

# PUNJAB PUBLIC SERVICE COMMISSION

**Objective Type Test (November-2017) for Recruitment of Soil Conservation Officer  
in the Department of Soil and Water Conservation, Government of Punjab**

READ INSTRUCTIONS BEFORE FILLING ANY DETAILS OR ATTEMPTING TO ANSWER THE QUESTIONS.

**Candidate's Name** \_\_\_\_\_

**Father's Name** \_\_\_\_\_

**Date of Birth**                     **Category Code\***

DD                      MM                      YYYY                      (\*as given in the admit card)

**OMR Response Sheet No.** \_\_\_\_\_

**Roll No.** \_\_\_\_\_

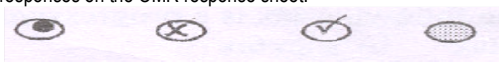

**Candidate's Signature** (Please sign in the box)

**Question Booklet Set**

A

**Booklet Series No.**

## INSTRUCTIONS

<p>1. The candidate shall NOT open this booklet till the time told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant columns (other than the columns related to marking responses to the questions) of the Optical Mark Reader (OMR) response sheet, supplied separately.</p>	<p>9. The candidates shall ensure that the responses are marked in correct manner and any adverse impact due to wrong marking of responses would be the responsibility of the respective candidate. The following are some of the <b>examples of wrong marking</b> of responses on the OMR response sheet.</p> <div style="text-align: center; margin: 5px 0;">  </div>
<p>2. Use only blue or black ball point pen to fill the relevant columns on this page. Use of fountain pen may leave smudges which may make the information given by the candidate here illegible.</p> <p>3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible.</p>	<p>10. The candidates, when allowed to open the question paper booklet, must check the booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should immediately bring this fact to the notice of the invigilation Staff and obtain a booklet of the same series as given earlier.</p>
<p>4. Before attempting the paper, the candidate must fill all the columns given above on this page and sign at the appropriate place.</p> <p>5. Each candidate is required to attempt 100 questions in 120 minutes, except for orthopaedically/visually impaired candidates, who would be given 40 extra minutes, by marking correct responses on the OMR sheet which would be supplied separately to the candidates.</p>	<p>11. The serial number of the new booklet should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of question booklet.</p>
<p>6. The candidate must write the following on the OMRs sheet: (a) Serial number of OMR sheet supplied to him/her for marking the responses to the questions. (b) Serial number of the question booklet (c) Series of the question booklet. Failure to do so may lead to cancellation of candidature or any other action which the Commission may deem fit.</p>	<p>12. The question paper booklet has 13 pages.</p> <p>13. Each question shall carry three marks.</p>
<p>7. The candidate should darken the appropriate response to the question by completely darkening the appropriate circle/oval according to his/her choice of response i.e. a, b, c or d in the manner shown in the example below.</p> <div style="text-align: center; margin: 5px 0;">  </div>	<p>14. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet using blue or black ball point pen.</p>
<p>8. Partly darkening the circle/oval on the OMR response sheet or using other symbols such as tick mark or cross would not result in evaluation of the response as the OMR scanner can only interpret the answers by reading the darkened responses in the manner explained in preceding paragraph. Darkening more than one circle/oval as response to a question shall also be considered as wrong answer. The candidates are advised not to erase any marked answer on the OMR sheet as it may lead to double reading of the answer by the scanner.</p>	<p>15. There is no negative marking for wrong answers or questions not attempted by the candidate.</p>

1. Rape and mustard has highest productivity in the following state
  - a) Haryana
  - b) Punjab
  - c) Rajasthan
  - d) Gujarat
  
2. Critical stage for irrigation influencing tillering in wheat is
  - a) CRI
  - b) Flowering
  - c) Milk stage
  - d) None of the above
  
3. Pearl millet is
  - a) Drought tolerant
  - b) Sensitive to water logging
  - c) Sensitive to acidic soil
  - d) All of the above
  
4. Plant modification in cotton with NAA, CCC helps in
  - a) Early reproduction growth phase
  - b) More Bud retention
  - c) Drought resistance
  - d) All of the above
  
5. Biofertilizers for paddy nutrition are
  - a) BGA
  - b) *Azolla*
  - c) BGA and *Azolla*
  - d) None of the above
  
6. Soil property is a collective function of all soil forming factors and is expressed as
  - a)  $s = f(c,l,b,r,p,t)$
  - b)  $s = f(c,l+b+r+p+t)$
  - c)  $s = f(c,l-b-r-p-t)$
  - d)  $s = f(c,l-b-r+p+t)$
  
7. Soil water potential is positive for
  - a) Matric
  - b) Gravitational
  - c) Osmotic
  - d) Hygroscopic
  
8. Drying in gravimetric method of moisture determination is done at
  - a) 70°C
  - b) 50°C
  - c) 105°C
  - d) 180°C

9. *Sesbania* species are used as
- Cover crop
  - Nutrient deficiency indicator crop
  - Green crop
  - None of the above
10. Microbial activity, buffering capacity, nutrient and water retention, cation exchange capacity of soils are improved by
- Increasing organic carbon
  - Compaction
  - Percolation of water
  - Infiltration of water
11. Run off can be expressed as
- Run off = Rainfall – infiltration
  - Run off = Rainfall – (infiltration + interception)
  - Run off = Rainfall – (infiltration + interception + surface storage + surface detention)
  - Run off = Rainfall – (surface storage + surface detention)
12. No land loss, no hindrance for operation, no weed problems are associated with
- Bio – drainage
  - Sub – surface drainage
  - Surface drainage
  - All of the above
13. Imperial Agricultural Research Institute was established in 1905 at
- Pusa
  - Kanpur
  - New Delhi
  - None of the above
14. Weeds may be disseminated by
- Fall near the mother plant
  - Travel with agricultural crops
  - Travel with water, wind, machines, manures, animals, humans etc.
  - All of the above
15. Isoproturon belongs to
- Aliphatics
  - Ureas
  - Triazines
  - Phenols

16. Herbicide Fluchloralin is a
- Pre-plant
  - Pre-emergence
  - Post-emergence
  - None of the above
17. Neutron moisture meter helps in measuring soil moisture of a
- Disturbed soil in vitro
  - In situ moisture without disturbance
  - Surface soil moisture
  - None of the above
18. Clay particle size is
- <0.002 mm
  - 2.0 to 0.2 mm
  - 0.2 to 0.02 mm
  - 0.02 to 0.002 mm
19. Soil consistence is affected by
- Type of clay
  - Texture
  - Structure
  - All of the above
20. If the maximum Water Holding Capacity, wilting point and field capacity of a soil is 38%, 8% and 21% respectively ; the water that can be lost through drainage will be
- 30%
  - 13%
  - 17%
  - 9%
21. The criteria of essentiality of elements for plant growth was defined by
- Smith
  - Nicholas
  - Arnon and Stout
  - None of the above
22. Among micronutrients, removal is maximum in case of
- Molybdenum
  - Iron
  - Copper
  - Zinc

23. Mycorrhiza help in
- Mobilization of phosphorus
  - Solubilization of phosphorus
  - Fixation of phosphorus
  - Leaching of phosphorus
24. Water logging effects plants in the following way
- Lack of O<sub>2</sub> to roots
  - Certain growth hormones as GA, ABA are reduced
  - Production of toxic substances
  - All of the above
25. Sub surface drainage is popular because
- Crop can be planted over drainage system
  - Of cost of land
  - Both 1 and 2
  - None of the above
26. Where layers of soil or geologic spots below soil cause a suspended water table, following drainage can be established
- Tile
  - Relief wells
  - Vertical sub-surface
  - None of the above
27. Arhar crop is
- Self pollinated
  - Often self pollinated
  - Cross pollinated
  - None of the above
28. In case of groundnut, ovary is forced into the soil when gynophores bends downwards is called
- Aerial roots
  - Peg
  - Tentacles
  - None of the above
29. *Azolla* is a
- Bacteria
  - Fern
  - Green algae
  - Actinomycetes

30. Head quarter of Central Arid zone Research Institute is located at
- Bikaner (Raj)
  - Jodhpur (Raj)
  - Pali Marwar (Raj)
  - None of the above
31. Soil and Water Conservation is promoted by
- Organic matter recycle
  - Balanced nutrition through inorganics
  - Mechanical agriculture
  - None of the above
32. Pendimethalin belongs to
- Aliphatics
  - Amides
  - Dinitro anilines
  - Ureas
33. Soil colour comprises of
- Hue and value
  - Value and Chroma
  - Hue and chroma
  - Hue, value and chroma
34. If a soil has a maximum WHC, wilting point and field capacity as 38%, 8% and 21% and apparent density of  $1.3\text{Mg/m}^3$ , unavailable water will be
- 1.428 inches/acrefoot
  - 1.248 inches/acrefoot
  - 1.842 inches/acrefoot
  - 1.482 inches/acrefoot
35. Of the plant tissues, Carbon constitutes nearly
- 60%
  - 70%
  - 30%
  - 45%
36. Effectiveness of phosphogypsum as reclaiming agent depends on
- Particle size
  - Percent purity
  - Both particle size and purity
  - None of the above

37. Low cost, suitable to steep hills, conservation of water etc. are achieved in
- Drip irrigation
  - Furrow irrigation
  - Basin irrigation
  - None of the above
38. Wind breaks of 3-7 rows and 15-30 m wide are more effective to modify micro-climate, shelter for birds, honey bees and pet animals and thus benefit specially under
- Drought areas
  - Humid areas
  - Rainy areas
  - None of the above
39. Sorghum chari contains
- Acetic acid
  - HCN
  - HF
  - All of the above
40. Pungency in mustard is due to isothiocyanate enzymic hydrolysis product of
- Glucosinolates
  - Protamines
  - Lecithin
  - None of the above
41. Foundation seed is produced from
- Nucleus seed
  - Breeder seed
  - Quality seed
  - Certified seed
42. Phosphorus is applied as
- Basal dose and placement
  - Basal dose and broadcast
  - Foliar
  - Top dressing
43. Which represent correct structure of atmosphere sequentially
- Troposphere-Thermosphere-Mesosphere- Stratosphere
  - Troposphere- Mesosphere- Thermosphere- Stratosphere
  - Troposphere- Stratosphere- Mesosphere-Thermosphere
  - Troposphere - Stratosphere –Thermosphere-Mesosphere

44. Which is a source of steady precipitation
- Stratus
  - Nimbo-stratus
  - Alto-cumulus
  - Cirro-stratus
45. In India, maximum agriculture falls under
- Humid condition
  - Semi-arid wet condition
  - Arid condition
  - Semi-arid dry condition
46. In cereals tiller production increases when light intensity
- Decreases
  - Oscillates
  - Increases
  - Prevails in supra normal range
47. The sequence of utilization of solar energy during morning, mid day, and evening in plant is
- More-More- More
  - More-Less-More
  - More-More-Less
  - Less-More-Less
48. Which represents correct sequence of growth phases in plants
- Lag-Log-Decreasing-Plateau-Senescence
  - Log-Lag- Decreasing-Plateau-Senescence
  - Plateau- Lag-Log-Decreasing -Senescence
  - Log-Decreasing- Lag-Plateau-Senescence
49. For reducing growth in cotton, which hormone is used
- NAA
  - BA
  - Triacantanol
  - Cycocel
50. Hypogeal germination in cereals takes place due to
- Fast growth of cotyledon
  - Slow growth of hypocotyl
  - Fast growth of epicotyl
  - Slowgrowth of epicotyl
51. Which kind of sowing has high rainfall use efficiency
- Wet sowing during rain
  - Normal seeding after rain
  - Dry seeding before monsoon
  - Fall seeding



52. Yield and plant population can be expressed by the equation
- $Y = a + bp + cp^2$
  - $Y = bp + a + cp^2$
  - $Y = cp^2a + bp$
  - $Y = a + bp - cp^2$
53. As density of plant increases, the amount of dry matter increases in
- Vegetative part
  - Reproductive part
  - Transition part
  - Mature part
54. Pyrites provide the plant
- Mg, Ca
  - Mn, Mo
  - Zn
  - S, Fe
55. Water requirement per hectare for satisfactory sugarcane yield is
- 10000m<sup>3</sup>
  - 5000-8000m<sup>3</sup>
  - 12000m<sup>3</sup>
  - 20000-30000m<sup>3</sup>
56. In citrus granulation is less when humidity is
- High
  - Less
  - Medium
  - Cent per cent
57. For stooling, guava mother plant requires obligatorily
- Thinning
  - Ringing
  - Notching
  - Beheading
58. In gully erosion, G<sub>3</sub> means
- 3-9m deep, bed width not less than 18m
  - 3m deep, bed width not less than 18m
  - 3-9m deep, bed width less than 18m
  - 3m deep, bed width less than 18m
59. Recently, Government of India increased the import duty on wheat to
- 10%
  - 15%
  - 20%
  - 50%
60. Measurement of runoff and sediments in small watershed is done using
- Float method
  - Current Meter
  - Velocity area method
  - Coshocton type sampler

61. The SiO<sub>2</sub> per cent in basalt rock is
- 76
  - 58
  - 1
  - 53
62. The term pH was suggested by
- Den (1920)
  - Sorenson (1909)
  - Braidy (1890)
  - Snow (1949)
63. In soil which is acidic, which nutrient becomes toxic to plants
- Al
  - Ca
  - Mg
  - Sulphur
64. In saline alkali soil the EC is
- More than 4 dS/m
  - Less than 4dS/m
  - More than 3 dS/m
  - Less than 1.5dS/m
65. If exchangeable sodium is 2me/100g soil, the amount of gypsum required for its amendment would be
- 2.12 tonnes/ha
  - 4.25 tonnes/ha
  - 6 tonnes/ha
  - 8 tonnes/ha
66. Which crop is highly sensitive to poor quality irrigation water
- Lentil
  - Linseed
  - Onion
  - Beans
67. Which is correct order of cation flocculation
- Al<sup>3+</sup> > H<sup>+</sup> > Ca<sup>2+</sup> > Mg<sup>2+</sup> > K<sup>+</sup>
  - Ca<sup>2+</sup> > H<sup>+</sup> > Al<sup>3+</sup> > Mg<sup>2+</sup> > K<sup>+</sup>
  - Mg<sup>2+</sup> > H<sup>+</sup> > Ca<sup>2+</sup> > Al<sup>3+</sup> > K<sup>+</sup>
  - Al<sup>3+</sup> > H<sup>+</sup> > K<sup>+</sup> > Mg<sup>2+</sup> > Ca<sup>2+</sup>
68. The specific heat of humus is
- 0.165 cal/g<sup>0</sup>C
  - 0.443 cal/g<sup>0</sup>C
  - 0.183 cal/g<sup>0</sup>C
  - 0.191 cal/g<sup>0</sup>C

69. If gross cropped area is 26 ha, net area available is 10 ha, then cropping intensity would be
- 130%
  - 260%
  - 390%
  - 520 %
70. Which is decoy crop for nematode in brinjal
- Maize
  - Cowpea
  - Bean
  - Sesame
71. In direct radiation fraction of photosynthetically active radiation is
- 0.42
  - 0.65
  - 0.85
  - 1.0
72. The earth total water is
- $1.31 \times 10^8 \text{km}^3$
  - $1.46 \times 10^9 \text{km}^3$
  - $1.1 \times 10^8 \text{km}^3$
  - $1.69 \times 10^8 \text{km}^3$
73. Number of humid month in semi-arid dry climatic regime is
- 2-4.5
  - Less than 2
  - More than 5
  - 6
74. The target fungus for using the fungicide Thifluzamide for seed treatment of wheat is
- Fusarium
  - Pythium
  - Tilletia
  - Rhizoctonia
75. Crop coefficient is ratio of
- $ET_c$  and  $ET_p$
  - $ET_m$  and  $ET_p$
  - $ET_{oc}$  and  $ET_p$
  - $ET_c$  and  $ET_0$
76. For hay making optimum time of harvesting of clover is
- Early boom to full bloom
  - Soft dough
  - Pod formation
  - Pod half grown

77. Earth's mean temperature is
- a) + 15<sup>0c</sup>
  - b) + 35<sup>0c</sup>
  - c) + 25<sup>0c</sup>
  - d) + 21<sup>0c</sup>
78. Which weed is responsible for dermatitis in human being
- a) Brush weed
  - b) Ambrosia
  - c) Pistia
  - d) Salvinia
79. Parthenium has its entry into India from
- a) Japan
  - b) Africa
  - c) USA
  - d) France
80. Which is indigenous method for marking contour line
- a) Dumpy Level
  - b) Hand Level
  - c) B-Frame
  - d) Rubber Tube Level
81. The headquarters of All India Coordinated Research Programme for Dry land Agriculture is located at
- a) Bangalore
  - b) New Delhi
  - c) Hyderabad
  - d) Dehradun
82. Central Soil and Water Conservation Research and Training Institute was established during the year
- a) 1934
  - b) 1944
  - c) 1954
  - d) 1964
83. Kana Bandi is followed in
- a) Himalayan area
  - b) Coastal area
  - c) Irrigated area
  - d) Desert area
84. Khadin- a system of rainwater harvesting is followed in
- a) Eastern Rajasthan
  - b) Northern Rajasthan
  - c) Southern Rajasthan
  - d) Western Rajasthan

85. For Loose Stone Check Dam, the stone size should be
- Larger than 30cm x 30 cm x 30 cm
  - Smaller than 30cm x 30 cm x 30 cm
  - Larger than 50cm x 50 cm x 50 cm
  - Smaller than 50cm x 50 cm x 50 cm
86. The volume of excavation of dugout pond is estimated by formula
- $V = \frac{A+4B+C}{6} x D$
  - $V = \frac{A+2B+C}{6} x D$
  - $V = \frac{A+4B+C}{6} x 2D$
  - $V = \frac{A+4B+C}{8} x D$
87. Which structure is comparatively larger in size
- Talai
  - Naada
  - Sunken pond
  - Percolation tank
88. Which is correct combination of alley cropping
- Hedges + Crop
  - Fruit tree + Crop
  - Block of trees + Block of fruit tree
  - Fruit tree + Pasture
89. The height of contour bund is calculated by formula
- $H = \sqrt{\frac{3LS}{1000}}$
  - $H = \sqrt{\frac{8LS}{1000}}$
  - $H = \sqrt{\frac{13LS}{100}}$
  - $H = \sqrt{\frac{43LS}{100}}$
90. The soil loss would be higher under which condition
- Cultivation of strawberry
  - Cultivation of Arhar
  - Cultivation of Maize
  - Cultivated fallow
91. In rice which is post emergence herbicide
- Pretilachlor
  - Propanil
  - Nitrofen
  - Butachlor
92. Adsali planting in sugarcane is done during
- February- March
  - September-October
  - November-December
  - July-August

93. The protein content in seeds of green gram is
- a) 10 - 12%
  - b) 14 - 15%
  - c) 31 - 34%
  - d) 23 - 24%
94. Castor is basically a
- a) Short day plant
  - b) Long day plant
  - c) Day neutral plant
  - d) Sciophyte
95. The seed rate for Niger when sown as pure crop is
- a) 12-15 kg/ha
  - b) 18-20 kg/ha
  - c) 5-8 kg/ha
  - d) 1-1.5 kg/ha
96. Soybean cultivation leave residual N for succeeding crop equivalent to
- a) 70 kg/ha
  - b) 35-40 kg/ha
  - c) 50 kg/ha
  - d) 80 kg/ha
97. Which is very much dwarfing rootstock in apple
- a) M27
  - b) M9
  - c) M7
  - d) M12
98. Jhumka is a physiological disorder of
- a) Grape
  - b) Litchi
  - c) Citrus
  - d) Mango
99. Which is a monocot weed
- a) *Setaria* sp.
  - b) *Ageratum* sp.
  - c) *Bidens pilosa*
  - d) *Trianthema* sp.
100. The concentration of Argon gas in atmosphere is
- a) 0.21 %
  - b) 0.43 %
  - c) 0.61 %
  - d) 0.93 %

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