

Test Booklet
Series

A

Paper No.

30

Written Test Paper, 2021

J.E. (HORTICULTURE)

Test Booklet No.

Name of Applicant Answer Sheet No.

Application No. : SVSU/2020/Estt/NT/ Signature of Applicant :

Date of Examination: **25 / 12 / 2021**

Signature of the Invigilator(s)

1.

Time of Examination :

2.

Duration : 2 Hours]

[Maximum Marks : 100

IMPORTANT INSTRUCTIONS

- (i) The question paper is in the form of Test-Booklet containing **100 (Hundred)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct.
- (ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **100** questions (70 in Part-A + 30 in Part-B). Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.
- (iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **100** rows (70 in Part-A + 30 in Part-B) containing four circles each. One row pertains to one question.
- (iv) The candidate should write his/her Application number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and **NOWHERE ELSE**.
- (v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.
- (vi) For every correct answer of the question **One (1) mark will be awarded**. For every unattempted question, Zero (0) mark shall be awarded. **There is no Negative Marking**.
- (vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.
- (viii) To mark the answer on the Answer-Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.
- (ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.
- (x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.
- (xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.
- (xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*
- (xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.

[P.T.O.

30 / 1

PART-A

1. Water harvesting, primarily means
 - (A) Harvesting water from drains
 - (B) Diverting water to rivers
 - (C) Collection and preservation of rainwater
 - (D) Removal of excess water from fields
2. The ratio of total channel length to the basin area is called as
 - (A) Stream order
 - (B) Drainage density
 - (C) Stream frequency
 - (D) None of the above
3. The water harvested by using semi-circular hoop, can be utilized for
 - (A) Irrigating grasses, fodders, shrubs or trees
 - (B) Cattle feeding
 - (C) Fish farming
 - (D) Domestic use
4. The water source for off-stream storage pond is
 - (A) Perennial rivers
 - (B) Ephemeral rivers
 - (C) Intermittent rivers
 - (D) All above
5. One cm water standing uniformly on one hectare of land is equal to
 - (A) 100000 litres
 - (B) 10000 litres
 - (C) 1000 litres
 - (D) 50000 litres
6. According to Lacey, a channel is said to be in regime, if
 - (A) It flows in incoherent unlimited alluvium of the same character as that transported material
 - (B) Its discharge is constant
 - (C) the silt grade and the silt charge are constant
 - (D) All of the above
7. Kennedy, in his silt theory, assumed that the silt is kept in suspension because of eddies generated from the
 - (A) Bed only
 - (B) Sides only
 - (C) Whole perimeter
 - (D) Any one of these
8. The most suitable soil for crop production is
 - (A) Black soil
 - (B) Laterite and lateritic
 - (C) Alluvial soil
 - (D) All of the above

9. Dry land farming is common in
- (A) Arid regions
 - (B) Semi-arid regions
 - (C) Cold regions
 - (D) Humid regions
10. Method used to collect water and prevent soil erosion on hill slopes.
- (A) Cover cropping
 - (B) Strip cropping
 - (C) Terrace cropping
 - (D) Buffer cropping
11. Land capable of being ploughed and used to grow crops is :
- (A) Domestic land
 - (B) Arable land
 - (C) Un arable land
 - (D) Dry land
12. Estimate of the ability of soils to resist erosion, based on the physical characteristics of each soil is known as
- (A) Soil erodibility
 - (B) Soil erosion
 - (C) Soil potentiality
 - (D) Soil neutrality
13. Based on size, a small watershed is one which is less than
- (A) 250 km²
 - (B) 250 mile²
 - (C) 1000 km²
 - (D) None of these
14. A second order stream joins another second order stream, the resulting stream is
- (A) Third order
 - (B) Second order
 - (C) First order
 - (D) None of these
15. The coding of watersheds begins from the
- (A) Upstream end
 - (B) Downstream end
 - (C) Can begin from any place
 - (D) None of these
16. For a single point vertical sampling of sediments, measurement is taken at depths from the top (d is depth of the stream)
- (A) 0.2 d
 - (B) 0.7 d
 - (C) 0.6 d
 - (D) None of these

17. Sediment is transported in the streams through the processes of
- (A) Suspension
 - (B) Surface creep
 - (C) Dredging
 - (D) Both (A) and (B)
18. Form factor is the ratio of
- (A) Basin area divided by square of basin length
 - (B) Basin length divided by basin area
 - (C) Square of the basin length divide by the area
 - (D) Square of the basin area divide by square of basin length
19. The present worth (PW) of the net benefits of the project is
- (A) The discounted value of all the benefits of the project over its life
 - (B) The discounted value of all the cost of the project over its life
 - (C) The difference between the discounted value of all the benefits and cost of the project over its life
 - (D) None of these
20. The line of seepage in an earthen embankment is also called the
- (A) Phreatic line
 - (B) Lowermost flow line
 - (C) Runoff line
 - (D) Water pressure line
21. Contour farming is recommended for lands with the slope range of
- (A) 0-1%
 - (B) 2-7%
 - (C) 7-12%
 - (D) 12-24%
22. Grassed waterways are generally laid out for
- (A) Drainage of high-velocity flow
 - (B) Irrigation channels
 - (C) Gully control
 - (D) All of these three
23. Diversion ditches are constructed for
- (A) Removal of flood
 - (B) Diversion of runoff
 - (C) Interception and diversion of runoff
 - (D) Interception of runoff

24. Which of the following channel has the highest hydraulic radius?
- (A) Triangular
 - (B) Parabolic
 - (C) Trapezoidal
 - (D) Flatter
25. Semi-permanent check dams are constructed with
- (A) Plant residues
 - (B) Mud
 - (C) Masonry
 - (D) None of these three
26. At drops of 3 - 4 m, which of the following structure is recommended?
- (A) Drop spillway
 - (B) Pipe spillway
 - (C) Chute spillway
 - (D) Temporary check dams
27. Box-inlet drop spillways are recommended for areas, where
- (A) Short crest lengths are required
 - (B) Down slope channel is wide
 - (C) Water from a reservoir is to be removed
 - (D) A long crest length on a narrow channel is required
28. Longitudinal sills in a spillway basin are provided to
- (A) Improve flow distribution in the basin
 - (B) To block the flow and impound water
 - (C) Strengthen the structure
 - (D) Protect the structure from siltation
29. Drop inlet spillways are generally used for
- (A) Very high drops in a gully
 - (B) Removal of excess water from a reservoir
 - (C) Very small drops
 - (D) Regulation of inflow water
30. In a chute spillway, the hydraulic jump is created at its
- (A) Inlet
 - (B) Outlet
 - (C) Middle
 - (D) Sides
31. Check dams helps to
- (A) Reduce the velocity of water
 - (B) Increase the time of opportunity
 - (C) Reduce the degree of slope
 - (D) All of these

32. Temporary storage is not permitted in front of following gully control structure
- (A) Drop spillway
 - (B) Pipe inlet spillway
 - (C) Chute spillway
 - (D) Gabion structure
33. USLE predicts the
- (A) Average annual loss
 - (B) Seasonal loss
 - (C) Monthly soil loss
 - (D) All of these
34. The rainfall erosivity index (R) is given by
- (A) A. E
 - (B) EI
 - (C) $EI_{30} / 100$
 - (D) None of these
35. During bench terracing, minimum area is lost when the terrace has
- (A) Flat batter slope
 - (B) Vertical batter slope
 - (C) Horizontal slope
 - (D) None of these
36. In order to create an accurate assembly drawing the drafter should create the _____ drawings first.
- (A) Isometric
 - (B) Title block
 - (C) Parts list
 - (D) Detail
37. The _____ is a standard element of a section view in a technical drawing.
- (A) Cutting Plane line
 - (B) Section lines
 - (C) Material hatch pattern
 - (D) All of the above
38. Centre to centre distance between two consecutive rivets in a row, is called
- (A) Margin
 - (B) Pitch
 - (C) Back pitch
 - (D) Diagonal pitch
39. Which one of the following loading is considered for the design of axle?
- (A) Bending moment only
 - (B) Twisting moment only
 - (C) Combined bending moment and twisting moments
 - (D) Combined action of bending moment, twisting moment and axial thrust

40. Free Hand Sketching commonly used when
- (A) Required accurate drawing
 - (B) Required rough drawing
 - (C) Required production drawings
 - (D) Required large drawings
41. Diameter of pin in a bushed pin type flexible coupling is to be increased for the purpose of
- (A) Higher stress due to shear
 - (B) Keeping the magnitude of bending moment small by reducing the unsupported length of the pin
 - (C) Fitting the pin in the bush
 - (D) Reducing the thickness of the flange
42. In radial cams, the follower moves
- (A) In a direction parallel to the cam axis
 - (B) In any direction irrespective of cam axis
 - (C) Along the cam axis
 - (D) In a direction perpendicular to the cam axis
43. If a close coiled helical spring absorbs 30 N-mm of energy while extending by 5 mm, its stiffness will be
- (A) 2 N/mm
 - (B) 4 N/mm
 - (C) 10 N/mm
 - (D) 2.4 N/mm
44. Which gas is used for filling electric bulbs?
- (A) Neon
 - (B) Chlorine
 - (C) Halogen
 - (D) Argon
45. The nominal voltage for lead-acid cells is
- (A) 24 V
 - (B) 2 V
 - (C) 1.4 V
 - (D) 12 V
46. In which device is the principle of statically induced emf used?
- (A) Transformer
 - (B) Motor
 - (C) Generator
 - (D) Battery
47. Principle of dynamically induced emf is used in a
- (A) Choke
 - (B) Transformer
 - (C) Generator
 - (D) Thermo-couple

48. The leakage flux in a transformer depends upon the value of
- (A) Frequency
 - (B) Mutual flux
 - (C) Load current
 - (D) Applied voltage
49. Lamination of the transformer core is made of
- (A) Cast iron
 - (B) Silicon steel
 - (C) Aluminum
 - (D) Cast steel
50. Which of the following rule is used to determine the direction of rotation of D.C motor?
- (A) Columb's Law
 - (B) Lenz's Law
 - (C) Fleming's Right-hand Rule
 - (D) Fleming's Left-hand Rule
51. The ratio of starting torque to full load torque is least in
- (A) Differential compound motor
 - (B) Shunt motor
 - (C) Series motor
 - (D) Cumulative compound motor
52. The direction of rotation of a D.C.series motor can be changed by
- (A) Interchanging supply terminals
 - (B) Interchanging field terminals
 - (C) Either of (A) and (B) above
 - (D) None of the above
53. Which D.C. motor will be preferred for machine tools?
- (A) Series motor
 - (B) Shunt motor
 - (C) Cumulative compound motor
 - (D) Differential compound motor
54. Which of the following motor is used in the mixer?
- (A) Repulsion motor
 - (B) Reluctance motor
 - (C) Hysteresis motor
 - (D) Universal motor
55. Which of the following motor will have a relatively higher power factor?
- (A) Capacitor start motor
 - (B) Capacitor run motor
 - (C) Shaded pole motor
 - (D) Split phase motor

56. One hp is equal to
- (A) 246 watts
 - (B) 250 watts
 - (C) 746 watts
 - (D) 1000 watts
57. Which one of the following is not a secondary tillage tool?
- (A) Disc plough
 - (B) Disc harrow
 - (C) Mould board
 - (D) None of these
58. Which of the following is an advantages of Air Cooled Engines?
- (A) Its design of air-cooled engine is simple
 - (B) It needs less care and maintenance
 - (C) It is cheaper to manufacture
 - (D) All of the above
59. Fourier's law of heat conduction gives the heat flow for
- (A) Irregular surfaces
 - (B) Non-uniform temperature surfaces
 - (C) One dimensional cases only
 - (D) Two dimensional cases only
60. The vapour compression refrigerator employs the following cycle
- (A) Rankine
 - (B) Carnot
 - (C) Reversed Rankine
 - (D) Reversed Carnot
61. At drops of 3–4 m, which of the following structure is recommended?
- (A) Drop spillway
 - (B) Pipe spillway
 - (C) Chute spillway
 - (D) Temporary check dams
62. Diversion ditches are constructed for
- (A) Removal of flood
 - (B) Diversion of runoff
 - (C) Interception and diversion of runoff
 - (D) Interception of runoff
63. Drop inlet spillways are generally used for
- (A) Very high drops in a gully
 - (B) Removal of excess water from a reservoir
 - (C) Very small drops
 - (D) Regulation of inflow water

64. If the addition of heat does not change temperature, it is known as
- (A) Latent heat
 - (B) Sensible heat
 - (C) Super heat
 - (D) Saturated heat
65. In drying, end of constant rate period and start of falling rate period is known as
- (A) Critical moisture content
 - (B) Equilibrium moisture content
 - (C) Constant drying rate period
 - (D) Falling rate period
66. When dry bulb and wet bulb temperature are same, the RH of air will be
- (A) 0%
 - (B) 50%
 - (C) 100%
 - (D) 70%
67. Which of the following is used to control the speed variations of the engine caused by the fluctuations of the engine turning moment?
- (A) D-slide valve
 - (B) Governor
 - (C) Flywheel
 - (D) Meyer's expansion valve
68. Most critical stage for irrigation in wheat crop is -
- (A) Log stage
 - (B) Harvesting stage
 - (C) Vegetative stage
 - (D) C.R.I. stage
69. Most popular method of potato planting is -
- (A) Dibbling
 - (B) Broadcasting
 - (C) Throwing
 - (D) Ridge and furrow method
70. Ripening in sugarcane is enhanced by spraying
- (A) Sodium metasilicate
 - (B) Polaris
 - (C) Ethrel
 - (D) All of the above are correct

PART-B

71. $25 : 37 :: 49 : ?$

- (A) 41
- (B) 65
- (C) 56
- (D) 60

72. Find the missing character?

4C	2B	3A
28A	?	45B
7C	5A	15B

- (A) 10C
- (B) 12C
- (C) 13C
- (D) 7C

73. Pointing at a photo, Dinesh said, "His father is only son of my mother." The photo belongs to :

- (A) Dinesh
- (B) Dinesh's brother
- (C) Dinesh's father
- (D) Dinesh's son

74. Rakesh ranks 13th in the class of 33 students. There are 5 students below Mahesh rankwise. How many students are there between Rakesh and Mahesh ?

- (A) 12
- (B) 14
- (C) 15
- (D) 16

75. QAR, RAS, SAT, TAU, _____

- (A) UAV
- (B) UAT
- (C) TAS
- (D) TAT

76. Choose the word which is different from the rest.

- (A) Pear
- (B) Apple
- (C) Litchi
- (D) Orange

77. Before you gave answers, sir them to us.

- (A) sent
- (B) will send
- (C) had sent
- (D) was sending

78. Look, a new missile
- (A) is launched
 - (B) is launch
 - (C) is being launch
 - (D) is being launched

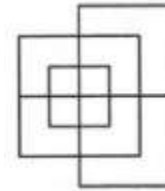
79. The paths of glory lead to the grave.
- (A) straight
 - (B) but
 - (C) in
 - (D) directly

80. You haven't had your lunch yet, you?
- (A) are
 - (B) aren't
 - (C) have
 - (D) haven't

81. Which sequence makes a correct sentence?
1. tea
 2. have
 3. that
 4. some
 5. before
- (A) 43251
 - (B) 24315
 - (C) 24153
 - (D) 52431

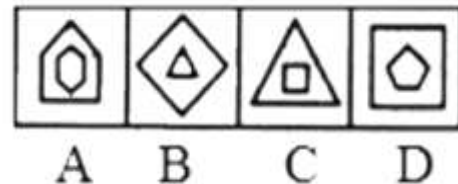
82. He reminds us Paul Walker.
- (A) about
 - (B) of
 - (C) for
 - (D) with

83. Find the minimum number of straight lines required to make the given figure.



- (A) 13
- (B) 15
- (C) 17
- (D) 19

84. Select the figure that does NOT belong in the following group.

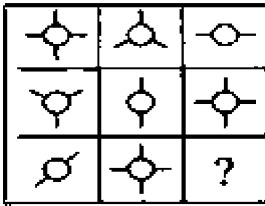


- (A) B
- (B) A
- (C) D
- (D) C

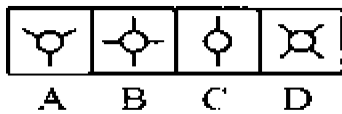
85. P, Q, R and S are four friends. P is shorter than Q but taller than R who is shorter than S. Who is the shortest among all?
- (A) P
 - (B) Q
 - (C) R
 - (D) S

86. Select the Answer figure that fits in the blank space in the given problem figure.

Problem Figure



Answer Figure



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

87. From the given alternatives, select the word which CANNOT be formed using the letters of the given word.

Demonstration

- (A) Moon
(B) Most
(C) Train
(D) Damage

88. If white is called black, black is called red, red is called yellow, yellow is called green, green is called blue, blue is called violet and violet is called orange, what would be the colour of human blood?

- (A) green
(B) black
(C) red
(D) yellow

89. A train running at 90 km/hr crosses a pole in 10 seconds. What is the length of train?

- (A) 250 m
(B) 150 m
(C) 900 m
(D) None of these

90. Which is in ascending order?

- (A) $1/3, 2/5, 3/5, 6/7$
(B) $2/5, 1/3, 3/5, 6/7$
(C) $1/3, 2/5, 6/7, 3/5$
(D) $3/5, 6/7, 1/3, 2/5$

91. The average of four consecutive odd numbers is 24. Find the largest number.

- (A) 25
(B) 27
(C) 29
(D) 31

92. Sum of a rational number and its reciprocal is $13/6$. Find the number

- (A) 2
(B) $3/2$
(C) $4/2$
(D) $5/2$

93. Half of 1 percent written as decimal is
(A) 5
(B) 0.5
(C) 0.05
(D) 0.005
94. A person incurs a loss of 5% by selling a watch for Rs. 1140. At what price should the watch be sold to earn 5% profit.
(A) Rs. 1200
(B) Rs. 1230
(C) Rs. 1260
(D) Rs. 1290
95. A fungal disease named 'Mucormycosis' is registered in COVID-19 patients of which state?
(A) Kerala
(B) Gujarat
(C) Bihar
(D) Assam
96. "Energy Conservation Week" is observed every year in which month?
(A) October
(B) November
(C) December
(D) January
97. Who has been appointed as the Chief of Staff Committee, following the demise of General Bipin Rawat?
(A) M.M. Naravane
(B) Karambir Singh
(C) R.K.S. Bhaduria
(D) Vijay Kumar Singh
98. Which state after Haryana has recently announced 75% reservation in private sector jobs for locals?
(A) Uttar Pradesh
(B) Rajasthan
(C) Uttarakhand
(D) Jharkhand
99. The first-ever Haryana Sahitya Sangam has started in which city?
(A) Faridabad
(B) Panchkula
(C) Gurgaon
(D) Karnal
100. The Ministry of Labour recently launched India's first national database on unorganised workers on which portal?
(A) e-Shram portal
(B) Samadhan portal
(C) Atma Nirbhar Bharat portal
(D) None of the above

ROUGH WORK

J.E (Horticulture)

Ans key

1. c	26. c	51. a	76. D
2. b	27. d	52. b	77. C
3. a	28. a	53. a	78. D
4. b	29. b	54. d	79. B
5. a	30. b	55. b	80. C
6. d	31. c	56. c	81. C
7. a	32. b	57. c	82. B
8. c	33. a	58. d	83. A
9. a	34. c	59. c	84. A
10. c	35. b	60. d	85. C
11. b	36. d	61. c	86. D
12. a	37. d	62. c	87. D
13. a	38. b	63. b	88. D
14. a	39. a	64. a	89. A
15. b	40. b	65. a	90. A
16. c	41. b	66. c	91. B
17. d	42. d	67. c	92. B
18. a	43. d	68. d	93. D
19. c	44. d	69. a	94. C
20. a	45. b	70. a	95. B
21. b	46. a	71. B	96. C
22. a	47. c	72. A	97. A
23. c	48. c	73. D	98. D
24. a	49. b	74. B	99. B
25. a	50. d	75. A	100. A