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T.B.C. : AAO – 2/25

**Test Booklet Series**

Serial No. 21524

**D**

# 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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SEAL

1. Free goods have great

   (A) Value is use

   (B) Value in exchange

   (C) Transferability

   (D) None

2. 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

3. In which soil Mo is highly available?

   (A) Neutral soil

   (B) Acidic soil

   (C) Swampy soil

   (D) Alkaline soil

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

   (A) Fixed cost

   (B) Variable cost

   (C) Marginal cost

   (D) Average cost

5. Choose the correct formula of Stock's Law

   (A) $V = \dfrac{9(\rho s - \rho w)gr^2}{2\eta}$

   (B) $V = \dfrac{9(\rho s - \rho w)gr^2}{5\eta}$

   (C) $V = \dfrac{2(\rho s - \rho w)gr}{9\eta}$

   (D) $V = \dfrac{2(\rho s - \rho w)gr^2}{9\eta}$

6. Who proposed the term 'Lime potential'?

   (A) Shoemaker, McLean and Pratt

   (B) Schofield and Taylor

   (C) Woodruff, Adams and Evans

   (D) Schoonover

7. Diaphnoscope is used in

   (A) Seed health

   (B) Varietal identification

   (C) Purity analysis

   (D) Seedling evaluation

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

   (A) 12.5%

   (B) 50%

   (C) 25%

   (D) 75%

9. 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

10. 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

11. 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

12. 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

13. Extension education is viewed as the

(A) Participatory process

(B) Formal education

(C) Distance education process

(D) None of the above

14. 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

15. SGSY is a program for promotion of

(A) Infrastructure community

(B) Wage employment

(C) Community development

(D) Self employment

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

(A) Negative slope

(B) Positive slope

(C) Parallel to x-axis

(D) None

17. Kissan Credit Card was implemented in which year

(A) 1994

(B) 1998

(C) 1990

(D) 2001

18. Age of food cultivators was

(A) Mesolithic age

(B) Bronze age

(C) Paleolithic age

(D) Neolithic age

19. Liquid manure is called as

(A) Kunapa

(B) Anupa

(C) Sunpa

(D) Panchagavya

20. Toll free number of Kisan Call Center is

(A) 1800-180-5151

(B) 1800-180-1561

(C) 1800-180-1551

(D) 1800-180-5511

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

(A) 5%

(B) 2%

(C) 1%

(D) 1.5%

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

(A) 10

(B) 12

(C) 8

(D) 14

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23. Casparian strip is present in

   (A) Epidermis

   (B) Pericycle

   (C) Xylem

   (D) Endodermis

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

   (A) Knowledge

   (B) Skills

   (C) Attitude

   (D) All the above

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

   (A) E = Infinity

   (B) E = Zero

   (C) E > 1

   (D) E = 1

26. 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$^{-1}$

27. Level of significance is the probability of

   (A) Type I error

   (B) Type II error

   (C) Not committing error

   (D) Random error

28. Size range on a nanoscale usually ranges from

   (A) 1 – 10 nm

   (B) 1 – 100 nm

   (C) 100 – 200 nm

   (D) 0 – 1 nm

29. The pH of Cat clay soils is :

   (A) < 3.5

   (B) > 3.5

   (C) 5.0 – 7.0

   (D) 7.00

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

   (A) Ag

   (B) Na

   (C) Si

   (D) Ni

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31. Restriction enzymes are used in genetic manipulation because

(A) They always tend to join different DNA fragments

(B) They are proteolytic enzymes which can degrade harmful enzymes

(C) They can cut DNA at variable sites

(D) They can cleave DNA at a specific target site

32. Changing behavior by rewarding or pushing is called

(A) Behavior Modification

(B) Behavior Modeling

(C) Behavior Reshaping

(D) Behavior Management

33. Har Khet ko Pani / Per Drop More Crop is the tag line of which programme?

(A) Pradhan Mantri Fasal Bima Yojana

(B) Pradhan Mantri Krishi Sinchai Yojana

(C) Atal Mission

(D) PM-Kisan

34. In prefect competition, the shape of Average Revenue Curve is

(A) Parallel to Y-axis

(B) Parallel to X-axis

(C) Convex

(D) Downward sloping curve from left to right

35. Leaf water potential is measured with the help of

(A) Pressure bomb apparatus

(B) Hygrometer

(C) Porometer

(D) Spectrophotometer

36. The notified variety that is in public domain is called

(A) Extant variety

(B) Extinct variety

(C) Derived variety

(D) Farmers variety

37. Which form of the Mo is mostly taken up by the plants?

(A) $MoO_4^{--}$

(B) $MoO_4^{-}$

(C) $MoO_4^{---}$

(D) $MoO_4^{+++}$

38. Who had given idea of nanotechnology first time?

(A) Nori Taniguchi

(B) Richard Feynnman

(C) Richard Flemming

(D) Richard Williams

39. 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

40. 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

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

(A) Loess

(B) Colluvium

(C) Alluvium

(D) None of these

42. Muriate of potash is chemically known as

(A) Potassium sulphate

(B) Potassium chloride

(C) Schoenite

(D) None of the above

43. Lime potential is

(A) $\frac{1}{2}pCa + pH_2PO_4$

(B) $pCa + H_2PO_4$

(C) $Ca + HPO_4$

(D) $pH - \frac{1}{2}pCa$

44. Measurement of rainfall was given by

(A) Sangha

(B) Varahmihira

(C) Surapala

(D) Chanakya

45. The probability of the intersection of two mutually exclusive events is always

(A) Infinity

(B) Zero

(C) One

(D) 0.5

46. Whether a test is one-sided or two-sided depends on

(A) Simple hypothesis

(B) Null hypothesis

(C) Composite hypothesis

(D) Alternative hypothesis

47. Scale of Finance is fixed by the

(A) Commercial Bank

(B) NABARD

(C) Reserve Bank of India

(D) District Level Technical Committee

48. 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

49. Which of the following is a centrally sponsored scheme for farmer's welfare?

(A) PM-Kisan

(B) KALIA

(C) BALRAM

(D) Raitu Bandhu

50. Supply increases when

(A) Savings increases

(B) Income increases

(C) Price increases

(D) Consumption increases

51. The term "Extension" having its root in which of the following languages?

(A) Greek

(B) German

(C) Roman

(D) Latin

52. Which of the following denotes "expression of the ends towards which our efforts are directed"?

(A) Goals

(B) Objectives

(C) Targets

(D) Motives

**53.** Second Cooperative Societies Act was passed in year

(A) 1912

(B) 1906

(C) 1905

(D) 1910

**54.** 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

**55.** Which one of the following is a salt sensitive crop?

(A) Bean

(B) Barley

(C) Wheat

(D) Sugar beet

**56.** Which of the following is unitless measure of dispersion?

(A) Standard deviation

(B) Mean deviation

(C) Range

(D) Coefficient of variation

**57.** 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

**58.** 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

**59.** What is the first domesticated animal?

(A) Dogs

(B) Horse

(C) Cow

(D) Sheep

**60.** Market finance is the finance given to the farmer at the time of

(A) Harvesting

(B) Processing

(C) Grading

(D) Storage

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61. Which state of India has largest area under salt-affected soils?

    (A) Uttar Pradesh
    (B) Gujarat
    (C) Rajasthan
    (D) Madhya Pradesh

62. Nucleus seed multiplication can be done by

    (A) Ear to row method
    (B) Head selection
    (C) Progeny selection
    (D) Plant selection

63. Correct equation for Electro Neutrality Ratio (ENR) from the following is

    (A) $ENR = \dfrac{Na^+}{[Cl^-] + [SO_4^{-2}]}$

    (B) $ENR = \dfrac{K^+}{[Cl^-] + [SO_4^{-2}]}$

    (C) $ENR = \dfrac{[Na^+] + [K]^+}{[Cl^-] + [SO_4^{-2}]}$

    (D) All of these

64. 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

65. Which of the following chromosomal suppression is associated with suppression of crossover?

    (A) Paracentric inversions
    (B) Pericentric inversions
    (C) Translocation
    (D) Duplications

66. 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

67. 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

68. Per cent pore space of soil can be calculated by formula of

    (A) $1 - \left(\dfrac{TD}{BD}\right) \times 100$

    (B) $1 - \left(\dfrac{BD}{TD}\right) \times 100$

    (C) $1 + \left(\dfrac{TD}{BD}\right) \times 100$

    (D) $1 + \left(\dfrac{BD}{TD}\right) \times 100$

69. What is the range of Phosphorus use efficiency in India?
   (A) 15 – 20 %
   (B) 25 – 35 %
   (C) 35 – 45 %
   (D) 45 – 55 %

70. 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

71. 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

72. The isolation distance recommended in meters for pureline variety
   (A) 100 m
   (B) 200 m
   (C) 3 m
   (D) 300 m

73. 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

74. 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

75. 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

76. 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

77. 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

78. $H_2PO_4^-$ 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

79. 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

80. 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

81. Mean deviation is minimum when deviations are taken from

(A) Mean

(B) Median

(C) Mode

(D) Zero

82. 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

83. 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

84. In case of large category of farmer, the marketed surplus will be

(A) > 1

(B) < 1

(C) = 1

(D) None of the above

85. Which one of the following is not a PRA techniques

(A) Transect walk

(B) Resource mapping

(C) Venn diagram

(D) Mind mapping

86. 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) $1.33 \ Mg/m^3$

87. Who first put forward the "Farmers First" model?

(A) D. Berol

(B) A. Reddy

(C) Knapp

(D) Robert Chamber

88. Which of the following group of micro-organism are predominant in acidic soil?

(A) Bacteria

(B) Actinomycetes

(C) Fungi

(D) Algae and bacteria

89. 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

90. 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

91. Whiptail disease in plants is caused by deficiency of which element?

(A) Mo

(B) Co

(C) B

(D) Cu

92. If electrical conductivity of irrigation water and drainage water have E.C. $7 \ dSm^{-1}$ 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

93. During photosynthesis which of the following reaction takes place during conversion of PGA to phosphoglyceraldehyde?

(A) Oxidation

(B) Reduction

(C) Hydrolysis

(D) Transamination

94. Lab to land programme was launched in which year by ICAR?

(A) 1976

(B) 1979

(C) 1982

(D) 1985

95. Which of the following organelles is enclosed by single membrane?

(A) Mitochondria

(B) Lysosomes

(C) Nucleus

(D) Chloroplast

96. Semi-conservative replication of DNA was confirmed from experiment of

(A) Watson and Crick

(B) Taylor

(C) Meselson and Stahl

(D) Cairns

97. Which of the following is endospermic epigealseed

(A) Ricinuscommunis

(B) Pisumsativum

(C) Lactucasativa

(D) Arachis hypogea

98. How much nitrogen is present in Ammonium sulphate?

(A) 25%

(B) 20.6%

(C) 33%

(D) 46%

99. Which soil is known as "white alkali soil"?

(A) Alkali soil

(B) Saline soil

(C) Calcareous soil

(D) Hydromorphic soil

100. The population structure of a Pureline variety is

(A) Homozygous and homogenous

(B) Homozygous and heterogeneous

(C) Heterozygous and heterogeneous

(D) Heterozygous and homogenous