinomycetes > Fungi
- (D) Actinomycetes > Fungi > Bacteria

20. The most accepted theory proposed of transpiration in plants is

- (A) Root Pressure Theory
- (B) Osmotic Pull Theory
- (C) Transpiration Pull Theory
- (D) Active Pull Theory

21. Extension education is viewed as the

- (A) Participatory process
- (B) Formal education
- (C) Distance education process
- (D) None of the above

22. Which of the following parameter is called as "Efficiency Index"?

- (A) Leaf area index
- (B) Net assimilation rate
- (C) Relative growth rate
- (D) Leaf area ratio

23. SGSY is a program for promotion of

- (A) Infrastructure community
- (B) Wage employment
- (C) Community development
- (D) Self employment

24. In case of Giffen goods, the demand curve has

- (A) Negative slope
- (B) Positive slope
- (C) Parallel to x-axis
- (D) None

25. The probability of the intersection of two mutually exclusive events is always
- (A) Infinity
(B) Zero
(C) One
(D) 0.5
26. Whether a test is one-sided or two-sided depends on
- (A) Simple hypothesis
(B) Null hypothesis
(C) Composite hypothesis
(D) Alternative hypothesis
27. Scale of Finance is fixed by the
- (A) Commercial Bank
(B) NABARD
(C) Reserve Bank of India
(D) District Level Technical Committee
28. The main objective of establishing Rythu bazaars in India is
- (A) To avoid storage of produce
(B) To reduce processing cost of farmers
(C) To reduce transportation cost of farmers
(D) To increase producer share in consumer rupee
29. Which of the following is a centrally sponsored scheme for farmer's welfare?
- (A) PM-Kisan
(B) KALIA
(C) BALRAM
(D) Raitu Bandhu
30. Supply increases when
- (A) Savings increases
(B) Income increases
(C) Price increases
(D) Consumption increases
31. The term "Extension" having its root in which of the following languages?
- (A) Greek
(B) German
(C) Roman
(D) Latin
32. Which of the following denotes "expression of the ends towards which our efforts are directed"?
- (A) Goals
(B) Objectives
(C) Targets
(D) Motives

33. During photosynthesis which of the following reaction takes place during conversion of PGA to phosphoglyceraldehyde?
- (A) Oxidation
(B) Reduction
(C) Hydrolysis
(D) Transamination
34. Lab to land programme was launched in which year by ICAR?
- (A) 1976
(B) 1979
(C) 1982
(D) 1985
35. Which of the following organelles is enclosed by single membrane?
- (A) Mitochondria
(B) Lysosomes
(C) Nucleus
(D) Chloroplast
36. Semi-conservative replication of DNA was confirmed from experiment of
- (A) Watson and Crick
(B) Taylor
(C) Meselson and Stahl
(D) Cairns
37. Which of the following is endospermic epigeal seed
- (A) *Ricinus communis*
(B) *Pisum sativum*
(C) *Lactuca sativa*
(D) *Arachis hypogea*
38. How much nitrogen is present in Ammonium sulphate?
- (A) 25%
(B) 20.6%
(C) 33%
(D) 46%
39. Which soil is known as "white alkali soil"?
- (A) Alkali soil
(B) Saline soil
(C) Calcareous soil
(D) Hydromorphic soil
40. The population structure of a Pureline variety is
- (A) Homozygous and homogenous
(B) Homozygous and heterogeneous
(C) Heterozygous and heterogeneous
(D) Heterozygous and homogenous

41. Casparian strip is present in

- (A) Epidermis
- (B) Pericycle
- (C) Xylem
- (D) Endodermis

42. The function of extension education is to bring about desirable changes in

- (A) Knowledge
- (B) Skills
- (C) Attitude
- (D) All the above

43. In case of perfect inelastic demand, the elasticity is

- (A) $E = \text{Infinity}$
- (B) $E = \text{Zero}$
- (C) $E > 1$
- (D) $E = 1$

44. Critical Limit of Fe in soil is

- (A) 1.5 mg Kg^{-1}
- (B) 4.5 mg Kg^{-1}
- (C) 8.5 mg Kg^{-1}
- (D) 10.5 mg Kg^{-1}

45. Level of significance is the probability of

- (A) Type I error
- (B) Type II error
- (C) Not committing error
- (D) Random error

46. Size range on a nanoscale usually ranges from

- (A) 1 – 10 nm
- (B) 1 – 100 nm
- (C) 100 – 200 nm
- (D) 0 – 1 nm

47. The pH of Cat clay soils is :

- (A) < 3.5
- (B) > 3.5
- (C) 5.0 – 7.0
- (D) 7.00

48. Which element has been considered essential particularly for seed development in plants?

- (A) Ag
- (B) Na
- (C) Si
- (D) Ni

49. Which state of India has largest area under salt-affected soils?
- (A) Uttar Pradesh
(B) Gujarat
(C) Rajasthan
(D) Madhya Pradesh
50. Nucleus seed multiplication can be done by
- (A) Ear to row method
(B) Head selection
(C) Progeny selection
(D) Plant selection
51. Correct equation for Electro Neutrality Ratio (ENR) from the following is
- (A) $ENR = \frac{Na^+}{[Cl^-] + [SO_4^{-2}]}$
(B) $ENR = \frac{K^+}{[Cl^-] + [SO_4^{-2}]}$
(C) $ENR = \frac{[Na^+] + [K^+]}{[Cl^-] + [SO_4^{-2}]}$
(D) All of these
52. Which of the following method is used for synchronised flowering between parental lines of bajra
- (A) Rope pulling
(B) Jerking
(C) Detasseling
(D) GA spray
53. Which of the following chromosomal suppression is associated with suppression of crossover?
- (A) Paracentric inversions
(B) Pericentric inversions
(C) Translocation
(D) Duplications
54. Which of the following statement is true about DNA duplex?
- (A) The plane of the base lie parallel to the helix axis
(B) The chain have a backbone of linked glycosides
(C) Unless the DNA is circular, the 3'-OH group of each chain are at opposite end of the molecule
(D) The duplex structure is stabilized only by hydrogen bond between bases
55. The diploid chromosome number in rice 24. How many chromosomes would you count if you observe a cell during anaphase II?
- (A) 40
(B) 20
(C) 78
(D) 48
56. Per cent pore space of soil can be calculated by formula of
- (A) $1 - \left(\frac{TD}{BD}\right) \times 100$
(B) $1 - \left(\frac{BD}{TD}\right) \times 100$
(C) $1 + \left(\frac{TD}{BD}\right) \times 100$
(D) $1 + \left(\frac{BD}{TD}\right) \times 100$

57. Free goods have great

- (A) Value is use
- (B) Value in exchange
- (C) Transferability
- (D) None

58. Which of the following can be defined as a system for capturing, storing, checking and displaying data, which are spatially referenced to the earth?

- (A) Remote sensing
- (B) GPS
- (C) Variable rate applicator
- (D) GIS

59. In which soil Mo is highly available?

- (A) Neutral soil
- (B) Acidic soil
- (C) Swampy soil
- (D) Alkaline soil

60. The cost incurred by a farmer for pumping irrigation water is a

- (A) Fixed cost
- (B) Variable cost
- (C) Marginal cost
- (D) Average cost

61. Choose the correct formula of Stock's Law

- (A) $V = \frac{9(\rho_s - \rho_w)gr^2}{2\eta}$
- (B) $V = \frac{9(\rho_s - \rho_w)gr^2}{5\eta}$
- (C) $V = \frac{2(\rho_s - \rho_w)gr}{9\eta}$
- (D) $V = \frac{2(\rho_s - \rho_w)gr^2}{9\eta}$

62. Who proposed the term 'Lime potential'?

- (A) Shoemaker, McLean and Pratt
- (B) Schofield and Taylor
- (C) Woodruff, Adams and Evans
- (D) Schoonover

63. Diaphnoscope is used in

- (A) Seed health
- (B) Varietal identification
- (C) Purity analysis
- (D) Seedling evaluation

64. Under self-fertilization, homozygosity increases in each generation at the rate of

- (A) 12.5%
- (B) 50%
- (C) 25%
- (D) 75%

65. Which one of the following is not a PRA techniques
- (A) Transect walk
 - (B) Resource mapping
 - (C) Venn diagram
 - (D) Mind mapping
66. The bulk density of an ideal soil is
- (A) 1.6 Mg/m^3
 - (B) 1.10 Mg/m^3
 - (C) 1.0 Mg/m^3
 - (D) 1.33 Mg/m^3
67. Who first put forward the "Farmers First" model?
- (A) D. Berol
 - (B) A. Reddy
 - (C) Knapp
 - (D) Robert Chamber
68. Which of the following group of micro-organism are predominant in acidic soil?
- (A) Bacteria
 - (B) Actinomycetes
 - (C) Fungi
 - (D) Algae and bacteria
69. What term is used to the ratio between distance or area on a map and corresponding distance or area on ground?
- (A) Model
 - (B) Chart
 - (C) Scale
 - (D) Image
70. Which one of the following is best cementing agents in the soil?
- (A) Lime and oxides
 - (B) Organic matter and clay
 - (C) Lime and clay
 - (D) Oxides and Humus
71. Whiptail disease in plants is caused by deficiency of which element?
- (A) Mo
 - (B) Co
 - (C) B
 - (D) Cu
72. If electrical conductivity of irrigation water and drainage water have $\text{E.C. } 7 \text{ dSm}^{-1}$ and 12 dSm^{-1} respectively. What would be the Leaching Requirement (LR)?
- (A) 58.33 percent
 - (B) 5.83 percent
 - (C) 0.583 percent
 - (D) 71.43 percent

73. Hydrogenic soils developed in the presence of high water under swampy conditions of podzol zones are known as
- (A) Solonetz
(B) Solod
(C) Bog soils
(D) Solonchak
74. H_2PO_4^- ions of phosphorus is pre-dominant in the soils of
- (A) Neutral in reaction
(B) Highly acidic in reaction
(C) Saline-Alkaline soil
(D) Sodic soil
75. Measurement of sodicity in the soil and soil solution are done by _____ and _____ respectively
- (A) Sodium Adsorption Ratio (SAR) and Exchangeable Sodium Percentage (ESP)
(B) Exchangeable Sodium Percentage (ESP) and Sodium Adsorption Ratio (SAR)
(C) Exchangeable Sodium Percentage (ESP) and Neutralizing Index (NI)
(D) None of the above
76. Tag colour of registered and certified seeds respectively are
- (A) Azure blue and Purple
(B) Opal green and Azure blue
(C) Azure blue and White
(D) Purple and Azure blue
77. Mean deviation is minimum when deviations are taken from
- (A) Mean
(B) Median
(C) Mode
(D) Zero
78. Original products, product improvements, product modifications and new brands that a firm develops through its own research and development efforts are called
- (A) New products
(B) Concept products
(C) Altered products
(D) Supplement products
79. Which is not a objective of PM-KUSUM Scheme?
- (A) Provides energy and water Security to farmers
(B) Enhance farmers income
(C) De-disealise the firm
(D) Pest Management
80. In case of large category of farmer, the marketed surplus will be
- (A) > 1
(B) < 1
(C) $= 1$
(D) None of the above

81. Which of the following technique utilize the spectral variations for classification?

- (A) Computer aided techniques
- (B) Visual image interpretation
- (C) Computer techniques
- (D) None of the above

82. Amount of water retained by soil at 1/3 bar (equivalent to pF 2.5) is known as

- (A) Available water
- (B) Hygroscopic water
- (C) Capillary water
- (D) Field capacity

83. Soils transported and redeposited through the agency of wind are known as

- (A) Loess
- (B) Colluvium
- (C) Alluvium
- (D) None of these

84. Muriate of potash is chemically known as

- (A) Potassium sulphate
- (B) Potassium chloride
- (C) Schoenite
- (D) None of the above

85. Lime potential is

- (A) $\frac{1}{2}pCa + pH_2PO_4$
- (B) $pCa + H_2PO_4$
- (C) $Ca + HPO_4$
- (D) $pH - \frac{1}{2}pCa$

86. Measurement of rainfall was given by

- (A) Sangha
- (B) Varahmihira
- (C) Surapala
- (D) Chanakya

87. Second Cooperative Societies Act was passed in year
- (A) 1912
 - (B) 1906
 - (C) 1905
 - (D) 1910
88. Heat capacity of water is
- (A) 0.493 calorie g^{-1} water
 - (B) 0.171 calorie g^{-1} water
 - (C) 0.250 calorie g^{-1} water
 - (D) 1.00 calorie g^{-1} water
89. Which one of the following is a salt sensitive crop?
- (A) Bean
 - (B) Barley
 - (C) Wheat
 - (D) Sugar beet
90. Which of the following is unitless measure of dispersion?
- (A) Standard deviation
 - (B) Mean deviation
 - (C) Range
 - (D) Coefficient of variation
91. According to the Porter Value Chain, which is not the primary activity of the company?
- (A) Inbound Logistics
 - (B) Marketing and Sales
 - (C) Procurement
 - (D) Outbound Logistics
92. The main objective of hedging is
- (A) Maximization of profit
 - (B) Minimization of price risk
 - (C) Reduction in transportation cost
 - (D) None of the above
93. What is the first domesticated animal?
- (A) Dogs
 - (B) Horse
 - (C) Cow
 - (D) Sheep
94. Market finance is the finance given to the farmer at the time of
- (A) Harvesting
 - (B) Processing
 - (C) Grading
 - (D) Storage

95. Kissan Credit Card was implemented in which year

- (A) 1994
- (B) 1998
- (C) 1990
- (D) 2001

96. Age of food cultivators was

- (A) Mesolithic age
- (B) Bronze age
- (C) Paleolithic age
- (D) Neolithic age

97. Liquid manure is called as

- (A) Kunapa
- (B) Anupa
- (C) Sunpa
- (D) Panchagavya

98. Toll free number of Kisan Call Center is

- (A) 1800-180-5151
- (B) 1800-180-1561
- (C) 1800-180-1551
- (D) 1800-180-5511

99. In Pradhan Mantri Fasal Bima Yojana Premium rate for Horticultural Crops is

- (A) 5%
- (B) 2%
- (C) 1%
- (D) 1.5%

100. What is the total no of parameters included in Soil Health Card?

- (A) 10
- (B) 12
- (C) 8
- (D) 14

.SPACE FOR ROUGH WORK



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