



S10

पेपर क्र. - 1

कृषि विज्ञान

एकूण प्रश्न : 100

एकूण गुण : 200

वेळ : 1 (एक) तास

सूचना

- (1) सदर प्रश्नपुस्तिकेत 100 अनिवार्य प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे लिहिण्यास सुरुवात करण्यापूर्वी या प्रश्नपुस्तिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून घ्यावी. असा तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.
 - (2) आपला परीक्षा-क्रमांक ह्या चौकोनांत न विसरता बॉलपेनने लिहावा.
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- (3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर विशिष्ट जागी उत्तरपत्रिकेवरील सूचनेप्रमाणे न विसरता नमूद करावा.
 - (4) या प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाला 4 पर्यायी उत्तरे सुचविली असून त्यांना 1, 2, 3 आणि 4 असे क्रमांक दिलेले आहेत. त्या चार उत्तरांपैकी सर्वात योग्य उत्तराचा क्रमांक उत्तरपत्रिकेवरील सूचनेप्रमाणे तुमच्या उत्तरपत्रिकेवर नमूद करावा. अशा प्रकारे उत्तरपत्रिकेवर उत्तरक्रमांक नमूद करताना तो संबंधित प्रश्नक्रमांकासमोर छायांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.
 - (5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांची उत्तरे द्यावीत. घाईमुळे चुका होणार नाहीत याची दक्षता घेऊनच शक्य तितक्या वेगाने प्रश्न सोडवावेत. क्रमाने प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण वाटल्यास त्यावर वेळ न घालविता पुढील प्रश्नांकडे वळावे. अशा प्रकारे शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक राहिल्यास कठीण म्हणून वगळलेल्या प्रश्नांकडे परतणे सोईस्कर ठरेल.
 - (6) उत्तरपत्रिकेत एकदा नमूद केलेले उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्याने उत्तर दिल्यास ते तपासले जाणार नाही.
 - (7) प्रस्तुत परीक्षेच्या उत्तरपत्रिकांचे मूल्यांकन करताना उमेदवारांच्या उत्तरपत्रिकेतील योग्य उत्तरांनाच गुण दिले जातील. तसेच "उमेदवाराने वस्तुनिष्ठ बहुपर्यायी स्वरूपाच्या प्रश्नांची दिलेल्या चार उत्तरांपैकी सर्वात योग्य उत्तरेच उत्तरपत्रिकेत नमूद करावीत. अन्यथा त्यांच्या उत्तरपत्रिकेत सोडविलेल्या प्रत्येक चार चुकीच्या उत्तरांसाठी एका प्रश्नाचे गुण वजा करण्यात येतील".

ताकीद

ह्या प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपेपर्यंत ही प्रश्नपुस्तिका आयोगाची मालमत्ता असून ती परीक्षाकक्षात उमेदवाराला परीक्षेसाठी वापरण्यास देण्यात येत आहे. ही वेळ संपेपर्यंत सदर प्रश्नपुस्तिकेची प्रत/प्रती, किंवा सदर प्रश्नपुस्तिकेतील काही आशय कोणत्याही स्वरूपात प्रत्यक्ष वा अप्रत्यक्षपणे कोणत्याही व्यक्तीस पुरविणे, तसेच प्रसिद्ध करणे हा गुन्हा असून अशी कृती करणाऱ्या व्यक्तीवर शासनाने जारी केलेल्या "परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचा अधिनियम-82" यातील तरतुदीनुसार तसेच प्रचलित कायद्याच्या तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.

तसेच ह्या प्रश्नपत्रिकेसाठी विहित केलेली वेळ संपण्याआधी ही प्रश्नपुस्तिका अनधिकृतपणे बाळगणे हा सुद्धा गुन्हा असून तसे करणारी व्यक्ती आयोगाच्या कर्मचारीवृंदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयवृंदापैकी असली तरीही अशा व्यक्तीविरूद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पुढील सूचना प्रश्नपुस्तिकेच्या अंतिम पृष्ठावर पहा

पर्यवेक्षकांच्या सूचनेशिवाय हे सील उघडू नये

SEAL

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

1. Match the following :

- | | |
|--------------------------|---------------------------|
| a. Complex fertilizer | I. Diammonium phosphate |
| b. Straight fertilizer | II. Urea |
| c. Potassic fertilizer | III. Sulphate of Potash |
| d. Phosphatic fertilizer | IV. Single superphosphate |

Select the correct response.

- | | a | b | c | d |
|-----|----|-----|-----|-----|
| (1) | I | IV | II | III |
| (2) | IV | I | III | II |
| (3) | I | II | III | IV |
| (4) | II | III | IV | I |

2. The essentiality of the newly added essential nutrient 'Ni' was established in the year

- (1) 1987 (2) 1997 (3) 2007 (4) 2012
-

3. Which of the following are metamorphic rocks ?

- (1) Gneiss, schist, slate
(2) Granite, basalt, gabbro
(3) Sandstone, shale, lignite
(4) Apatite, serpentine, calcite

4. Match the following :

- | | |
|---|--------------------|
| a. 1 : 1 type clay mineral | I. Montmorillonite |
| b. 2 : 1 type (expanding lattice type) clay mineral | II. Illite |
| c. 2 : 1 type (non-expanding type) clay mineral | III. Chlorite |
| d. 2 : 2 type clay mineral | IV. Kaolinite |

Select the correct response.

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (1) | IV | III | I | II |
| (2) | I | II | III | IV |
| (3) | IV | I | II | III |
| (4) | II | I | IV | III |

5. Negative charge on a clay particle is developed when

- (1) High valence cation is replaced by low valence cation
- (2) High valence cation is replaced by high valence anion
- (3) Low valence cation is replaced by high valence cation
- (4) Low valence cation is replaced by low valence anion

6. The mass or weight of a unit volume of soil solid is called

- (1) Apparent density
- (2) Bulk density
- (3) Particle density
- (4) Volume density

7. The capillarity of water is due to

- (1) Only attractive force of water to solids and surface tension
- (2) Only adhesive – adhesive forces
- (3) Only cohesive – cohesive forces
- (4) All of the above

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8. The volume composition of soil in optimum condition for crop growth is

- (1) Mineral matter 45%, organic matter 5%, water 25% and air 25%
 - (2) Mineral matter 45%, organic matter 25%, water 5% and air 25%
 - (3) Mineral matter 5%, organic matter 45%, water 25% and air 25%
 - (4) Mineral matter 40%, organic matter 10%, water 25% and air 25%
-

9. The safe limit of Residual Sodium Carbonate (RSC) of irrigation water is

- (1) 1.25 – 2.50 me/L
 - (2) 0.5 – 1.0 me/L
 - (3) more than 2.50 me/L
 - (4) less than 1.25 me/L
-

10. The nutrient concentration in a plant below which the yield response to added nutrient occurs is called

- (1) Deficient range
 - (2) Critical range
 - (3) Minimum range
 - (4) None of the above
-

11. Acid soils have

- (1) Low CEC and high base saturation
 - (2) Low CEC and high base unsaturation
 - (3) High CEC and low base unsaturation
 - (4) High CEC and high base unsaturation
-

12. Saline soils can be managed through

- a. Ponding and leaching of salts with good quality water out of root zone
 - b. Improving surface and subsurface drainage
 - c. Treating with gypsum to lower the ESP
 - d. Applying lime
- (1) b and c only
 - (2) b and d only
 - (3) a and b only
 - (4) c and d only
-

13. Heap method of composting is a/an

- (1) Anaerobic process
 - (2) Reduction process
 - (3) Aerobic process
 - (4) Hydrolysis process
-

14. The bulk density and particle density of soil play an important role in determining suitability for crop production. Which of the following statements are correct ?

- a. In mineral soil, the particle density varies between 2.60 and 2.70 mg/m^3 .
- b. The bulk density of coarse textured soil varies from 1.40 to 1.75 mg/m^3 .
- c. Increase in organic matter content increases the bulk density of soil.
- d. The particle density depends on the chemical and mineralogical composition of soil.

- (1) a, b and c
 - (2) b, c and d
 - (3) a, b and d
 - (4) a, c and d
-

15. In general, organic soil contains organic matter more than

- (1) 12 percent
 - (2) 14 percent
 - (3) 16 percent
 - (4) 20 percent
-

16. The exchange of gases between soil and the atmosphere is facilitated by the following two mechanisms :

- (1) Mass flow and diffusion
 - (2) Osmosis and mass flow
 - (3) Diffusion and electrolysis
 - (4) None of the above
-

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17. Match the following :

- | | |
|-------------------------------------|---|
| a. Indore method | I. Mechanical composting followed in big cities |
| b. Bangalore method | II. Aerobic method developed by Dr. Narayan Pandharipande |
| c. NADEP method | III. Heap or aerobic method of composting |
| d. Municipal solid waste composting | IV. Anaerobic process developed by Dr. C.N. Acharya |

Select the correct response.

- | | a | b | c | d |
|-----|-----|----|-----|----|
| (1) | IV | I | III | II |
| (2) | III | II | I | IV |
| (3) | II | I | III | IV |
| (4) | III | IV | II | I |

18. The process of enrichment of surface water bodies with nutrients is known as

- (1) Peutrophication
- (2) Eutrophication
- (3) Dedraphication
- (4) Saponification

19. Which of the following are typical characteristics of saline soils ?

- (1) EC greater than 4 d S m^{-1} , ESP less than 15, pH less than 8.5
- (2) EC less than 4 d S m^{-1} , ESP greater than 15, pH 8.5 to 10.0
- (3) EC greater than 4 d S m^{-1} , ESP greater than 15, pH is variable usually above 8.5
- (4) EC less than 4 d S m^{-1} , ESP more than 15, pH 6.0 in surface soil, 8.5 in lower layer

20. The rhizobium species that fix atmospheric nitrogen by symbiosis with soybean is

- (1) *Rhizobium meliloti*
- (2) *Rhizobium trifolii*
- (3) *Rhizobium japonicum*
- (4) *Rhizobium leguminosarum*

21. To increase thermal efficiency of a petrol engine the designer has to
- Increase compression ratio
 - Increase cut-off ratio
 - Decrease cut-off ratio
 - Decrease compression ratio
- (1) a and b only (2) a only
(3) b and d only (4) c only
-
22. In 1960 – 61, the first manufacturer of tractors in India was
- (1) Fergusson Ltd., Madras (2) Hindustan Engineering, Baroda
(3) M/s Eicher Goodearth (4) Kirloskar
-
23. The correct sequence of power transmission in the tractor is
- Clutch
 - Gear box
 - Final drive
 - Differential
- (1) a – d – b – c (2) b – a – d – c
(3) a – b – d – c (4) b – a – c – d
-
24. The power delivered by the engine and available at the end of the crankshaft is known as
- (1) IHP (2) BHP (3) PTO hp (4) DBHP
-
25. The objective/s of primary tillage is/are
- To open up any cultivable land
 - To cover soil on crop residues
 - To make the field surface uniform and levelled
 - To pulverize the soil to give smooth seed bed
- (1) a only
(2) a and b only
(3) a, b and d only
(4) All of the above

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

26. The device used to connect and disconnect the tractor engine from the transmission gears and drive wheels is
- (1) Clutch
 - (2) Brake
 - (3) Gear
 - (4) None of the above
-

27. In _____ seed metering mechanism, the seed rate is controlled by increasing or decreasing an aperture below the agitator.
- (1) fluted roller
 - (2) internal run
 - (3) air seeding
 - (4) variable orifice
-

28. The use of high capacity _____ is quite common for many horticultural crops.
- (1) power duster
 - (2) plunger type duster
 - (3) rotary type duster
 - (4) knapsack type duster
-

29. _____ constitutes the initial major soil working operation. It is normally designed to reduce soil strength, cover plant materials and rearrange aggregates.
- (1) Primary tillage
 - (2) Secondary tillage
 - (3) Clod crushing
 - (4) Puddling
-

30. A machine used to apply fluids in the form of droplets is called
- (1) Sprayer
 - (2) Duster
 - (3) Fumigator
 - (4) All of the above
-

31. The _____ separates grains as per their roundness.

- (1) Air-screen cleaner
 - (2) Specific Gravity separator
 - (3) Disk separator
 - (4) Spiral separator
-

32. Pasteurisation process was first developed in _____ by Pasteur to prevent abnormal fermentation in wine.

- | | |
|----------|-----------------------|
| (1) 1854 | (2) 1846 |
| (3) 1864 | (4) None of the above |
-

33. Sterilization of foods is carried at temperatures above

- | | |
|-----------|-----------|
| (1) 85°C | (2) 100°C |
| (3) 105°C | (4) 150°C |
-

34. Capacities of _____ may vary from 2 to 1000 tonnes/hour.

- (1) belt conveyor
 - (2) screw conveyor
 - (3) pneumatic conveyor
 - (4) bucket elevator
-

35. The moisture content of food grains, M, percent dry basis is expressed as _____ where, m, the moisture content percent, wet basis is given.

(1) $M = \frac{m}{100 + m} \times 100$

(2) $M = \frac{m}{100 - m} \times 100$

(3) $M = \frac{100 - m}{m} \times 100$

(4) $M = \frac{100 + m}{m} \times 100$

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36. The sensible heat and _____ of fusion from the product are removed in the food freezing process.
- (1) latent heat
 - (2) field heat
 - (3) steam heat
 - (4) None of the above
-
37. The amount of moisture in a product is given on the basis of the _____ of water present in the product and is usually expressed in percent.
- (1) volume
 - (2) temperature
 - (3) weight
 - (4) None of the above
-
38. In _____, the grain size is mainly reduced by impact force.
- (1) burr mill
 - (2) hammer mill
 - (3) jaw crusher
 - (4) None of the above
-
39. Reciprocating compressor sucks the refrigerant at _____ during its suction stroke.
- (1) low pressure and high temperature
 - (2) low pressure and low temperature
 - (3) high pressure and low temperature
 - (4) high pressure and high temperature
-
40. A rubber roll husker is suitable for dehusking
- (1) Barley
 - (2) Millet
 - (3) Paddy
 - (4) Legumes

41. Calculate the area lost per hectare under contour bunding, if the land slope is 5%, base width of bund is 1.25 m and vertical interval is 1.25 m.
- (1) 250 m² (2) 350 m² (3) 650 m² (4) 550 m²
-

42. Measuring distance of a base line running through an island of thick and intermingled bamboo growth is a case of
- (1) Chaining free vision obstructed
(2) Chaining obstructed vision free
(3) Chaining and vision both obstructed
(4) None of the above
-

43. Calculate the vertical interval to be used for bund construction at 5% land slope. Take values of X and Y as 0.60 and 2.0, respectively.
- (1) 0.9 m (2) 1.2 m (3) 1.5 m (4) 1.8 m
-

44. Read the following two statements :
- a. When the scale is small the representation of ground on paper is called a map.
b. The limit on area that can be surveyed by plane survey is 250 sq.km.
- Which of the following options about these statements is correct ?
- (1) Statement a is true and statement b is false
(2) Statement a is false and statement b is true
(3) Statements a and b are both true
(4) Statements a and b are both false
-

45. In the universal soil loss equation, only crop management factor is reduced from 0.6 to 0.2 by introduction of erosion resisting crop in the field. What will be the percentage decrease in the soil loss estimated by the universal soil loss equation ?
- (1) 300% (2) 200% (3) 66.67% (4) 10.25%
-

46. What is the recommended side slope for construction of graded bunds in clayey soil ?
- (1) 1 Horizontal to 1 Vertical (2) 1.5 Horizontal to 1 Vertical
(3) 2 Horizontal to 1 Vertical (4) 3 Horizontal to 1 Vertical
-

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47. Which one of the following options is **not** a type of Bench Mark (B.M.) ?
- (1) Temporary
 - (2) Fixed
 - (3) Arbitrary
 - (4) Permanent
-

48. Read the following statements :

- a. In rational method, the intensity of rainfall is considered for the duration equal to time of concentration of watershed.
- b. The return period of the peak run-off rate computed by rational method is equal to return period of rainfall intensity.

Which of the following is correct about these statements ?

- (1) Statement a is true and statement b is false
 - (2) Statement a is false and statement b is true
 - (3) Statements a and b are both true
 - (4) Statements a and b are both false
-

49. In how many classes is land classified as per land capability classification ?

- (1) VIII
 - (2) X
 - (3) IV
 - (4) V
-

50. Read the following statements :

- a. The predominance of overland flow or channel flow in the watershed can be used to decide whether the watershed is small or large.
- b. Short duration high intensity storms can also be useful for deciding whether the watershed is small or large.

Which of the following is correct about these statements ?

- (1) Statement a is true and statement b is false
 - (2) Statement a is false and statement b is true
 - (3) Statements a and b are both true
 - (4) Statements a and b are both false
-

51. Water Horse Power (WHP) of a centrifugal pump is the function of
- Discharge
 - Total head
 - Pump efficiency
- a and b only
 - b and c only
 - c and a only
 - All of the above
-
52. In Darcy's law for estimating hydraulic conductivity, the velocity of flow is
- directly proportional to the hydraulic gradient.
 - inversely proportional to the hydraulic gradient.
 - directly proportional to the cross-sectional area of soil media.
- a only
 - b only
 - a and c only
 - b and c only
-
53. The maximum wind speed, in kmph, beyond which overhead sprinklers should not be operated, as recommended by Agricultural Universities is
- 12.0
 - 8.0
 - 20.0
 - 15.0
-
54. Maximum spacing of sprinklers under no windy conditions should be _____ percent of the diameter of the water spread of a sprinkler.
- 50
 - 55
 - 60
 - 65
-
55. The Drip Laterals (LDPE) are connected to the PVC manifold pipes with the help of
- Gromates
 - Connectors
 - End plugs
 - Stakes

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56. Welded wire fencing is available in rolls of 100 metres having heights varying from
- (1) 0.5 to 1 m
 - (2) 1 to 1.5 m
 - (3) 1.6 to 2 m
 - (4) None of the above
-
57. A good brickearth contains alumina in the range of about
- | | |
|---------------|---------------|
| (1) 20 to 30% | (2) 30 to 40% |
| (3) 10 to 20% | (4) 40 to 50% |
-
58. In greenhouse covering materials, thermoplastics constitute a group of materials that are attractive to the designer for which of the following reasons ?
- (1) Their basic physical properties can be exploited in a wide range of articles that have stiffness, robustness and resilience to resist loads and deformations imposed during normal use.
 - (2) They can be easily processed using efficient mass production techniques which result in lower labour charges.
 - (3) Both (1) and (2)
 - (4) None of the above
-
59. The farmstead area occupied by residential buildings, dairy barn, bullock shed, poultry houses, other service buildings, threshing yard, roads, etc. is normally kept _____ of the total area.
- (1) 3 to 5 percent
 - (2) 5 to 7 percent
 - (3) 1 to 3 percent
 - (4) None of the above
-
60. In a good brickearth, what should be the percentage of silica ?
- (1) 20 to 30%
 - (2) 31 to 35%
 - (3) 36 to 40%
 - (4) 50 to 60%

61. The correct definition of Agronomy is

- (1) Agronomy is derived from Greek words 'agros' meaning 'soil' and 'nomos' meaning 'cultivation'.
- (2) Agronomy is a branch of Agricultural Science which deals with principles and practices of soil, water and crop management.
- (3) Agronomy is a very broad term and Agricultural Science is a branch of Agronomy which deals with principles and practices of soil and water management.
- (4) Agricultural Science and Agronomy, both are branches of Crop Science and Crop Production which deals with principles and practices of crop management.

62. Meteorologically, the Indian Meteorological Department (IMD) has divided the year into _____ periods.

- | | |
|------------|---------------|
| (1) three | (2) four |
| (3) twelve | (4) fifty-two |

63. The study of mutual relationship between organisms and their environment is known as

- | | |
|------------------|----------------|
| (1) Biodiversity | (2) Ecology |
| (3) Biology | (4) Entomology |

64. The plough mainly used for breaking hard pans and for deep ploughing with less disturbance to the top layers is

- | | |
|-------------------|----------------------|
| (1) Chisel plough | (2) Ridge plough |
| (3) Rotary plough | (4) Sweep cultivator |

65. Which species of sugarcane is known as noble cane and is rich in sucrose ?

- a. *Saccharum officinarum L.*
- b. *Saccharum spontaneum L.*
- c. *Saccharum robustum*
- d. *Saccharum sinense Roxb*

Answer options :

- | | | | |
|-------|-------|-------|------------------|
| (1) a | (2) b | (3) c | (4) All of these |
|-------|-------|-------|------------------|

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66. In which of the following is tillage breaking of hard pan is done without inversion and with less disturbance of top soil ?
- Deep tillage
 - Seed bed formation
 - Sub-soiling
 - Secondary tillage

Answer options :

- (1) a and c only (2) b only (3) c only (4) b and d only
-

67. India receives most of the annual rainfall from

- (1) North-East monsoon (2) South-West monsoon
(3) South-East monsoon (4) North-West monsoon
-

68. Which character/s of soil is/are modified during tillage ?

- (1) Physical (2) Chemical
(3) Biological (4) All of the above
-

69. The variation between minimum and maximum sizes of the plant to produce economic yield under unlimited space and resources is known as

- Dry matter partitioning
- Asymptotic response
- Elasticity of plant
- Plant population response

Answer options :

- (1) d (2) a, b and c (3) c (4) b and c
-

70. Roguing in seed production is to

- Find out different cultures
 - Avoid contamination by keeping safe distance
 - Avoid impurities that occur mainly due to cross-pollination
 - Remove off-types of plants before flowering
-

71. Some plants excrete certain chemicals into soil which inhibit germination and growth of other plants in their vicinity. It is known as

- | | |
|-------------------------|-----------------------------|
| (1) Salinity effect | (2) Weed suppression effect |
| (3) Allelopathic effect | (4) Companion effect |
-

72. Growing two or more crops on the same piece of land in one calendar year is known as

- | | |
|-----------------------|-------------------|
| (1) Cropping System | (2) Intercropping |
| (3) Multiple Cropping | (4) Monocropping |
-

73. *Cajanus cajan* variety flavus is characterised by

- Comparatively smaller plants
- Pods with 2 to 3 seeds
- Pods with 4 to 5 seeds
- Yellow flowers

Answer options :

- | | |
|----------------|----------------|
| (1) a, b and c | (2) c, b and d |
| (3) a, c and d | (4) a, b and d |
-

74. Sugar-beet contains _____ percent sugar.

- | | |
|-------------|-------------|
| (1) 15 – 16 | (2) 20 – 21 |
| (3) 25 – 26 | (4) 10 – 12 |
-

75. Mowing is one of the weed control methods in which

- Weeds are removed by digging up to deeper layers so as to remove underground storage organs.
 - It is the most common practice against brush and trees and is done with the help of axes and saws.
 - The method is used to control aquatic weeds.
 - It is the cutting of weeds to the ground level, usually practised in non-cropped areas.
-

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76. Which seed is used to produce the foundation seed ?

- a. Certified
b. Registered
c. Breeder
d. Truthful

Answer options :

- (1) a (2) b (3) c (4) None of these

77. Prickly pear weed can be controlled by the following bio-agent :

- (1) *Zygogramma bicolorata* (2) *Dactylopius ceylonicus*
(3) *Neochetina bruchi* (4) *Ophiomyia lantanae*

78. Cropping Intensity Index (CII) =

- (1) $\frac{\text{Gross cropped area}}{\text{Net area}} \times 100$
(2) $\frac{\text{Net area}}{\text{Gross cropped area}} \times 100$
(3) $\frac{\text{Net area available}}{\text{Gross cropped area available}} \times 100$
(4) $\frac{\text{Total area}}{\text{Gross cropped area}} \times 100$

79. Which type of intercropping is defined as growing two or more crops simultaneously during part of the life cycle of each ?

- a. Strip
b. Relay
c. Mixed
d. Row

Answer options :

- (1) a (2) b (3) c (4) None of these

80. The equation which converts the yield of different crops into equivalent yield of any one crop is

- (1) Land equivalent ratio (2) Crop equivalent yield
(3) Multiple cropping index (4) Land equivalent yield

81. Which out of the following is *not* a weather element ?

- | | |
|-----------------|--------------|
| (1) Temperature | (2) Pressure |
| (3) Cloud | (4) Water |
-

82. In rice, which method of nursery raising fulfills the following criteria ?

- | | |
|--|--|
| a. Less water requirement | |
| b. Less area required | |
| c. Seedlings raised in half time than the normal | |
| d. More care is required | |
- | | |
|-------------------|-----------------|
| (1) Wet nursery | (2) Dry nursery |
| (3) Dapog nursery | (4) Pit nursery |
-

83. Near the Earth's surface, water vapour in the atmosphere is most effective but it is almost absent above

- | | |
|-----------------|-----------------|
| (1) 6 to 8 km | (2) 8 to 10 km |
| (3) 10 to 12 km | (4) 12 to 14 km |
-

84. The vertical temperature gradient is referred to as

- (1) Actual lapse rate
 - (2) Adiabatic lapse rate
 - (3) Normal lapse rate
 - (4) Dry adiabatic lapse rate
-

85. The most important biotic factor limiting the production of pearl millet is

- (1) Stem borer
 - (2) Bacterial leaf blight
 - (3) Downy mildew
 - (4) Root wilt
-

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86. The aroma of scented rice variety depends on

- a. Influence of environment
- b. Varietal inheritance
- c. Carbaryl component content
- d. Fertilizer management

- (1) All of the above
 - (2) a, b and c
 - (3) b, c and d
 - (4) a, b and d
-

87. What is used in barographs ?

- (1) Mercury
 - (2) Altimeter
 - (3) Vernier caliper
 - (4) Syphon cell
-

88. In peninsular zones, which species of wheat is most important in rainfed conditions ?

- (1) *T. aestivum*
 - (2) *T. durum*
 - (3) *T. dicoccum*
 - (4) *T. spherococcum*
-

89. At sea level, the atmospheric pressure is around

- (1) 1013.25 mb
 - (2) 913.25 mb
 - (3) 1113.25 mb
 - (4) 2013.25 mb
-

90. Which forecast is based on synoptic considerations and operational numerical weather predictions ?

- a. Now casting
- b. Short range
- c. Medium range
- d. Long range

Answer options :

- (1) a only
 - (2) b only
 - (3) a, b and c
 - (4) d only
-

91. In India, many states consider the 'Anewarry System' as a criteria of drought, wherein crop conditions are passed through visual estimates and when the production is 50 to 75 percent of normal than it, is

- (1) No drought
- (2) Moderate drought
- (3) Severe drought
- (4) Disastrous drought

92. _____ water is also designated as water of cohesion.

- a. Hygroscopic
- b. Gravitational
- c. Unavailable
- d. Capillary

Answer options :

- | | |
|------------------|------------|
| (1) a and b only | (2) b only |
| (3) a and c only | (4) d only |

93. Which of the following statements are most correct for pulse crops ?

- a. Fix atmospheric nitrogen and improve soil health.
- b. Short duration and fit well in cropping systems.
- c. Component of INM in cropping systems.
- d. Component of IPM due to less pest attack.

Answer options :

- | | |
|---------------------|----------------|
| (1) All are correct | (2) a, b and d |
| (3) a, b and c | (4) b, c and d |

94. Plants show wilting symptoms even under high humidity conditions. At that point, the soil moisture content is at

- | | |
|-----------------|------------------|
| (1) (- 0.1) bar | (2) (- 0.3) bars |
| (3) (- 15) bars | (4) (- 60) bars |

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95. *Eleusine coracana* is the scientific name of

- | | |
|-------------------|--------------------|
| (1) Little millet | (2) Foxtail millet |
| (3) Proso millet | (4) Finger millet |

96. The ICAR has divided the country in 129 zones called agro-climatic zones. The classification is based on Topography, Temperature, Rainfall and _____.

- | | |
|---------------------|----------------------|
| (1) Farming pattern | (2) Farming system |
| (3) Water resources | (4) Cropping pattern |

97. The amount of water required to raise a successful crop in a given period is

- (1) Irrigation requirement
- (2) Water requirement
- (3) Gross irrigation requirement
- (4) Net irrigation requirement

98. Which species of groundnut spreads upright in growth, has alternate branching, lacks inflorescence on main stem, flowers longer and matures later ?

- | | |
|------------------------|--------------------------|
| (1) <i>A. hypogaea</i> | (2) <i>A. fastigiata</i> |
| (3) <i>A. hirsuta</i> | (4) <i>A. vulgaris</i> |

99. Plants require water mainly to meet the demands of evaporation, transpiration and metabolic needs; all together it is known as

- (1) Cumulative use
- (2) Consumptive use
- (3) Progressive use
- (4) Water requirement

100. In _____ system of surface drains, the land is perfectly levelled, the laterals are constructed parallel to each other and they are connected to the main drain.

- | | |
|------------|------------------|
| a. Bedding | b. Ridge terrace |
| c. Regular | d. Random |

Answer options :

- | | |
|------------|------------------|
| (1) a only | (2) a and b only |
| (3) c only | (4) a and c only |

सूचना - (पृष्ठ 1 वरून पुढे.....)

- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते कॉपी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जारी केलेल्या “परीक्षामध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचे अधिनियम-82” यातील तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सदर प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपल्यानंतर उमेदवाराला ही प्रश्नपुस्तिका स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षा कक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

नमुना प्रश्न

Pick out the correct word to fill in the blank :

Q. No. 201. I congratulate you _____ your grand success.

- (1) for (2) at
(3) on (4) about

ह्या प्रश्नाचे योग्य उत्तर “(3) on” असे आहे. त्यामुळे या प्रश्नाचे उत्तर “(3)” होईल. यास्तव खालीलप्रमाणे प्रश्न क्र. 201 समोरील उत्तर-क्रमांक “(3)” हे वर्तुळ पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र. क्र. 201.

- ① ② ● ④

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासमोरील संबंधित वर्तुळ पूर्णपणे छायांकित करून दाखवावा. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.

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