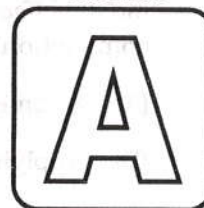


DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Test Booklet No. :

Series

01601

TEST BOOKLET
AGRICULTURE

Time Allowed : 2 Hours

Full Marks : 100

Read the following instructions carefully before you begin to answer the questions :

1. The name of the Subject, Roll Number as mentioned in the Admission Certificate, Test Booklet No. and Series are to be written legibly and correctly in the space provided on the Answer-Sheet with Black/Blue ballpoint pen.
2. Answer-Sheet without marking Series as mentioned above in the space provided for in the Answer-Sheet shall not be evaluated.
3. All questions carry equal marks.

The Answer-Sheet should be submitted to the Invigilator.

Directions for giving the answers : Directions for answering questions have already been issued to the respective candidates in the 'Instructions for marking in the OMR Answer-Sheet' along with the Admit Card and Specimen Copy of the OMR Answer-Sheet.

Example :

Suppose the following question is asked :

The capital of Bangladesh is

- (A) Chennai
- (B) London
- (C) Dhaka
- (D) Dhubri

You will have four alternatives in the Answer-Sheet for your response corresponding to each question of the Test Booklet as below :

(A) (B) (C) (D)

In the above illustration, if your chosen response is alternative (C), i.e., Dhaka, then the same should be marked on the Answer-Sheet by blackening the relevant circle with a Black/Blue ballpoint pen only as below :

(A) (B) (C) (D)

The example shown above is the only correct method of answering.

4. Use of eraser, blade, chemical whitener fluid to rectify any response is prohibited.
5. Please ensure that the Test Booklet has the required number of pages (16) and 100 questions immediately after opening the Booklet. In case of any discrepancy, please report the same to the Invigilator.
6. No candidate shall be admitted to the Examination Hall/Room 20 minutes after the commencement of the examination.
7. 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.
8. No Mobile Phone, Electronic Communication Device, etc., are allowed to be carried inside the Examination Hall/Room by the candidates. Any Mobile Phone, Electronic Communication Device, etc., found in possession of the candidate inside the Examination Hall/Room, even if on off mode, shall be liable for confiscation.
9. 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 papers permitted by the Commission.
10. 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.
11. This Test Booklet can be carried with you after answering the questions in the prescribed Answer-Sheet.
12. Noncompliance with any of the above instructions will render a candidate liable to penalty as may be deemed fit.
13. No rough work is to be done on the OMR Answer-Sheet. You can do the rough work on the space provided in the Test Booklet.

N.B. : There will be negative marking @ 0.25 per 1 (one) mark against each wrong answer.

/12-A

[No. of Questions : 100]

SEAL

1. A farmer is experiencing severe soil compaction in his field. Which of the following actions would be the most effective at improving soil compaction?
 - (A) Submerging the field with water
 - (B) Applying synthetic fertilizers
 - (C) Implementing a no-till system
 - (D) Deep tilling and applying organic matters
2. Which of the following soil conservation practices is most effective for reducing sheet erosion and runoff?
 - (A) Terrace farming
 - (B) Cover cropping
 - (C) Contour ploughing
 - (D) All of the above
3. A farmer is considering implementing an integrated pest management (IPM) programme. Which of the following would be the most effective first step?
 - (A) Applying broad-spectrum pesticides throughout the growing season
 - (B) Accurate identification of pests to determine the appropriate timing for intervention
 - (C) Applying mechanical control methods such as pheromone traps and barriers
 - (D) Growing pest-resistant crops
4. Which of the following statements is **not** true regarding the laterite soils in India?
 - (A) These soils are deficient in nitrogen, phosphorus and other nutrients.
 - (B) These soils provide good building materials.
 - (C) These soils have large clay content and are moisture retentive.
 - (D) These soils are heavily leached due to high rainfall.
5. Which of the following is called the resting and inactive stage in the insect life cycle?
 - (A) The egg stage
 - (B) The larva stage
 - (C) The pupa stage
 - (D) The adult stage
6. Which of the following is **not** correctly matched?
 - (A) Mustard—White rust
 - (B) Paddy—Bacterial leaf blight
 - (C) Wheat—Red rust
 - (D) Groundnut—Tikka

7. Hybridization and selection are the most used conventional method of breeding for developing disease-resistant varieties. Which of the following is **not** a step in the sequence of the process of hybridization?
- Parent selection
 - Emasculation and bagging or covering of emasculated flower
 - Crossing
 - Budding
8. Chlorosis is a condition in which leaves produce insufficient chlorophyll. Deficiency of which of the following elements causes interveinal chlorosis in leaves of plants?
- Calcium
 - Nitrogen
 - Boron
 - Iron
9. The good quality rice grains have certain specific qualities. Which one of the following is **not** a quality parameter of rice grain?
- Cooking quality
 - Eating quality
 - Milling quality
 - Curing quality
10. Which of the following plant species produces nodules on its stem?
- Sesbania aculeata*
 - Sesbania rostrata*
 - Crotalaria juncea*
 - Sesbania acuminata*
11. Which of the following indicates a situation of hidden hunger in plants?
- Plant nutrients are in sufficient quantity but yet seems to be deficient
 - Plant nutrients are deficient so the plants express deficiency symptoms
 - Plants demonstrate severe yield reduction without expressing any deficiency symptoms
 - Plants are unable to express any symptom due to other elements
12. In drilling method of sowing, which one of the following is maintained?
- Row-to-row spacing
 - Plant-to-plant spacing
 - Both (A) and (B)
 - None of the above
13. Which of the following is **not** a component of the moisture potential in soil?
- Matric potential
 - Gravity potential
 - Turgor potential
 - Osmotic potential

14. Downward movement of water from upper layer to lower layer of soil is called as
- (A) seepage
 - (B) soil profile
 - (C) percolation
 - (D) infiltration
15. The upper limit of soil moisture availability is called as
- (A) saturation point
 - (B) wilting point
 - (C) hygroscopic coefficient
 - (D) field capacity
16. Which one of the following characteristics is **not** correct about rice variety 'Ranjit Sub1' developed by Assam Agricultural University?
- (A) Submergence tolerance up to two weeks
 - (B) It yields 5-5.5 tons/hectare
 - (C) Its duration is 110-120 days
 - (D) It is a flood-tolerant rice variety
17. When a second crop is sown before harvest of the previous crop in the same field, it is known as
- (A) ratoon cropping
 - (B) alley cropping
 - (C) strip cropping
 - (D) relay cropping
18. Presently, the contribution of agriculture to India's Gross Value Added (GVA) stands approximately at
- (A) 24-25%
 - (B) 12-13%
 - (C) 18-19%
 - (D) 31-32%
19. Which of the following is released during conversion of succinate to fumarate in TCA cycle?
- (A) CO_2
 - (B) H_2O
 - (C) FADH_2
 - (D) ATP
20. Find out the odd one from the following list of crops.
- (A) Rice
 - (B) Wheat
 - (C) Maize
 - (D) Barley
21. Which of the following is a micro plant nutrient?
- (A) Nitrogen
 - (B) Phosphorus
 - (C) Calcium
 - (D) Iron

22. Removal of soil particles due to rain drop is called
- (A) sheet erosion
 - (B) splash erosion
 - (C) rill erosion
 - (D) gully erosion
23. Which of the following watershed management practices is engineering or structural practice?
- (A) Strip cropping
 - (B) Pasture cropping
 - (C) Contour bunding
 - (D) Grassland farming
24. Which one of the following rice varieties developed by Assam Agricultural University is a diabetic-friendly rice?
- (A) Ranjit
 - (B) Bahadur
 - (C) Labanya
 - (D) Kapilee
25. The characteristic of a pathogen being able to cause diseases is known as
- (A) pathogenicity
 - (B) infection
 - (C) penetration
 - (D) pathogenesis
26. The enzyme secreted by embryo of seeds which induces germination process is known as
- (A) auxin
 - (B) gibberellin
 - (C) ethylene
 - (D) cytokinin
27. Which of the following is responsible for causing rice blast?
- (A) *Rhizoctonia solani*
 - (B) *Pyricularia oryzae*
 - (C) *Helminthosporium oryzae*
 - (D) *Sclerotium oryzae*
28. Growing a crop using only that much tillage needed for placing the seeds at proper depth and then covering them is termed as
- (A) conservation tillage
 - (B) conventional tillage
 - (C) minimum tillage
 - (D) zero tillage
29. Find out the odd one from the following list of crops.
- (A) Groundnut
 - (B) Castor
 - (C) Sesamum
 - (D) Mustard

30. Which of the following is **not** a component of the composition of Bordeaux mixture?
- (A) Copper sulphate
 - (B) Calcium carbonate
 - (C) Calcium hydroxide
 - (D) Water
31. Which one of the following is **not** a condition for perfect market competition?
- (A) Homogenous products
 - (B) Free entry and exit of firms
 - (C) Perfect information
 - (D) A few number of buyers and sellers
32. If the 1000 grain weight of hybrid maize is 240 g, the seed rate required for obtaining plant population of 60000 plants/ha will be
- (A) 15.4 kg/ha
 - (B) 14.4 kg/ha
 - (C) 16.0 kg/ha
 - (D) 15.0 kg/ha
33. Introduction of parasites, predators and/or pathogens of the pests into crop environment to reduce pest population is generally known as
- (A) biological control
 - (B) ecological control
 - (C) autocidal control
 - (D) None of the above
34. Which of the following hormones is also termed as stress hormone in plants?
- (A) Ethylene
 - (B) Gibberellin
 - (C) Auxin
 - (D) ABA
35. Which of the following is **not** a cultivated species of sugarcane?
- (A) *Saccharum officinarum*
 - (B) *Saccharum sinense*
 - (C) *Saccharum robustum*
 - (D) *Saccharum barberi*
36. Amrapali is a hybrid mango variety developed from
- (A) Neelam × Alphonso (NAR)
 - (B) Alphonso × Banganapalli (ABaAP)
 - (C) Dasherri × Neelam (DNA)
 - (D) Alphonso × Ratna
37. Photoperiodically, rice is a/an _____ type of plant.
- (A) long-day
 - (B) intermediate
 - (C) short-day
 - (D) day neutral

38. Potatoes store food in the form of
 (A) sugar (B) fibre
 (C) enzymes (D) starch
39. Nutrient that is mobile in plant but immobile in soil is
 (A) N (B) P
 (C) K (D) S
40. _____ technique is used for the soil fertility evaluation.
 (A) Soil testing
 (B) Plant tissue testing
 (C) Biological testing
 (D) All of the above
41. Which one of the following is **not** an element of communication?
 (A) Rigidity
 (B) Consistency
 (C) Uniformity
 (D) Adequacy
42. Tea is propagated by
 (A) seed
 (B) layering
 (C) tea-budding
 (D) softwood cutting
43. The size of the clay fraction is less than
 (A) 0.02 mm (B) 0.002 mm
 (C) 0.01 mm (D) 0.001 mm
44. Khaira disease of rice is due to the deficiency of
 (A) iron
 (B) molybdenum
 (C) boron
 (D) zinc
45. Apex bank for rural credit in India is
 (A) SBI (B) NABARD
 (C) RRB (D) CBI
46. The byproduct of sugar industry used as fertilizer is
 (A) pressmud
 (B) rock phosphate
 (C) biosuper
 (D) CAN fertilizer
47. Correlation coefficient ranges between
 (A) 0 to 1
 (B) 0 to 00
 (C) -00 to +00
 (D) -1 to +1

48. Premature fall of leaves and buds is due to the deficiency of
- (A) P and Mo (B) K and Ca (C) Ca and Mg (D) K and P
49. The edible part of cauliflower is known as
- (A) curd (B) flax (C) spike (D) coryza
50. The chief constituents of biogas are
- (A) Ethylene, CO (B) Methane, CO (C) Methane, CO₂ (D) Ethylene, O₂
51. Single superphosphate contains phosphorus in ____ form.
- (A) citrate-soluble (B) water-soluble (C) insoluble (D) phosphate
52. Sorghum poisoning in cattle is due to
- (A) sodium (B) iron (C) HCN (D) nitrate
53. Which of the following is a C₄ type of plant?
- (A) Rice (B) Wheat (C) Soybean (D) Maize
54. Minimum support prices are fixed after taking the recommendation of
- (A) Planning Commission (B) Finance Commission (C) NABARD (D) Commission for Agricultural Costs and Prices
55. Blue colour triangle in insecticide pack indicates
- (A) slightly toxic (B) highly toxic (C) moderately toxic (D) extremely toxic
56. Gradual and persistent increase in the general price level is called
- (A) inflation (B) stagflation (C) price fixation (D) All of the above
57. The crop, most sensitive to both excess moisture and drought, is
- (A) direct seeded rice (B) sunflower (C) maize (D) sorghum

58. Tikka disease is mainly found in
 (A) groundnut
 (B) potato
 (C) mango
 (D) All of the above
59. The release of natural enemies that are expected to colonize and spread throughout an area naturally is called
 (A) cumulative release
 (B) inundative release
 (C) inoculative release
 (D) None of the above
60. Foot-and-mouth disease is caused by
 (A) bacteria (B) fungi
 (C) virus (D) parasite
61. _____ refers to the sudden heritable change in the phenotype of an individual.
 (A) Hereditary change
 (B) Phenotypical change
 (C) Radiation
 (D) Mutation
62. In disc plough, the discs move forward by
 (A) sliding
 (B) reciprocating motion
 (C) rolling
 (D) Both (A) and (C)
63. _____ is a condition when the actual seasonal rainfall is deficient by more than mean deviation.
 (A) Dry spell
 (B) Drought
 (C) Aridity
 (D) All of the above
64. A device for measuring percolation and leaching losses from a column of soil under controlled condition is
 (A) infiltrometer
 (B) evaporimeter
 (C) psychrometer
 (D) lysimeter
65. Which of the following is an exotic cattle breed?
 (A) Holstein Friesian (HF)
 (B) Jersey
 (C) Karan Swiss
 (D) All of the above
66. Gibberellins are used
 (A) as herbicide
 (B) as ripening agent
 (C) to increase flowering
 (D) as weedicide

67. _____ is a district scientific organization that works on technology testing, refinement and dissemination.
- (A) Kisan Goshti Kendra
 - (B) Krishi Vigyan Kendra
 - (C) Krishi Gyan Kendra
 - (D) Agricultural Technology Management Agency
68. Who is the President of ICAR?
- (A) The President of Govt. of India
 - (B) The Prime Minister
 - (C) The Union Minister of Agriculture & Farmer's Welfare
 - (D) DG of ICAR
69. A market guided by rules and regulations is
- (A) seasonal market
 - (B) terminal market
 - (C) regulated market
 - (D) perfect market
70. Growing two or more crops simultaneously with no distinct row arrangement is
- (A) mixed cropping
 - (B) strip cropping
 - (C) row intercropping
 - (D) relay cropping
71. Symbol _____ used for purity of agricultural good is
- (A) ISI
 - (B) AGMARK
 - (C) BSI
 - (D) All of the above
72. Which scheme provides old age pension for the protection of social security of small and marginal farmers?
- (A) Pradhan Mantri Kisan Maandhan Yojana
 - (B) Pradhan Mantri Fasal Bima Yojana
 - (C) Pradhan Mantri Kisan Samman Nidhi
 - (D) Pradhan Mantri Suraksha Bima Yojana
73. Which monsoon contributes maximum rainfall in India?
- (A) South-West monsoon
 - (B) Bay of Bengal branch
 - (C) North-East monsoon
 - (D) Arabian branch
74. ICAR-National Research Centre on Mithun is located in
- (A) Nagaland
 - (B) Arunachal Pradesh
 - (C) Hyderabad
 - (D) Bengaluru

75. Most plants obtain their nitrogen from the soil in the form of
- HNO_3
 - nitrate
 - free nitrogen
 - nitrogen oxide
76. Which of the following is **not** a measure of dispersion?
- Mode
 - Range
 - Mean deviation
 - Standard deviation
77. Any direct or indirect harmful effect that plant has on another, through the release of chemical substance in the root environment, is
- annidation
 - toxic effect
 - allelopathy
 - chemical effect
78. The sex-linked genes are found on
- X-chromosome
 - G-chromosome
 - Z-chromosome
 - S-chromosome
79. Free-living nitrogen-fixing bacteria is
- Azospirillum
 - Azotobacter
 - VAM
 - Azolla
80. The term 'genetics' is coined by
- Morgan
 - Lamarck
 - Mendel
 - William Bateson
81. Which of the following is a primary application of transgenic plants?
- To make plants more resistant to herbicides
 - To improve plant growth and development
 - To produce specific proteins for pharmaceutical use
 - All of the above
82. Which of the following is a primary nutritional requirement for in vitro cultures?
- Sucrose as a carbon source
 - Vitamin
 - Inorganic salt
 - All of the above

83. In micropropagation, the initial piece of plant tissue taken for culturing is called

- (A) explant
- (B) callus
- (C) somaclone
- (D) microshoot

84. Which of the following is **not** a commonly used vector for gene transfer?

- (A) Plasmid
- (B) Bacteriophage
- (C) Artificial chromosome
- (D) Ribosome

85. Which of the following describes a key principle of nanotechnology?

- (A) Manipulating matter at the atomic and molecular level
- (B) Using large, macroscopic objects to create new materials
- (C) Focus on materials with extremely high density
- (D) Exploring the properties of materials at extremely low temperatures

86. Which of the following statements are correct in relation to depth of sowing in Rabi season?

1. The seeding depth considerably influences seed germination and emergence.
2. The effect of seeding depth is not important in dry land areas as the crops are raised there on conserved moisture.
3. Deeper seeding may cause poor emergence and shallow depth may lead to poor germination due to low moisture.

Select the correct answer using the codes given below.

- (A) 1 and 2 only
- (B) 2 and 3 only
- (C) 1 and 3 only
- (D) 1, 2 and 3

87. Which of the following vectors transmits bunchy top of banana?

- (A) Aphid
- (B) Thrips
- (C) Leafhopper
- (D) Stemborer

88. First genetically modified Bt crop in India is

- (A) brinjal
- (B) cotton
- (C) maize
- (D) soybean

89. Ufra disease of rice is caused by

- (A) nematode
- (B) fungus
- (C) virus
- (D) insect pest

90. Which of the following statements are correct about method demonstration?

- 1. Skill is involved in method demonstration.
- 2. Method demonstration is conducted by extension workers.
- 3. Method demonstration is longer than the result demonstration.
- 4. Method demonstration needs AV aids.

Select the correct answer using the codes given below.

- (A) 1, 2, 3 and 4
- (B) 1 and 2 only
- (C) 2, 3 and 4 only
- (D) 1, 2 and 3 only

91. Which of the following statements are correct regarding the citric acid cycle?

- 1. The cycle directly consumes oxygen.
- 2. NADH and FADH_2 are major reduced products of the cycle.
- 3. Succinyl-CoA synthetase catalyzes a substrate level phosphorylation.
- 4. Oxaloacetate is consumed but not regenerated in the cycle.

Select the correct answer using the codes given below.

- (A) 1 and 4
- (B) 2 only
- (C) 3 only
- (D) 2 and 3

92. Which of the following statements are correct about South-West monsoon in India?

- 1. Normal date of onset of monsoon is 1st June.
- 2. El Niño of previous year is negatively correlated with South-West monsoon.
- 3. Statistical method is used to forecast monsoon rainfall.

Select the correct answer using the codes given below.

- (A) 1 and 2 only
- (B) 1 and 3 only
- (C) 2 and 3 only
- (D) 1, 2 and 3

93. Which of the following diseases is/are important in rice?

1. Blast
2. Bacterial leaf blight
3. False smut
4. Late blight

Select the correct answer using the codes given below.

- (A) 1 only
(B) 1 and 2 only
(C) 1, 2 and 3 only
(D) 1, 2, 3 and 4

94. Which of the following are considered as biocontrol agents?

1. *Pseudomonas fluorescens*
2. *Erwinia amylovora*
3. *Bacillus subtilis*
4. *Trichoderma harzianum*

Select the correct answer using the codes given below.

- (A) 1, 2 and 3
(B) 1, 2 and 4
(C) 1, 3 and 4
(D) 2, 3 and 4

95. Which of the following plant diseases are caused by fungal pathogen?

1. Black heart of potato
2. Clubroot of cabbage
3. Sheath blight of rice
4. Rice tungro

Select the correct answer using the codes given below.

- (A) 1 and 2 only
(B) 2 and 3 only
(C) 2 and 4
(D) 1, 2 and 3

96. Which of the following statements are true for soil organic matter?

1. The maintenance of optimum soil organic matter is of great practical importance as crop productivity is largely governed by the organic matter content of soil.
2. The soil organic matter content is mostly influenced by quantity rather than source and method of application.
3. The content and functions of organic matter are promoted by favourable soil conditions.
4. The burning of crop residues increases organic matter content in soil.

Select the correct answer using the codes given below.

- (A) 1 and 2 only
(B) 1 and 3 only
(C) 1 and 4
(D) 1, 2 and 3

97. Which of the following statements is/are correct about 'plant breeding'?

1. It deals with improvement in yield.
2. It deals with improvement in quality.
3. It deals with improvement of stress resistance.

Select the correct answer using the codes given below.

- (A) 1 only
(B) 2 only
(C) 3 only
(D) 1, 2 and 3

98. Which of the following statements is/are correct about rice crop?

1. Rice is C_3 plant.
2. Autumn rice crop is harvested in the month of November.
3. Optimum crop nutrition at vegetative stage plays key role to enhance production of effective tillers.
4. Proper weed management in critical stages is key to achieve targeted productivity.

Select the correct answer using the codes given below.

- (A) 1 only
(B) 1 and 2
(C) 3 only
(D) 1, 3 and 4

99. Which of the following statements is/are correct about 'urea'?

1. It is an organic nitrogenous fertilizer containing 46% nitrogen.
2. This fertilizer is recommended for certified organic farming.
3. Proper application of urea in upland condition reduces volatilization loss of N to 'NIL'.

Select the correct answer using the codes given below.

- (A) 1 only
(B) 1 and 2 only
(C) 3 only
(D) 1, 2 and 3

100. In photosynthesis, the phase of light reaction accomplishes

1. photolysis of water
2. evolution of oxygen
3. production of energy-rich compounds
4. reduction of carbon dioxide

Select the correct answer using the codes given below.

- (A) 1 and 3 only
(B) 1, 2 and 3
(C) 2, 3 and 4
(D) 1, 2 and 4

SPACE FOR ROUGH WORK

SEAL
