

DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

QUESTION BOOKLET

SERIES I

PAPER- I (AGRONOMY, HORTICULTURE, PHYSIOLOGY)

BOOKLET SERIAL NO.

610489

Marks : 100

Time : 1 hour

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

INSTRUCTIONS TO CANDIDATES

1. This booklet contains **50 questions** to be answered in a separate OMR Answer Sheet using Black Ball Pen in following three parts:

Part A-Agronomy : 20 questions, Part B- Horticulture : 20 questions,

Part C- Physiology : 10 questions

2. All Questions are compulsory.
3. You will be supplied the Answer sheet separately by the invigilator. You must complete the details of particulars asked for.
4. Answers must be shown by completely blackening the corresponding circles in the Answer Sheet against the relevant question number by Black Ball Pen. OMR Answer Sheet without marking series/ double series marking shall not be evaluated.

Example :

Supposing the following question is asked -

The Capital of Meghalaya is-

- A. Guwahati
- B. Kohima
- C. Shillong
- D. Delhi

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

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

In the above illustration, if your chosen response is alternative C i.e. Shillong, then the same should be marked on the Answer Sheet by blackening the relevant circle with a Black Ball Point Pen only as below :-

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

WHICH IS THE ONLY CORRECT METHOD OF ANSWERING

5. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any one question.
6. There will NOT be any negative marking for wrong answers.
7. The Answer Sheet must be handed over to the invigilator before you leave the Examination Hall.
8. No rough work is to be done on the Answer Sheet. Space for rough work has been provided in the question booklet.

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PAPER-I

PART A

AGRONOMY

Each question carries two marks :

Direction : In each of the following questions four options are given, choose the right answer.

1. The term Agriculture is derived from two Latin words ager or agri meaning

- a) Water b) Soil
c) Air d) All of the above

2. The father of the Green revolution in India is

- a) William Gaud b) Kirti Singh
c) M.S. Swaminathan d) K.L. Chaddha

3. Which of the following are the main features of Green revolution ,

- i) High Yielding Varieties, chemical fertilizers and pesticides
ii) High Yielding Varieties, mechanization of agriculture and irrigation
iii) High Yielding Varieties, processing and post-harvest management
iv) High Yielding Varieties, chemical fertilizers and precision farming

- a) (i) only b) (ii) only
c) (i) & (ii) only d) (iii) & (iv) only

4. Technologically, seed may be

- a) Matured ovule
b) Propagating materials
c) Both of the above
d) None of the above

5. The optimum moisture content of seed for long term storage

- a) 2-4% b) 6-8%
c) 8-10% d) 10-12%

6. It is considered that _____ as father of tillage

- a) Justus van Liebig b) Francis Bacon
c) Thomas Jefferson d) Jethrotull

7. Dibbling is also known as

- a) Random sowing b) Drill sowing
c) Line sowing d) Broadcasting

8. The immobile essential elements within plant are

- a) Zn b) B
c) K d) P

9. The biofertilizer legume inoculants was mainly due to organism

- a) Pseudomonas b) Azolla
c) Azospirillum d) Rhizobium

10. The index tissue for nutrient analysis in citrus

- a) Leaves + petiole (3-5 months old)
b) Youngest leaves
c) Petiole (1 month old)
d) All of the above

11. Depth of water required by a crop is ?

- a) Water level b) Water height
c) Water quantity d) Delta

12. The important approach in micro watershed is

- a) Soil conservation
b) Productivity improvement
c) Storage of runoff water
d) All of these

13. The water utilizable by plants is available in soils mainly in the form of

- a) capillary water b) chemical water
c) gravity water d) hygroscopic water

14. Fertigation is a process in

- a) Sprinkler irrigation
b) Drip irrigation
c) Surface irrigation
d) Centre pivot irrigation

15. What are the benefits of implementing the Integrated Watershed Development Programme?

- i) Preventing soil runoff
ii) Linking the perennial rivers with seasonal rivers
iii) Rainwater harvesting and recharge of ground-water table
iv) Regeneration of natural vegetation

- a) (i) and (ii) only
- b) (ii), (iii) and (iv) only
- c) (i), (iii) and (iv) only
- d) (i), (ii), (iii) and (iv)

16. In India the National Farmers' Day or Kisan Diwas is celebrated on the

- a) November 27
- b) November 30
- c) December 23
- d) December 25

17. The partial root parasite is

- a) Cuscuta
- b) Loranthus
- c) Striga
- d) Orobanche

18. Successful weed management is based on

- i) Knowledge on weed biology
- ii) Survey on the nature of weed problem
- iii) Whole farm planning
- iv) Removal of weeds before flowering

- a) (i) and (ii) only
- b) (i), (ii) and (iii) only
- c) (i), (iii) and (iv) only
- d) all of the above

19. Besides providing Nitrogen, Azolla is used for weed control in

- a) Wheat
- b) Rice
- c) Castor
- d) Linseed

20. What are the units of LD_{50} ?

- a) mg/kg body weight
- b) g/g body weight
- c) kg/g of body weight
- d) mg/g body weight

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PART B
HORTICULTURE

Each question carries two marks :

21. A judicious removal of plant parts to maintain a balance between vegetative and reproductive is called
a) Training
b) Pruning
c) Cultural operation
d) None of the above
22. How much does hexagonal planting system accommodate more plants than square system
a) 5 percent
b) 10 percent
c) 15 percent
d) 20 percent
23. Filler trees are found in
a) Square system
b) Rectangular system
c) Triangular system
d) Quincunx system
24. India is the world's leading producer of the following fruit crops
a) Mango
b) Banana
c) Papaya
d) All of the above
25. Megha Turmeric -1 is a
a) Clonal selection
b) Hybrids
c) Transgenic
d) None of the above
26. The growth regulator used for induction of parthenocarpy in grapes
a) GA₃
b) NAA
c) Ethylene
d) ABA
27. Propagation due to mitotic division is
a) Asexual propagation
b) Sexual propagation
c) Both of the above
d) None of the above
28. Nucellar seedlings in citrus are
a) True-to-type
b) Virus free
c) Vigorous seedlings
d) All of the above
29. 'Ruby Red' is a sport mutant of
a) Grapefruit
b) Apple
c) Khasi mandarin
d) Pear
30. The commercial propagation technique of Khasi mandarin in heavy rainfall areas is
a) T-budding
b) Inverted T-Budding
c) Patch budding
d) All of the above
31. The most recent advancement in raising of plants under highly controlled environmental conditions is
a) Greenhouse
b) Lath house
c) Phytotron
d) Mist chamber
32. Which method of irrigation is suitable for orchard crops ?
a) Basin method
b) Ring basin method
c) Furrow method
d) All of these
33. The origin of tea (*Camellia sinensis*) is
a) Southeast Asia
b) Central Asia
c) South America
d) East Asian
34. Mohitnagar is a variety of
a) Oil palm
b) Arecanut
c) Coconut
d) Cocoa
35. Fly Picking is associated with
a) Black pepper
b) Cashew
c) Opium
d) Coffee
36. Tea mosquito is a major pest of
a) Coconut
b) Cocoa
c) Cashew
d) None of the above
37. Abnormal leaf fall is a disease of
a) Rubber
b) Tea
c) Arecanut
d) Coffee
38. A lawn can be described as
a) Green carpet
b) A land covered with lawn grass
c) A piece of land in a garden
d) A beautifully designed piece of land with green grass
39. Which is known as miniature garden ?
a) Mughal garden
b) English garden
c) Japanese garden
d) Italian garden
40. Family of tuberose is
a) Malvaceae
b) Rosaceae
c) Amaryllidaceae
d) Compositae

PART C
PHYSIOLOGY

Each question carries two marks :

41. The response of plants to the relative length of day and night is known as

- a) Vernalization b) Photoperiodism
c) Phototropism d) None of these

42. Which of the following is a long day plant ?

- a) Sugar beet b) Wheat
c) Barley d) All of these

43. In flaccid cell, the pressure potential is

- a) Zero b) Ten
c) Twenty d) One

44. To explain ascent of sap in plants, Sir J.C. Bose (1923) proposed

- a) Vital theory
b) Physical force theory
c) Root pressure theory
d) All of these

45. Which is a C4 plant ?

- a) Soyabean b) Maize
c) Pineapple d) All of the above

46. Which is a continuous source of water in C4 cycle ?

- a) Only Xylem
b) Only phloem
c) Vascular tissue which consists both xylem and phloem
d) Stoma

47. Hidden hunger in plant is ?

- a) In which plant shows deficiency symptoms
b) In which plant doesn't show deficiency symptoms
c) In which plant needs supply of essential nutrients
d) In which plant doesn't need supply of essential nutrients

48. Which is a CAM plant ?

- a) Mango b) Tamarind
c) Kiwifruit d) Pineapple

49. Who is known father of plant physiology ?

- a) W. Kuntis b) Funk

c) Fisher

d) Stephen Hales

50. In germinating seeds sugar is present as ?

- a) Maltose
c) Galactose
b) Glucose
d) Fructose

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