



**AGRICULTURE**

**CODE :- 01**

Time Allowed: Two Hours

Marks: 100

Name: _____	Roll No. _____
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*Read instructions given below before opening this booklet:*

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO**

1. Use only **BLUE Ball Point Pen**.
2. In case of any defect – Misprint, Missing Question/s Get the booklet changed. No complaint shall be entertained after the examination.
3. Before you mark the answer, read the instruction on the OMR Sheet (Answer Sheet) also before attempting the questions and fill the particulars in the ANSWER SHEET carefully and correctly.
4. There are **FOUR** options to each question. Darken only one to which you think is the right answer. There will be no Negative Marking.
5. Answer Sheets will be collected after the completion of examination and no candidate shall be allowed to leave the examination hall earlier.
6. The candidates are to ensure that the Answer Sheet is handed over to the room invigilator only.
7. Rough work, if any, can be done on space provided at the end of the Question Booklet itself. No extra sheet will be provided in any circumstances.
8. Write the **BOOKLET SERIES** in the space provided in the answer sheet, by darkening the corresponding circles.
9. Regarding incorrect questions or answers etc. Candidates kindly see **NOTE** at the last page of the Booklet.

**SEAL**

1. Black soil is used for the cultivation of  
(A) Jute (B) Wheat  
(C) Cotton (D) Sugarcane
2. Common herbicide used in wheat is  
(A) 2,4-Dichlorophenoxyacetic acid  
(B) Atrazine  
(C) Isoproturon  
(D) Pendimethalin
3. Delinting of cotton seed may be done with  
(A) Sulphuric acid  
(B) Citric acid  
(C) Sodium hydroxide  
(D) Ammonium chloride
4. Mixed farming is referred only to  
(A) Growing of crops together by mixing the seeds  
(B) Growing of cash crops and food grains together  
(C) Crop production combined with dairy farming at farm  
(D) Growing of fruits and vegetables mixed
5. Name the *kharif* season fodder crop  
(A) Oats (B) Lucerne  
(C) Sorghum (D) Berseem
6. *Phalaris minor* is a weed found with  
(A) Wheat (B) Cowpea  
(C) Barley (D) Oat
7. *Arhar* (pigeonpea) grows well in which climate  
(A) Tropical and subtropical  
(B) Temperate  
(C) Humid and temperate  
(D) Sub-humid and temperate
8. Causal agent of anthracnose disease in sorghum is  
(A) *Puccinia purpurea*  
(B) *Helminthosporium turcicum*  
(C) *Colletotrichum graminicola*  
(D) *Gleourcospora sorghi*
9. Which one of the following is the principal 'N' fixing algal community of blue-green algae?  
(A) *Rhizobium* (B) *Anabaena*  
(C) *Azotobactor* (D) *Azospirillum*
10. What is impact of excessive application of nitrogenous fertilizer on sugar content in juice of sugarcane  
(A) Decrease (B) Increase  
(C) Constant (D) Crystallized
11. Amongst the following which is the food preservative?  
(A) Celphos  
(B) Calcium cyanamide  
(C) Sodium benzoate  
(D) Potassium permagnate
12. An apple tree gives the fruits after  
(A) 5 years of planting  
(B) 3 years of planting  
(C) 2 years of planting  
(D) 8 years of planting
13. Botanical name of carnation is  
(A) *Celosia cristata*  
(B) *Tagetis erecta*  
(C) *Dianthus caryophyllus*  
(D) *Centuria cyanus*
14. Muscat red is a variety of  
(A) Grapes (B) Pomegranate  
(C) Plums (D) Apple
15. Plant bearing male and female flowers is called  
(A) Monoecious (B) Monophrodite  
(C) Bisexual (D) Hermophrodite
16. Which hormone is found in ripened fruits  
(A) Ethylene (B) Auxin  
(C) Gibberellins (D) IAA
17. A vertical section of soil body which shows different layers is known as  
(A) Soil horizons (B) Soil profile  
(C) Regolith (D) Parent material
18. Active soil forming factors include  
(A) Vegetation and topography  
(B) Time, topography and climate  
(C) Time and vegetation  
(D) Vegetation and climate

19. Available phosphorus of less than 10 kg/ha of soil is considered as  
 (A) Low (B) Medium  
 (C) High (D) Trace
20. *Azotobacter* sp. fix atmospheric nitrogen  
 (A) As symbionts on sugarcane  
 (B) As symbionts on rice  
 (C) As symbionts on legumes  
 (D) In free soil
21. Wet black soils are  
 (A) Very hard (B) Very soft  
 (C) Soft (D) Hard
22. Hydraulic conductivity of soils varies directly with  
 (A) Capillary porosity  
 (B) Non-capillary porosity  
 (C) Total porosity  
 (D) Water holding capacity
23. Microbial population of a soil in general  
 (A) Decreases with depth  
 (B) Increases with depth  
 (C) Constant throughout the profile  
 (D) No specific trend
24. Mycorrhiza-infected plants show better ability of absorption of the nutrients, especially  
 (A) Iron (B) Manganese  
 (C) Potassium (D) Phosphorus
25. Occurrence of quartz in high amounts makes a rock  
 (A) Hard (B) Soft  
 (C) Alkaline (D) Acidic
26. Red soils are found maximum in  
 (A) Uttar Pradesh (B) Madhya Pradesh  
 (C) Assam (D) Tamil Nadu
27. Saline soils are reclaimed/managed by  
 (A) Addition of gypsum  
 (B) Addition of lime  
 (C) Leaching the soluble salts  
 (D) Addition of pyrite
28. The global average of solar radiation reaching the earth is  
 (A) 20% (B) 30%  
 (C) 40% (D) 50%
29. Arachnids and insects contain malpighian tubules as organs of  
 (A) Respiration (B) Excretion  
 (C) Digestion (D) Secretion
30. Classification of phylum mollusca is based on  
 (A) Locomotory organs  
 (B) Respiratory organs  
 (C) Digestive organs  
 (D) Reproductive organs
31. *Diacrisia obliqua* is the scientific name of  
 (A) Termite  
 (B) Top borer  
 (C) Bihar hairy caterpillar  
 (D) Leaf hoper
32. Fore-gut of insects is lined internally by  
 (A) Peritrophic membrane  
 (B) Epithelial membrane  
 (C) Cuticular intima  
 (D) Taenidia
33. In which order females insects have no pupal stage but males have  
 (A) Mallophaga (B) Strepsiptera  
 (C) Epemeroptera (D) Dictyoptera
34. *Dasineura lini* is pest of  
 (A) Castor (B) Linseed  
 (C) Sesamum (D) Groundnut
35. Insects feeding on plants of several genera within a family are called  
 (A) Phytophagous (B) Polyphagous  
 (C) Oligophagous (D) Monophagous
36. Most of the insects cannot survive the temperatures above  
 (A) 29.9°C (B) 39.9°C  
 (C) 49.9°C (D) 59.9°C
37. Out of the following poisons which works as an anti-coagulant for the control of rats?  
 (A) Zinc phosphide (B) Strychnine  
 (C) Warfarin (D) Parathion
38. Piercing and sucking type of mouth parts are found in  
 (A) Grasshopper (B) House fly  
 (C) Aphids (D) Beetles

39. The gland which produces pheromone in queen honey bee  
 (A) Mandibular gland  
 (B) Maxillary gland  
 (C) Labial gland  
 (D) Pharyngeal gland
40. The legless young of a housefly is known as  
 (A) Caterpillar (B) Maggot  
 (C) Nymph (D) Grub
41. The paralysis of honey bees is caused by  
 (A) Bacteria (B) Virus  
 (C) Fungus (D) Mycoplasma
42. The queen in the honey colony feeds on  
 (A) Royal jelly (B) Nectar  
 (C) Queen substance (D) Honey
43. Which insecticide is stored in the fat of milch animals ?  
 (A) Malathion (B) DDT  
 (C) Lindane (D) Endosulfan
44. Blue green algae are  
 (A) Actinomycetes (B) Acellular  
 (C) Prokaryotes (D) Eukaryotes
45. Photosynthesis is a  
 (A) Catabolic process  
 (B) Anabolic process  
 (C) Endergonic process  
 (D) Exergonic process
46. The real force causing entry of water into a cell from other cell is  
 (A) Diffusion pressure deficit  
 (B) Turgor pressure  
 (C) Osmotic pressure  
 (D) Wall pressure
47. Which one of the following will reduce the rate of transpiration?  
 (A) Increase in windy velocity  
 (B) Rise in temperature  
 (C) Increase in water uptake by plants  
 (D) Decrease in light intensity
48. Cell organelle found only in plants is  
 (A) Mitochondria (B) Golgi complex  
 (C) Ribosomes (D) Plastids
49. Seeds swell when placed in water due to  
 (A) Osmosis (B) Respiration  
 (C) Photosynthesis (D) Trasmolysis
50. Enzymes are basically  
 (A) Vitamins (B) Fats  
 (C) Proteins (D) Carbon
51. A chromosome with median position of centromere is known as  
 (A) Metacentric (B) Sub metacentric  
 (C) Telecentric (D) Acrocentric
52. Pseudo-dominance is associated with  
 (A) Translocations (B) Duplications  
 (C) Deletions (D) Inversions
53. Monoploids which develop from a normal diploid species are referred to as  
 (A) Monohaploids (B) Polyhaploids  
 (C) Dihaploids (D) Disomic haploids
54. An individual lacking one chromosome from the diploid set is referred to as  
 (A) Nullisomic (B) Monosomic  
 (C) Trisomic (D) Tetrasomic
55. Laws of inheritance were discovered by Mendel in 1866, while working with  
 (A) *Drosophila* (B) Maize  
 (C) Garden pea (D) *Neurospora*
56. Crossing over takes place during  
 (A) Leptotene (B) Zygotene  
 (C) Pachytene (D) Diplotene
57. Sex chromosomes are also known as  
 (A) Autosomes (B) Allosomes  
 (C) Lysosomes (D) Ribosomes
58. In a DNA molecule, thymine always pairs with  
 (A) Adenine (B) Guanine  
 (C) Cytosine (D) Uracil
59. In RNA molecule, uracil is present in place of  
 (A) Adenine (B) Guanine  
 (C) Thymine (D) Cytosine
60. Self pollination refers to  
 (A) Allogamy (B) Autogamy  
 (C) Dichogamy (D) Herkogamy

61. The most effective method for the transfer of oligogenic characters is  
 (A) Pedigree breeding  
 (B) Bulk breeding  
 (C) Backcross breeding  
 (D) Disruptive mating
62. Hybrid progeny from a cross between two inbreds is known as  
 (A) Single cross hybrid  
 (B) Double cross hybrid  
 (C) Three way cross hybrid  
 (D) Multiple cross hybrid
63. In India, the crop in which a hybrid variety was the first to be developed is  
 (A) Maize  
 (B) Pearlmillet  
 (C) Sorghum  
 (D) Cotton
64. In which of the following, pureline varieties are still in cultivation?  
 (A) Maize (B) Potato  
 (C) Sorghum (D) Pearlmillet
65. Causal organism of leaf rust in wheat is  
 (A) *Puccinia striiformis*  
 (B) *Puccinia graminis* pv. *Tritici*  
 (C) *Puccinia recondita* pv. *Tritici*  
 (D) *Puccinia maydis*
66. Sunflower originated in  
 (A) India (B) China  
 (C) Mexico (D) USA Centre of origin
67. Green leaf hopper of paddy is the primary vector of  
 (A) Tungro disease (B) Sheath rot  
 (C) Kresiek disease (D) Ufra disease
68. *Erwinia amylovora* causes  
 (A) Black leg of potato  
 (B) Black arm of cotton  
 (C) Fire blight of pear and apple  
 (D) Bacterial blight of bean
69. An organism that is usually parasitic but may also live as saprophyte is called  
 (A) Facultative parasite  
 (B) Obligate parasite  
 (C) Facultative saprophyte  
 (D) Saprophyte
70. The viruses that are incapable of replicating in their host cells without another virus is called  
 (A) Satellite virus (B) Provirus  
 (C) Helper virus (D) Virusoids
71. In India, agricultural income is calculated through  
 (A) Output method  
 (B) Income method  
 (C) Expenditure method  
 (D) Commodity flow method
72. Any parasite that cannot survive in a dead host and therefore keeps it alive is called  
 (A) Necrotroph (B) Hemibiotroph  
 (C) Perthotroph (D) Biotroph
73. Wild fire toxin (tabtoxin) is released/produced by  
 (A) *Pseudomonas syringae*  
 (B) *Fusarium oxysporum*  
 (C) *Alternaria alternata*  
 (D) *Pyricularia oryzae*
74. Which organism commonly affects tomato, cotton and banana?  
 (A) *Alternaria solani*  
 (B) *Fusarium moniliforme*  
 (C) *Fusarium oxysporum*  
 (D) *Erysiphe graminicola*
75. The two important diseases of sugarcane  
 (A) Little leaf and bacterial wilt  
 (B) Red rot and grassy shoot  
 (C) Red rot and bunt  
 (D) Bakanae disease and stem canker
76. The best soil for tomato growing is  
 (A) Sandy soil (B) Loam  
 (C) Clay (D) Loamy sand
77. Daily mean temperature favourable for successful production of brinjal is  
 (A) 5°C to 10° (B) 10°C to 15°  
 (C) 13°C to 21°C (D) None of the above
78. Pungency in chilli is due to  
 (A) Capsaicin (B) Glycoprotein  
 (C) Cucurbitacin (D) Tannins

79. Optimum pH of the soil for maximum production of cauliflower is between  
 (A) 6.0 and 7.0 (B) 4.5 and 5.5  
 (C) 5.5 and 6.6 (D) None of the above
80. Japanese white is a variety of  
 (A) Carrot (B) Radish  
 (C) Turnip (D) None of the above
81. Rat tail or mongri radish belong the botanical variety  
 (A) *Raplanistroides* (B) *Caudatus*  
 (C) *Oleifera* (D) *Radicula*
82. Number of irrigations required for raising good crop of onion ranges from  
 (A) 2-4 (B) 5-10  
 (C) 10-15 (D) 15-20
83. Peas are very rich in  
 (A) Carbohydrates (B) Protein  
 (C) Fats (D) Minerals
84. Nitrogen fixation from air through symbiosis is brought about by the bacteria  
 (A) *Rhizobium japonicum*  
 (B) *Rhizobium leguminosarum*  
 (C) *Xanthomonas*  
 (D) *Mesorhizobium*
85. Seed rate per acre for growing cucumber is  
 (A) 250 g (B) 500 g  
 (C) 1 kg (D) 1.5kg
86. For controlling weeds in okra crop, apply Stomp one day after sowing at the rate of  
 (A) 500 ml/acre (B) 750 ml/acre  
 (C) One litre/acre (D) 1.5litre/acre
87. What is the botanical name of garlic  
 (A) *Allium cepa* (B) *Allium sativum*  
 (C) *Allium capitata* (D) *Allium garlic*
88. Which pest is not harmful to musk melon?  
 (A) Red pumpkin beetle  
 (B) *Epilachna* beetle  
 (C) Fruit fly  
 (D) Red mite
89. Which is not a pest of sweet potato?  
 (A) Sweet potato weevil  
 (B) Sweet potato sphinx  
 (C) Hairy caterpillar  
 (D) Aphid
90. Which fruit has the highest frost tolerance?  
 (A) Orange (B) Malta  
 (C) Sweet Lime (D) Lemon
91. Brix percentage of sauce is  
 (A) 16 (B) 20  
 (C) 25 (D) 32
92. Mango belongs to the family  
 (A) Leguminaceae (B) Anacardiaceae  
 (C) Poaceae (D) Compositae
93. Which of the following is the most important pest of mango  
 (A) Mango hopper (B) Mealy bug  
 (C) Stem borer (D) Fruit fly
94. Rose species suitable to Northern India climate  
 (A) *Rosa barbantia* (B) *Rosa multiflora*  
 (C) *Rosa indica* (D) *Rosa damasina*
95. Blanching is commonly practiced in the cultivation of  
 (A) Chinese cabbage (B) Cabbage  
 (C) Broccoli (D) Cauliflower
96. The best soil for potato cultivation is  
 (A) Sandy loam (B) Loamy sand  
 (C) Clay loam (D) Silty loam
97. Urea contains  
 (A) 40% Nitrogen (B) 46% Nitrogen  
 (C) 52% Nitrogen (D) 56% Nitrogen
98. Which of the following is a multi-cut fodder  
 (A) Alfalfa (B) Maize  
 (C) Bajra (D) Cowpea
99. The law of diminishing returns is applicable to  
 (A) Agriculture (B) Mining  
 (C) Manufacturing (D) Shipping
100. Which committee recommended introduction of an agricultural tax?  
 (A) Jha (B) Raj  
 (C) Chelliah (D) Lakadwala

**Note with reference to instructions No. 9 at first page of Question Booklet.**

In view of the orders dated 04.09.2012 passed by the Hon'ble Punjab and Haryana High Court in LPA No. 1338 of 2012, the Commission has decided to display the Answer Keys of all the 20 subjects (one compulsory and 19 optional subjects) of HCS (Ex. Br.) & Other Allied Services Preliminary Examination – 2014 on the next day of Exam i.e. on 04.08.2014 on the Commission's website i.e. <http://hpsc.gov.in>. The candidates who appeared in the aforesaid Pre. Exam are advised to submit their representation regarding incorrect question / answers, if any, upto 06.08.2014 (upto 05.00 PM) personally or through online (**not by post / courier**). Candidates must write their Name, Roll No. and name of the subject. Representations received after 06.08.2014 (upto 05.00 PM) will not be entertained by the Commission. Representations received within stipulated period will be placed before the Committee of subject Experts and the report submitted by the Committee of Experts will be final. The result will be prepared proportionately after giving the benefit of incorrect question / answers on the basis of the report of the Members of subject Expert Committee.

**SPACE FOR ROUGH WORK**

SEAL