प्रश्नपुस्तिका क्रमांक

BOOKLET No.

300745

वेळ : 1 (एक) तास

2018

प्रश्नपुस्तिका – III

पेपर क्र. – 2

कृषि अभियांत्रिकी

A12   संच क्र.   **A**

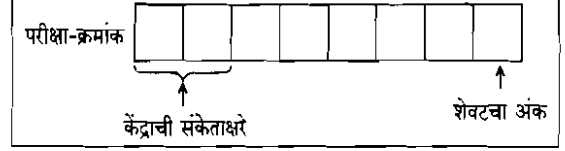एकूण प्रश्न : 100

एकूण गुण : 200

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.

परीक्षा-क्रमांक

केंद्राची संकेताक्षरे   शेवटचा अंक

(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 प्रश्नाकडे 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 उमेदवाराच्या 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''.

कच्च्या कामासाठी जागा/SPACE FOR ROUGH WORK

1. In _____ drying, removal of moisture is same as the rate of evaporation from a free liquid surface.

   (1) Constant rate period   (2) First falling rate period

   (3) Second falling rate period   (4) All of the above

2. Vegetable seeds having high initial moisture content and lighter in weight are efficiently dried in a

   (1) Solar dryer   (2) Deep bed dryer

   (3) Flat bed dryer   (4) Fluidized bed dryer

3. _____ is moisture content by a substance which exerts equilibrium vapour pressure equal to that of pure liquid at the same temperature.

   (1) Bound moisture   (2) Unbound moisture

   (3) Free moisture   (4) Critical moisture

4. Sensible heating or cooling process of air vapour mixture on psychrometric chart is represented by

   (1) Horizontal line   (2) Vertical line

   (3) Inclined line   (4) None of the above

5. The moisture content at which the drying rate ceases to the constant and falling drying rate starts is called

   (1) Initial moisture content   (2) Final moisture content

   (3) Equilibrium moisture content   (4) Critical moisture content

6. The theoretical capacity of screw conveyor (Q) in m^3/hr is calculated by expression

   (1) $Q = \dfrac{(D^2 - d^2)}{47 \cdot 2} \times P \times N$ (2) $Q = \dfrac{(D - d)}{36 \cdot 6} \times P \times N$

   (3) $Q = 47 \cdot 2\,(D^2 - d^2) \times P \times N$ (4) $Q = 47 \cdot 2\,(D - d) \times P \times N$

   where D = Screw diameter in m;

          d = Shaft diameter in m;

          P = Pitch in m;

          N = Blade speed in rpm

7.   In pneumatic conveying,

   (1)   Wide range of material cannot be handled.

   (2)   It does not require high power.

   (3)   The system is not self-cleaning.

   (4)   The conveying path can be changed easily.

8.   Centrifugal discharge is used extensively for handling small grains in

   (1)   Belt conveyor   (2)   Chain conveyor

   (3)   Screw conveyor   (4)   Bucket elevator

9.   In spiral separator, round shaped grains are collected at

   (1)   Inner spirals   (2)   Outer spirals

   (3)   Intermediate spirals   (4)   None of the above

10. The specific gravity of skim milk is

   (1)   Lower than whole milk   (2)   Same as whole milk

   (3)   Higher than whole milk   (4)   Same as water

11. _____ assumed that energy required in size reduction is proportional to new surfaces created.

   (1)   Kick   (2)   Rittinger

   (3)   Bond   (4)   Fick

12. The paddy dehusking (sheller) machine has two rubber rolls that rotate with

   (1)   Identical speed in same direction

   (2)   Identical speed in opposite direction

   (3)   Differential speed in same direction

   (4)   Differential speed in opposite direction

13. Tripple point of water occurs at

   (1)   0·0098°C and 0·64 kPa   (2)   0·0098°C and 64 kPa

   (3)   0·98°C and 0·64 kPa   (4)   0·98°C and 64 kPa

14. In deep bed dryers, the drying takes place in a drying zone and the layer of grains is more than _____ cm.

    (1) 20   (2) 10   (3) 15   (4) None of the above

15. _____ is the process of moving air through stored grain at low flow rates to maintain or improve its quality.

    (1) Fumigation   (2) Emulsification

    (3) Drying   (4) Aeration

16. The method of using the heat of pasteurized milk to warm up cold incoming milk is known as

    (1) Heating   (2) Blanching

    (3) Homogenization   (4) Regeneration

17. The moisture migration into or from a product is dependent on the difference of _____ between atmosphere and product.

    (1) Vapour pressure   (2) Absolute pressure

    (3) Absolute temperature   (4) None of the above

18. _____ type storage structures are cylindrical in shape and made by mud alone or by mud and bamboo.

    (1) Morai   (2) Bukhari

    (3) CAP   (4) None of the above

19. High Temperature Short Time (HTST) pasteurization occurs at

    (1) 71·7°C temperature for 15 seconds   (2) 71·7°C temperature for 15 minutes

    (3) 71·7°C temperature for 30 minutes   (4) 71·7°C temperature for 30 seconds

20. During fruit juice concentration by evaporation steam economy can be improved by _____ system.

    (1) Single effect   (2) Multiple effect

    (3) Vacuum   (4) None of the above

21. SI engines (petrol) develop _____ of rated power, CI engines (diesel) develop _____ of rated power on biogas.

    (1) 85%, 100%
    (2) 100%, 85%
    (3) 85%, 85%
    (4) 100%, 100%

22. Biogas plant delivers a gas which contains mainly

    (1) Methane
    (2) Carbon-dioxide
    (3) Methane plus carbon-dioxide mixture
    (4) None of the above

23. The blade tip velocity of a horizontal axis wind turbine is dependent on

    (1) Type of wind turbine
    (2) The diameter of wind turbine propeller at blade tips
    (3) Blade pitch angle
    (4) All the above parameters mentioned in (1), (2) and (3)

24. The following is/are indirect method(s) of solar energy utilization :

    (1) Wind energy
    (2) Biomass energy
    (3) Wave energy
    (4) All of the above

25. Nearly all electrical energy generated

    a. Utilizes steam or hydraulic energy.

    b. Can be generated at high voltages and transformed to the voltages required for utilization.

    c. This type of current flows first in one direction and then in the opposite direction periodically.

    All these statements are specifically true about

    (1) D.C.
    (2) A.C.
    (3) Both D.C. and A.C.
    (4) None of the above

26. In solar water pumping system, photovoltaic module can be installed on a fixed array or on a sun tracking system. In this context, following statements are made :

a. Sun tracking system allows extraction of maximum power produced by PV array.

b. Fixed PV arrays are cheaper than sun tracking system.

c. Sun tracking system requires less maintenance.

Out of the above, following statement(s) is/are true.

(1) Only a and b
(2) Only b and c
(3) Only a and c
(4) a, b and c

27. The calorific value of bio-gas ranges from

(1) 1600 to 2500 kJ/m^3
(2) 3600 to 5500 kJ/m^3
(3) 16,000 to 25,000 kJ/m^3
(4) 75,000 to 90,000 kJ/m^3

28. Flat plate collectors are used for heating

(1) Solid
(2) Liquid
(3) Solid and liquid
(4) None of the above

29. The following statements are considered regarding bio-gas plant :

a. Bio-gas is a mixture of methane, carbon-dioxide and nitrogen oxide.

b. The digestor of bio-gas plant is normally above ground level.

c. The dome serves as a gas holder.

Which of the above statement(s) is/are correct ?

(1) Only a and b
(2) Only b
(3) Only b and c
(4) Only c

30. Which of the following losses in the 3-phase induction motor of a motor-pump set vary proportional to the square of the motor current i.e. proportional to I^2 ?

(1) Core losses
(2) Copper losses
(3) Mechanical losses
(4) All the above losses mentioned in (1), (2) and (3)

31. What should be the minimum total area of window opening as compared to floor area of the room ?

(1) 10%

(2) 20%

(3) 15%

(4) 40%

32. The minimum width for doors in public buildings such as hospitals, library etc. is kept as

(1) 1 m

(2) 0·8 m

(3) 1·2 m

(4) 1·5 m

33. Which of the following fencing is *not* very effective against the goats and rabbits and also *cannot* be used for poultry ?

(1) Electric fencing

(2) Barbed wire fencing

(3) Plain wire fencing

(4) None of the above

34. Unit cost per square feet of any construction work is

(1) The total actual cost of completed structure divided by the floor area based on outside dimensions.

(2) The total actual cost of completed structure multiplied by the floor area based on outside dimensions.

(3) The total actual cost of completed structure plus the floor area based on outside dimensions.

(4) None of the above

35. The most popular covering material replacement for glass in case of greenhouse is

(1) FRP

(2) Acrylic

(3) Polyethylene

(4) None of the above

36. The capacity of diversion channel should be estimated based on peak runoff for _____ years recurrence interval.

(1)   5   (2)   10   (3)   15   (4)   20

---

37. In case of grassed waterway, velocity of flow does *not* exceed

(1)   3·2 m/s   (2)   1·0 m/s   (3)   1·8 m/s   (4)   4·0 m/s

---

38. For a watershed having 5% land slope and 15 m horizontal interval, the vertical interval will be

(1)   0·50 m   (2)   0·75 m   (3)   1·00 m   (4)   1·25 m

---

39. The length of contour bund per ha having horizontal interval 25 m is

(1)   400 m   (2)   500 m   (3)   1000 m   (4)   200 m

---

40. The consistency of rainfall is determined by

(1)   Mass-curve   (2)   Hyetograph
(3)   Flow-duration curve   (4)   Double-mass curve

---

41. The nature of hydrograph depends on the characteristics of

(1)   Rainfall and watershed   (2)   Rainfall only
(3)   Watershed only   (4)   None of the above

---

42. The assumptions of unit hydrograph are

(1)   Linear response and time invariant
(2)   Non-linear response of time
(3)   Non-linear time variance only
(4)   None of the above

---

43. Snyder's method is used to derive the

(1)   Unit hydrograph   (2)   Synthetic unit hydrograph
(3)   Dimensionless unit hydrograph   (4)   Distribution graph

---

44. In the land capability Class I type soils, the slope of land is _____ %.

    (1)　3 to 5　　　　(2)　5 to 8　　　　(3)　8 to 12　　　　(4)　0 to 1

45. Which of the following is *not* sediment load ?

    (1)　Bed load　　　　　　　　　　(2)　Siltation load

    (3)　Saltation load　　　　　　　　(4)　Suspended load

46. The K-factor in USLE is measured on unit plot of size

    (1)　22 m long with 9% slope　　　(2)　44 m long with 12% slope

    (3)　50 m long with 15% slope　　(4)　60 m long with 20% slope

47. _____ type of gullies are generally found in the alluvial plains, where surface and sub-surface soils are easily erodible.

    (1)　U-shaped　　　　　　　　　(2)　V-shaped

    (3)　L-shaped　　　　　　　　　(4)　W-shaped

48. Nash model is associated to

    (1)　IUH　　　　　　　　　　　(2)　SUHG

    (3)　Distribution HHG　　　　　(4)　All of the above

49. _____ is the material bouncing along the bed or moving directly or indirectly by the impact of bouncing particles with each other.

    (1)　Contact load　　　　　　　　(2)　Saltation load

    (3)　Suspended load　　　　　　　(4)　Bed load

50. _____ of the watershed represents the yield of sediment rate from the entire watershed area.

    (1)　The outlet　　　　　　　　　(2)　The Ridge line

    (3)　The high elevation point　　　(4)　None of the above

51. The sediment sampler should be kept in _____ position from the stream bed.

    (1)　Horizontal　　　　　　　　　(2)　Vertical

    (3)　Parallel　　　　　　　　　　(4)　None of the above

52. Unit hydrograph method is *not* suitable for the estimation of surface runoff from a watershed area of

(1) $< 25 \text{ km}^2$ and $> 5000 \text{ km}^2$

(2) < 25 ha and > 5000 ha

(3) < 25 acre and > 5000 acre

(4) $< 15 \text{ km}^2$ and $> 10,000 \text{ km}^2$

53. The intensity of moderate rainfall is

(1) 2·5 cm to 7·5 cm/hr

(2) 2·5 mm to 7·5 mm/hr

(3) 7·5 mm to 10 mm/hr

(4) 7·5 cm to 10 cm/hr

54. _____ is the most successful method for controlling the stream bank erosion, when the stream takes a sharp bend and bed scour is not deep.

(1) Brushwood edging

(2) Brushwood rollers

(3) Stone revetment

(4) None of the above

55. As per IMD norms, in plain area raingauge station is necessary for an area of

(1) 250 km^2

(2) 450 km^2

(3) 520 km^2

(4) 1200 km^2

56. The kinetic energy of raindrop depends on

(1) Drop size

(2) Rainfall intensity

(3) Both (1) and (2)

(4) None of the above

57. Chute spillways are located at the drop height of

(1) 1 to 2 m

(2) 0·5 to 1 m

(3) 5 to 6 m

(4) All of the above

58. USLE is

(1) An empirical equation

(2) A theoretical equation

(3) Both (1) and (2)

(4) None of the above

59. Broad-base terraces are made on lands upto _____ percent land grade only.

(1) 10   (2) 15   (3) 20   (4) 22

60. Which of the following terms is *not* related to basin shape ?

(1) Form factor   (2) Circulatory ratio

(3) Elongation ratio   (4) Drainage density

61. For estimating erosivity from rainfall data _____ method/s is/are used.

(1) EI 30 index method   (2) KE > 25 index method

(3) Both (1) and (2)   (4) Rational

62. Soil erodibility (E) is estimated by

(1) $E = \dfrac{\% \, \text{Sand} + \% \, \text{Silt}}{\% \, \text{Clay}}$ (2) $E = \dfrac{\% \, \text{Clay}}{\% \, \text{Sand} + \% \, \text{Silt}}$

(3) $E = \dfrac{\% \, \text{Clay} + \% \, \text{Silt}}{\% \, \text{Sand}}$ (4) $E = \dfrac{\% \, \text{Sand}}{\% \, \text{Clay}}$

63. In the process of sedimentation, which types of particles are transported by bed load ?

(1) Silt, clay and sand   (2) Only clay

(3) Only silt   (4) Sand, gravel and rock particles

64. For design of grassed waterways the value of roughness coefficient 'n' is usually taken as

(1) 0·04   (2) 0·02

(3) 0·08   (4) All of the above

65. The National Watershed Development Project for Rainfed Areas (NWDPRA) was initiated in

(1) 1973 – 74   (2) 1977 – 78   (3) 1986 – 87   (4) 1983 – 84

66. The hydrostatic law states that the rate of increase of fluid pressure in a vertically downward direction is equal to _____ at that point.

(1) Density of the fluid

(2) Specific weight of the fluid

(3) Weight of the fluid

(4) Volume of the fluid

67. Hydraulic gradient line is the line which gives the sum of _____ of a flowing fluid in a pipe.

a. Pressure head

b. Velocity head

c. Datum or elevation head

Answer Options :

(1) Only a and b

(2) Only a and c

(3) Only b and c

(4) All of the above

68. The required condition for a trapezoidal section of open channel to be most economical is

a. Bottom width must be equal to depth of flow

b. Half of the top width must be equal to one of the sloping sides of the channel

c. Hydraulic mean depth must be equal to half the depth of flow

Answer Options :

(1) Only a and b

(2) Only a and c

(3) Only b and c

(4) All of the above

69. Which one of the following discharge measuring devices operates efficiently on very small drop in head ?

(1) V-notch

(2) H-flume

(3) Cut-throat flume

(4) Parshall flume

70. The parallelism of advance and recession curves denote

(1) Less depth of application of water along the length of furrow

(2) Uniform distribution of water throughout the length of the border

(3) Appropriate design of check basin

(4) None of the above

71. The critical parameter(s) related to clogging susceptibility of drippers is/are

(1) Site of the flow passage

(2) Velocity of water through the flow passage

(3) Both (1) and (2)

(4) None of the above

72. In evaluation of sprinkler irrigation, if,

m = average value of application rate,

n = number of observations

X = numerical deviation of observation from average value

then, uniformity coefficient, C_u is

(1) $C_u = 100\left(1{\cdot}00 - \dfrac{\Sigma X}{m.n}\right)$

(2) $C_u = \left(100 - \dfrac{\Sigma X}{m.n}\right)$

(3) $C_u = 100\left(1 - \dfrac{\Sigma X}{m.n}\right)^2$

(4) $C_u = 100\left[1 - \left(\dfrac{\Sigma x}{m.n}\right)^2\right]$

73. In Kennedy's regime equation, $V = 0{\cdot}55\ mD^{0{\cdot}64}$ where m represents

(1) Side slope of channel

(2) Bed slope of channel

(3) Hydraulic radius of channel

(4) Critical velocity ratio

74. The drainage water intercepting the canal can be disposed of

a. By passing the canal over the drainage

b. By passing the canal below the drainage

c. By passing the drain through the canal

d. By aligning the canal parallel to the drain

Answer Options :

(1) All of the above

(2) Only a, b and c

(3) Only a and b

(4) Only a

75. If B is base period of a crop in days, the relationship between duty (D) in hectares/cumec and delta (Δ) in cm, is expressed as

(1) $\Delta = \dfrac{864\ B}{D}$

(2) $B = \dfrac{864\ \Delta}{D}$

(3) $D = \dfrac{864\ \Delta}{B}$

(4) $\Delta = \dfrac{864\ D}{B}$

76. In gridiron type of composite pipe drain systems and patterns,

    a.   Laterals are perpendicular to the collector

    b.   Laterals enter the collector at a sharp angle

Answer Options :

    (1) Only a   (2) Only b

    (3) Both a and b   (4) None of the above

---

77. Drawdown at any instant is the difference between

    (1) Static water level and ground level

    (2) Pumping water level and ground level

    (3) Pumping water level and impermeable level

    (4) Static water level and pumping water level

---

78. A permeable bed, only partly filled with water and overlying a relatively impervious layer is called

    (1) Semi-confined aquifer   (2) Confined aquifer

    (3) Unconfined aquifer   (4) Artesian aquifer

---

79. Tractor drawn scraper

    a.   Scoops the soil and dumps the soil

    b.   Cuts to grade, hauls the load and spreads the soil

    c.   Digs the soil and throws away

Answer Options :

    (1) Only a   (2) Only b

    (3) Only c   (4) All of the above

---

80. Which one of the following structures is *not* cross drainage work constructed on canal system ?

    (1) Cantilever skimming platform   (2) Level crossing

    (3) Super passages   (4) Syphon

---

81. Labour peaks in transplanting of paddy can be managed by

    a. Increasing the working hours

    b. Extending the time period of operations

    c. Adjusting the cropping pattern

    d. Mechanizing the operations

    e. Decreasing the intensity of some operations

    Answer Options :

    (1) All are correct

    (2) All are incorrect

    (3) Only a, b and c are correct

    (4) No relevance to labour peaks

82. In an ideal Otto cycle, the adiabatic process of compression is followed by

    (1) Constant pressure heat addition

    (2) Constant volume heat addition

    (3) Constant pressure heat rejection

    (4) Constant volume heat rejection

83. Valve timing for opening and closing in IC engines is

    (1) Advanced and delayed with increase in the engine speed

    (2) Delayed and advanced with decrease in the engine speed

    (3) Always at same time as top dead centre and bottom dead centre position of piston

    (4) Same for slow speed and high speed engines

84. a. Power brakes are generally used on large size tractors.

    b. Brakes must give positive control when the pedals are pressed.

    c. Air bubbles in the hydraulic line would indicate soft braking action.

    Answer Options :

    (1) Only a and b are correct

    (2) Only a and c are correct

    (3) All are correct

    (4) All are incorrect

85. If number of teeth on the driven gear are doubled without changing number of teeth on the driver gear, what will be the new speed ratio if the original speed ratio is 2 : 1 ?

(1)   4 : 1   (2)   1 : 4   (3)   1 : 2   (4)   1 : 1

86. a. In wet land for paddy cultivation shoes have more flat sections.

b. For general ploughing in dry lands shoes are of triangular cross-section.

c. Working angle of share to ground varies from 40° to 50°.

Answer Options :

(1) c is incorrect   (2) All are correct

(3) All are incorrect   (4) a is incorrect

87. This machine consist of a conventional cutter bar assembly, crop row dividers with star wheels, covers, pressure springs and vertical conveyor belts.

(1) Power tiller   (2) Mower

(3) Thresher   (4) Reaper windrower

88. The function of governor in the tractor engine is to

a. Increase the speed of engine under increased load condition.

b. Decrease the speed of engine when load decreases.

c. Regulate the fuel supply.

d. Increase the speed of engine when load decreases.

Answer Options :

(1) Only a and b   (2) Only a and c

(3) Only a, b and c   (4) Only c and d

89. This type of cell plate is widely used for maize planting and in this plate risk of crushing unevenly sized seed is greater.

(1) Horizontal plate   (2) Vertical plate

(3) Inclined plate   (4) Cup type

90. This type of duster is more conventional to operate in tall crop like sugarcane as it does not get entangle in plants during dusting.

(1) Knapsack type   (2) Plunger type

(3) Belly type   (4) Rotary type

91. Which of the following things are *true* for hydraulic brake system ?

a. Force required to apply brake is less than mechanical brake.

b. Brake fluid used is caster oil and denatured alcohol.

c. Brake fluid used is glycerine and alcohol.

d. Force is transmitted to all wheels in equal magnitude.

Answer Options :

(1) Only a, b and d   (2) Only a and d

(3) Only a, b and c   (4) All of the above

92. The angle at which the plane of the cutting edge of disc is inclined to vertical line is called

(1) Tilt angle   (2) Disc angle

(3) Gang angle   (4) Caster angle

93. It is also called valve lifter, it raises or lowers the valves and receives motion from the cams, mounted on the camshaft.

(1) Push rod   (2) Rocker arm

(3) Tappet   (4) All of the above

94. Field efficiency of any machine is the function of

a. Width of machine

b. Depth of operation

c. Speed of operation

d. Shape of field

Answer Options :

(1) Only a and b   (2) Only a, b and c

(3) Only a, c and d   (4) All of the above

95. Cell fill is affected by

(1) Seed size

(2) Cell speed

(3) Cell size

(4) All of the above

96. The energy of the engine is converted into heat by a set of rotating cups, turning next to a set of stationary vanes in

(1) Hydraulic dynamometer

(2) Electrical dynamometer

(3) Spring dynamometer

(4) Prony brake dynamometer

97. In seed drill calibration, following parameters are determined and adjusted

a. Seed rate

b. Uniformity of seed delivery from different furrow openers

c. Uniformity of seed delivery from same furrow opener

d. Depth of seed placement

Answer Options :

(1) Only a

(2) Only a and b

(3) Only a, b and c

(4) All of the above

98. The nozzle used for chemical spraying of weedicides is

(1) Hollow cone nozzle

(2) Flat fan nozzle

(3) Solid cone nozzle

(4) Flooding nozzle

99. In this system, the frequency of explosions of engine are regulated and is mostly used on gas engines.

(1) Throttle system

(2) Hit and miss system

(3) Hydraulic governor

(4) Centrifugal governor

100. During suction spoke the pressure inside the engine cylinder is

(1) Below the atmospheric pressure

(2) Equal to the atmospheric pressure

(3) Above the atmospheric pressure

(4) None of the above

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 ''परीक्षांमध्ये 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.**

कच्च्या कामासाठी जागा/SPACE FOR ROUGH WORK