

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

Booklet Sr. No.



Question
Booklet Set

B

Candidate's Name _____

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[Total Questions : 120]

[Time Allowed : 2 Hours]

INSTRUCTIONS

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2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in OMR sheet. Use of Ink pen or any other pen is not allowed.
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4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.
5. The question paper booklet has **28** pages.
6. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages are printed correctly and there are no blank or torn 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 new booklet of the same series as given earlier.
7. The serial number of the new Question booklet, if issued for some reason, 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.
8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.
9. There is **negative marking** (1 mark for each question) for questions wrongly answered by the candidate.
10. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers is correct. There will be same penalty, as above, to that question.
11. If Question is left blank, i.e. question remains unattempted, there will be no penalty for that question.
12. Use of Electronic/Manual Calculator is prohibited.
13. The candidate **MUST READ INSTRUCTIONS BEHIND THE OMR SHEET** before answering the questions and check that two carbon copies attached to the OMR sheet are intact.

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1. Consider the following statements and choose the correct option :
 1. Uranyl acetate stain is used in electron microscopy
 2. Etiology is study of cause of disease
 3. Etiology is study of symptom of disease
 4. Phyllody is development of floral organs into leaf-like structures

(a) 1, 2 and 4 only (b) 1, 3 and 4 only
(c) 1 and 3 only (d) 2 only
2. Fill in the blanks choosing suitable entities from the options given below :
 1. Muricate of potash is not recommended for X
 2. A bacterium capable of mobilising potassium is Y

X and Y are (respectively) :

 - (a) Tobacco and *Fraxinus aurantia*
 - (b) Rice and *Azotobacter chroococcum*
 - (c) Coconut and *Azospirillum lipoferum*
 - (d) Maize and *Piriformospora indica*
3. Choose the correct statement
 - (a) Of the pigeon pea, soybean, green gram and castor, castor contains the highest oil content
 - (b) Of the groundnut, mustard, cotton and safflower, mustard contains maximum linoleic acid
 - (c) Both (a) and (b)
 - (d) None of the above
4. Match the following entities in List I from entities of List II :

List I	List II
1. Insecticide Act was passed in the year	P. 1968
2. In India, the MRL is fixed by	Q. 1998
	R. CODEX
	S. FSSAI
	T. ICAR

Code :

1	2
(a) P	R
(b) P	S
(c) Q	R
(d) Q	T

5. Safflower in India is usually grown during :
- Rabi season
 - Kharif season
 - Zaid season
 - Rabi, kharif and zaid seasons
6. Compared to popular rice varieties, 'DRR Dhan 48' and 'DRR Dhan 49' contain higher levels of :
- Iron
 - Zinc
 - Boron
 - Molybdenum
7. 1. High yielding dwarf varieties of wheat were developed by X
2. The term 'Evergreen Revolution' has been given by Y
Identify X and Y (respectively) :
- Dr. M. S. Swaminathan and Dr. R. S. Paroda
 - Dr. R. S. Paroda and C. T. Patel
 - Dr. N. E. Borlaug and Dr. M. S. Swaminathan
 - Dr. B. P. Pal and Dr. R. S. Paroda
8. The term 'cultivar' is used to designate a new crop type intentionally bred and released for cultivation. Who has been credited with coining of the term 'cultivar' in year 1923 ?
- L.H. Bailey
 - M.S. Swaminathan
 - John Ray
 - A.P. de Candolle
9. "Tungro virus" of rice is usually transmitted by :
- Gundhy bug
 - Gall midge
 - Army worm
 - Green leaf hopper
10. What would be the harvest index of rice if grain yield is 3.5 tonnes/ha and straw yield is 6.5 tonnes/ha ?
- 35%
 - 45%
 - 54%
 - 65%

11. The 'PGS', with respect to the organic certification, stands for :
- (a) Pesticides Governance Scheme (b) Paramparagat Gram Scheme
(c) Participatory Governance Service (d) Participatory Guarantee System
12. The most common colour of the cultivated groundnut flowers is :
- (a) Yellow (b) Pink
(c) Blue (d) Red
13. Particles ranging from 0.01 – 0.03 mm diameter would be considered as
- (a) Sand (b) Silt
(c) Clay (d) Gravel
14. Rice is basically a :
- (a) Short day plant (b) Long day plant
(c) Day-neutral plant (d) Both (b) and (c)
15. The theoretical yield of parent acid from an active ingredient is termed as
- (a) Active equivalent (b) Technical ingredient
(c) Acid equivalent (d) Acid value
16. Which of the following is/are advantages of crop rotation ?
- To reduce the pest and disease incidence.
 - To maintain the fertility status of the soils
 - To keep the weeds under control
- (a) 1 only (b) 2 only
(c) 1 and 3 only (d) 1, 2 and 3
17. The Dapog method of raising rice nursery was introduced in India from
- (a) Burma (b) Japan
(c) USA (d) Philippines
18. Which of the following statement(s) is/are correct ?
- Phenylmercuric acetate (PMA) is a chemical used in agriculture crops in order to increase transpiration.
 - Enforced dormancy is associated with deeper placement of seeds.
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

19. Choose the most suitable option :
- Commelina benghalensis* is a monocot weed unlike *Crotalaria verrucosa*
 - Crotalaria verrucosa* is a monocot weed unlike *Commelina benghalensis*
 - Both *Commelina benghalensis* and *Crotalaria verrucosa* are monocot weeds
 - Neither *Commelina benghalensis* nor *Crotalaria verrucosa* are monocot weeds
20. Choose the correct option :
- Hay fever is commonly caused by Ambrosia
 - Weed introduction from some other part of the world is called Antagonism
 - Both (a) and (b)
 - None of the above
21. Golden rice is a rich source of
- Vitamin A
 - Vitamin B
 - Ascorbic acid
 - Vitamin K
22. Consider the following statements and choose the correct option :
- CH_4 is released from paddy fields.
 - Pearlmillet can be transplanted.
 - Scientific name of Kodo millet is *Paspalum scrobiculatum*
- 1 only
 - 1 and 2 only
 - 2 and 3 only
 - 1, 2 and 3
23. Sweet corn is :
- Zea mays indentata*
 - Zea mays indurata*
 - Zea mays saccharata*
 - Zea mays amylacea*
24. The oil content in groundnut seeds is about %
- 45
 - 25
 - 15
 - 05
25. The fruit of rapeseed and mustard is known as
- Pod
 - Caryopsis
 - Siliquea
 - Dutum

- 26.** Nipping in gram means a process of
- (a) Removal of all buds present in the axil of the leaves
 - (b) Removal of leaves
 - (c) Removal of terminal bud
 - (d) Burning of leaves
- 27.** Which of the following soil water is the most useful for plants ?
- (a) Gravitational water
 - (b) Capillary water
 - (c) Hygroscopic water
 - (d) Superfluous water
- 28.** The force of attraction that binds the molecules of the same kind is :
- (a) Adhesion
 - (b) Matric force
 - (c) Cohesion
 - (d) Interface
- 29.** The 'Leaf colour chart' (LCC) is used for judging the amount of nitrogen application to the standing crop(s) of which of the following ?
- (a) Gram and mustard
 - (b) Rice
 - (c) Mustard and sorghum
 - (d) Sorghum and gram
- 30.** Extension is a :
- (a) One way flow of message
 - (b) Two way flow of message
 - (c) Restricted way flow of message
 - (d) None of the above

31. Consider the following statements :

1. 'Painted Bug' causes damage to Mustard
2. Ascochyta blight is a fungal disease of Chickpea
3. Insect 'Fall army worm' generally prefers to attack the Maize crop
4. 'BL-43' and 'BL-42' are the varieties of Barley

Choose the correct statements.

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

32. Fill in the blanks in List I from List II (Choose the most appropriate option)

List I

List II

- | | |
|--|-------------|
| 1. The optimum seed rate for sowing one hectare of pearl millet is : <u>X</u> | P. 70-80 Kg |
| 2. The optimum seed rate for timely sown fieldpea crop (for 1 hectare) is : <u>Y</u> | Q. 7-8 Kg |
| | R. 40-50 Kg |
| | S. 4-5 Kg |

X and Y are respectively :

Code :

- | | X | Y |
|-----|---|---|
| (a) | P | R |
| (b) | Q | S |
| (c) | R | Q |
| (d) | S | P |

33. A number of electro-chemical changes happen in the paddy soils due to the continuous submergence or flooding. Which one of the following statements is incorrect about the electro-chemical changes in the submerged paddy soils ?

- (a) Increase in pH of the acid soil
- (b) Decrease in pH of the sodic soil
- (c) Increase in redox potential of the soil
- (d) Decrease in redox potential of the soil

34. Choose the correct statements :

1. In honey bee colony, the worker bee is Fertile male.
 2. In honey bee colony, the worker bee is Unfertile female.
 3. Insects with single pair of membranous wings and hind pair modified into halteres belong to Diptera order.
 4. Insects with single pair of membranous wings and hind pair modified into halteres belong to Lepidoptera order.
- (a) 1 and 3 only (b) 2 and 3 only
(c) 2 and 4 only (d) 1 and 4 only

35. Inhibitory activity of one plant species commonly through exudation of chemicals from its roots on the seed germination or growth of other associated species is known as :

- (a) Antibiosis (b) Commensalism
(c) Allelopathy (d) Negativism

36. The process of breaking, scratching or mechanical abrasion of the seed coat to make it permeable to water and gases is called as :

- (a) Chopping (b) Notching
(c) Solidification (d) Scarification

37. What quantity of nitrogen can be supplied by 300 kg diammonium phosphate (DAP) ?

- (a) 45 kg (b) 54 kg
(c) 90 kg (d) 120 kg

38. Which of the following expressions is used to calculate real value of seed ?

- (a) $[\text{Purity (\%)} \times \text{Germination (\%)}] / 100$
(b) $[\text{Purity (\%)} \times (100)] / \text{Germination (\%)}]$
(c) $[\text{Germination (\%)} \times (100)] / \text{Purity (\%)}]$
(d) $[\text{Purity (\%)} \times \text{Germination (\%)}] \times 100$

39. Consider the following statements :

1. India is largest producer of Potassium fertilizer in the world.
2. Blind hoeing is possible in Sugarcane.
3. When primary tillage is completely avoided and secondary tillage is restricted to seedbed preparation in the row zone only, it is known as Zero tillage.

Which of these statements are incorrect ?

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

40. Acid soils are generally found and formed in :

- (a) Humid regions with high rainfall
(b) Arid regions with low rainfall
(c) Semi-arid regions with less rainfall
(d) Either (b) or (c)

41. Which one of the following groups of essential plant nutrients falls in the 'non-mineral nutrients' category ?
- Primary nutrients
 - Secondary nutrients
 - Micronutrients
 - C, H and O
42. Consider the following statements :
- Chemically, quick lime is CaO
 - 'Zinc sulphate heptahydrate' contains approximately 42% Zinc
 - Fertilizer 'single super phosphate' contains approximately 42% Sulphur
- Choose the correct statement(s) :
- 1 only
 - 1 and 2 only
 - 1 and 3 only
 - 2 and 3 only
43. Choose the correct statement(s) :
- When greengram are allowed to sprout, Vitamin C is synthesized.
 - BPH is a pest of rice that causes 'hopper burn' symptoms.
 - Both (a) and (b)
 - Neither (a) nor (b)
44. For Punjab, 'Rice (short duration) – Vegetable Pea – Wheat – Mungbean' rotation is an example of :
- One-year rotation
 - One and half-year rotation
 - Half-year rotation
 - Two-year rotation
45. Find out the quantity of atrazine herbicide WP containing 50% active ingredient (a.i.) to be applied at the rate of 1.5 kg a.i./ha.
- 1.0 kg/ha
 - 2.0 kg/ha
 - 3.0 kg/ha
 - 0.75 kg/ha

46. Which one of the following nitrogenous fertilizers is not included in the Fertilizer Control Order (FCO) of India ?
- Ammonium sulphate
 - Calcium Ammonium Nitrate
 - Ammonium nitrate
 - All of the above
47. Based upon morphological features, weeds have been classified into grassy, sedges and broadleaf groups. The sedges belong to the plant family :
- Poaceae
 - Asteraceae
 - Graminae
 - Cyperaceae
48. Rice weeds *Echinochloa crus-galli* and *Echinochloa colona* belong to the following group of plants :
- CAM plants
 - C_4 plants
 - C_3 plants
 - Dicot plants
49. If on a 20-acre farm, crops are raised on 15 acres in kharif (rainy season), 15 acres in rabi (winter season) and 20 acres in zaid (summer) during one year, what would be the cropping intensity of the farm ?
- 150%
 - 250%
 - 350%
 - 500%
50. “Weirs” and “Flumes” are primarily used to :
- Measure refractive index of water
 - Measure the viscosity of water in the field
 - Measure the density of water in the channel
 - Measure the water flow in the channel

51. Which one of the following is the correct pair of sulphur containing amino acids ?
- (a) Cysteine and lysine
 - (b) Cysteine and leucine
 - (c) Cysteine and methionine
 - (d) Cysteine and isoleucine
52. The “Bangalore process” of anaerobic composting was developed by :
- (a) Albert Howard
 - (b) C.N. Acharya
 - (c) P.N. Arya
 - (d) Robert Howard
53. Choose the most suitable option :
- (a) Sorghum grain is considered as *Caryopsis*.
 - (b) Ergot or sugary disease of sorghum is primarily caused by *Gleocercospora sorghi*.
 - (c) Both (a) and (b)
 - (d) Neither (a) nor (b)
54. The optimum sowing time of chickpea in the North India under the irrigated condition is :
- (a) First fortnight of October
 - (b) Second fortnight of October
 - (c) First fortnight of December
 - (d) Second fortnight of November
55. “LL 1373” and “LL 931” are the varieties of :
- (a) Kabuli chickpea
 - (b) Desi chickpea
 - (c) Linseed
 - (d) Lentil

56. Consider the following statements about Soybean and choose the correct option :
- It is considered to have originated in Brazil
 - It is considered to have originated in USA
 - It is a short day plant
 - It is a temperate C4 plant
57. The 'sterility mosaic' disease of pigeonpea is caused by X; and, Out of Sand, Peat and Clay, Y has highest Soil bulk density. Identify X and Y (respectively) :
- Virus and clay
 - Bacteria and clay
 - Nematode and peat
 - Virus and sand
58. The state with highest production of green gram (mungbean) in India and country with highest production of pigeonpea in the world are respectively :
- Punjab & India
 - Rajasthan & India
 - Madhya Pradesh & China
 - Uttar Pradesh & China
59. "Canola" refers to the cultivars of Oilseed rape in Canada. The seeds of "Canola" should contain :
- | | |
|----------------------|----------------------|
| (a) <20% erucic acid | (b) >20% erucic acid |
| (c) >2% erucic acid | (d) <2% erucic acid |
60. Powdery mildew of pea and Dropsy disease in human beings may respectively be caused by :
- Fusarium pisi* and weed *Pluchea lanceolata*
 - Erysiphe pisi* and weed *Argemone Mexicana*
 - Uromyces fabae* and weed *Digera arvensis*
 - Fusarium pisi* and weed *Convolvulus arvensis*

61. Identify the fauna from the following information :

Nature : Scavengers

Common species : White rumped, Slender-Billed, Red-headed

Common threats : Use of diclofenac for veterinary purposes

Impact of decline in population : Increased risk of spread of rabies and ill impact on observance of last rites by Parsis in 'Tower of Silence'.

- (a) Pygmy hog
- (b) Forest Owlet
- (c) Sandpiper
- (d) Vulture

62. With respect to achievements of Indians in the field of Science and Technology, match the following :

List I

List II

- | | |
|--|---------------------|
| 1. Inelastic theory of scattering | P. S. Chandrasekhar |
| 2. Work on stellar evolution and white dwarfs | Q. C.V. Raman |
| 3. Contribution to quantum mechanics and development of Bose-Einstein Condensate | R. S.N. Bose |
| 4. Research on Crescograph and Electromagnetic Waves | S. J.C. Bose |

Code :

- | | 1 | 2 | 3 | 4 |
|-----|---|---|---|---|
| (a) | P | Q | R | S |
| (b) | Q | P | S | R |
| (c) | Q | P | R | S |
| (d) | P | Q | S | R |

63. 'Naz foundation v. Government of NCT of Delhi', 'National Legal Services Authority v. Union of India', 'Navtej Singh Johar v. Union of India' cases are often heard in news in context of :

- (a) Man-Animal conflict and wildlife conservation
- (b) LGBTQIA + rights
- (c) Simultaneous elections to Lok Sabha and State Legislatures
- (d) Reservation based on caste

- 64.** Beginning with Dwarka, Gujarat, if you travel to Jagannath Temple, Puri along the coast, what's the correct order of cities you might visit ?
1. Mumbai
 2. Mangalore
 3. Panaji
 4. Vishakapatnam
- (a) 1, 2, 3, 4
(b) 3, 1, 2, 4
(c) 1, 3, 2, 4
(d) 4, 1, 2, 3
- 65.** Bibi Bhani, the daughter of Sikh Guru 'X', was married to Sikh Guru 'Y'. 'Z', one of the sons of Guru 'Y', was married to Mata Ganga and became _____ guru of sikhs ?
- (a) Third
(b) Fourth
(c) Fifth
(d) Sixth
- 66.** As per Article 266(1) of Indian Constitution, all revenues received by the Government of India, all loans raised by that government by the issue of treasury bills, loans or ways and means advances and all moneys received by that government in repayment of loan shall form :
- (a) Consolidated Fund of India
(b) Contingency Fund of India
(c) Public Account of India
(d) Current Account of India
- 67.** Which of the following abbreviations, often heard in news in context of Indian Economy, is incorrectly matched ?
- (a) CAG : Comptroller and Auditor General
(b) CGST : Customs, Goods and Service Taxes
(c) EPFO : Employees' Provident Fund Organization
(d) FPI : Foreign Portfolio Investment

68. What term is often seen in news and represents a style of politics where 'Objective facts are less influential in shaping public opinion than appeals to emotion and personal belief' ?
- (a) Orwellian Politics (b) Post Truth Politics
(c) Utopian Politics (d) Fabian Politics
69. Arrange choronologically, the following events of modern history of Punjab :
1. Rajiv-Longowal accord
 2. Creation of Ropar division as one of the five divisions of Punjab
 3. Trifurcation of Punjab including constitution of separate state of Haryana
 4. Guru Ka Bagh Morcha
- (a) 4, 2, 1, 3 (b) 4, 3, 1, 2
(c) 3, 4, 1, 2 (d) 3, 4, 2, 1
70. What is the minimum number of districts that you must pass through, to reach birthplace of Udham Singh from Bhagat Singh museum at Khatkar Kalan (including the origin and destination districts) ?
- (a) 4 (b) 5 (c) 6 (d) 7
71. Total 280 candidates are undergoing training at Punjab Police Academy. All these candidates drink either one, two or three drinks out of tea, coffee and juice. It is known that :
- I. Number of candidates who drink tea, coffee and juice are in Arithmetic Progression in that order.
 - II. Number of candidates who drink tea and coffee, tea and juice, and coffee and juice are in Arithmetic Progression in that order.
 - III. Number of candidates who drink only tea, only coffee and only juice are in Arithmetic Progression in that order.
 - IV. Number of candidates who drink only one drink is two times the number of candidates who drink only two drinks.
 - V. Number of candidates who drink only two drinks is nine times the number of candidates who drink all the three drinks.
- How many candidates drink coffee ?
- (a) 130 (b) 110
(c) 60 (d) 70

72. A cuboid has six sides of different colours. The red side is opposite to black. The blue side is adjacent to white. The brown side is adjacent to blue. The red side is face down. Which one of the following would be the opposite to brown ?
- Blue
 - Black
 - White
 - Red
73. A wheat merchant has four varieties of wheat – A, B, C, D with him. He mixed the entire quantity of the wheat of varieties A and B with him. With this mixture, if he mixes the entire quantity of wheat of variety C, which costs ₹ 20 per kg, the mixture so formed would cost ₹ 25 per kg. Instead, if he mixes with it the entire quantity of wheat of variety D, which costs ₹ 36 per kg, the mixture so formed would cost ₹ 31 per kg. If the entire quantity of wheat of variety D is thrice that of wheat of variety C, how much (in ₹) would the mixture of the entire quantity of wheat of all 4 varieties cost
- ₹ 29.5 per kg
 - ₹ 28 per kg
 - ₹ 30.5 per kg
 - ₹ 26.5 per kg
74. **Statement 1 :** The cost of 2 pens and 3 pencils is \$10.
Statement 2 : The cost of 1 pen and 2 pencils is \$5.
 To answer the question, ‘What is the cost of 3 pens and 4 pencils ?’,
- Statement 1 alone is sufficient, but statement 2 alone is not sufficient.
 - Statement 2 alone is sufficient, but statement 1 alone is not sufficient.
 - Both statements together are sufficient, but neither statement alone is sufficient.
 - Each statement alone is sufficient.

75. In terms of population, Chennai is much larger than Bangalore. Since Mumbai has a greater population than Delhi, it follows that Chennai has more inhabitants than Delhi.

All of the following make the argument more logically correct EXCEPT :

- (a) Delhi has fewer inhabitants than Bangalore
- (b) Bangalore has the same number of inhabitants as Delhi
- (c) Chennai has the same number of inhabitants as Mumbai
- (d) Mumbai has more inhabitants than Bangalore

76. **Directions (Question Nos. 76) :** The following table provides the details about the number of students in 5 different areas of expertise in MBA over the years.

Years	Areas of Expertise in MBA				
	Marketing	Finance	Business Analyst	HR	Operations
2017	71	149	150	133	116
2018	126	61	105	114	154
2019	84	109	121	104	83
2020	65	62	142	155	97
2021	137	57	79	121	87

In which year was the percentage of students participating in ‘Business Analyst’ area of expertise maximum ?

- (a) 2017
- (b) 2018
- (c) 2019
- (d) 2020

- 77.** Paresh can finish a certain piece of work in 35 days at a stretch. But after few days, he increases his speed by 60% and finishes the work in 26 days. Find after how many days did he increase his speed ?
- (a) 8
(b) 9
(c) 10
(d) 11
- 78.** A coconut tree is taller than a pine tree by 6 meters. A woodcutter starts cutting the coconut tree from 12 m above the ground so that after the coconut tree falls, its top just touches the bottom of the pine tree. Had he cut the pine tree from 8 m above the ground, the top of the pine tree would have fallen in a way that its top would just have touched the bottom of the coconut tree. What is the height of the coconut tree ?
- (a) 33 meters
(b) 29 meters
(c) 27 meters
(d) 21 meters
- 79.** How many two-digit numbers are there such that the product of their digits is a perfect square greater than 1 ?
- (a) 18
(b) 16
(c) 14
(d) 12
- 80.** Five friends Ram, Rakesh, Ramesh, Rohit and Rupesh are sitting on a round table facing the center. Rakesh is sitting to the left of Ram. Rohit is sitting to the right of Ramesh. Ram and Ramesh are sitting next to each other. Where is Rupesh sitting with respect to Rohit ?
- (a) Immediate left
(b) Second person to the left
(c) Third person to the left
(d) Fourth person to the left

81. 'ਨਿੱਕੜੀ ਸੂਈ ਵੱਟਮਾਂ ਧਾਗਾ ਬੈਠ ਕਸੀਦਾ ਕੱਢ ਰਹੀਂ ਆਂ' ਕੀ ਹੈ ?

- (a) ਘੋੜੀ
- (b) ਬੋਲੀ
- (c) ਲੋਰੀ
- (d) ਸੁਹਾਗ

82. ਜੇ ਕਵਿਤਾ ਨੂੰ ਦਿਲ ਦੀ ਬੋਲੀ ਸਮਝਿਆ ਜਾਂਦਾ ਹੈ ਤਾਂ ਵਾਰਤਕ ਨੂੰ ਦਿਮਾਗ ਦੀ ਸਿਰਜਣਾ ਖਿਆਲ ਕੀਤਾ ਜਾਂਦਾ ਹੈ। ਇਸ ਦਾ ਅਰਥ ਇਹ ਹੈ ਕਿ ਕਵਿਤਾ ਵਿਚ ਭਾਵ ਅਤੇ ਵਾਰਤਕ ਵਿਚ ਵਿਚਾਰ ਪਰਧਾਨ ਹੁੰਦੇ ਹਨ। ਵੈਸੇ ਵੀ ਸਾਹਿਤਕ ਇਤਿਹਾਸ ਵਿਚ ਕਵਿਤਾ ਪਹਿਲਾਂ ਹੋਂਦ ਵਿਚ ਆਉਂਦੀ ਹੈ ਅਤੇ ਵਾਰਤਕ ਬਾਅਦ ਵਿਚ ਲਿਖੀ ਜਾਣੀ ਸ਼ੁਰੂ ਹੁੰਦੀ ਹੈ। ਇਸ ਦਾ ਕਾਰਨ ਇਹ ਵੀ ਮੰਨਿਆ ਜਾਂਦਾ ਹੈ ਕਿ ਮਨੁੱਖ ਮੁੱਢਲੇ ਪੜਾਅ ਤੇ ਬੁਨਿਆਦੀ ਪ੍ਰਵਿਰਤੀਆਂ ਦੀ ਪੈਦਾਵਾਰ ਜਜ਼ਬਿਆਂ ਦੇ ਅਧੀਨ ਵਲਵਲਿਆਂ ਵਾਲੀ ਦਿਲ ਦੀ ਬੋਲੀ ਬੋਲਦਾ ਹੈ ਪਰੰਤੂ ਸਭਿਅਤਾ ਦੇ ਵਿਕਾਸ ਨਾਲ ਉਹ ਆਪਣੀਆਂ ਸੱਭਿਆਚਾਰਕ ਸਿਰਜਣਾਵਾਂ ਰਾਹੀਂ ਬੁਨਿਆਦੀ ਪ੍ਰਵਿਰਤੀਆਂ ਨੂੰ ਬੌਧਿਕਤਾ ਦੇ ਅਧੀਨ ਨਿਯੰਤਰਿਤ ਕਰਨਾ ਸ਼ੁਰੂ ਕਰ ਦਿੰਦਾ ਹੈ। ਸੋ ਸਭਿਅਤਾ ਦੇ ਵਿਕਾਸ ਨਾਲ ਦਿਮਾਗ ਦੀ ਵਰਤੋਂ ਵਧੇਰੇ ਹੋਣ ਲੱਗਦੀ ਹੈ, ਭਾਵ ਵਿਚਾਰ ਪ੍ਰਧਾਨ ਹੋਣ ਲੱਗਦੇ ਹਨ। ਇਸ ਤੋਂ ਇਹ ਸਿੱਟਾ ਤਾਂ ਨਹੀਂ ਕੱਢਿਆ ਜਾ ਸਕਦਾ ਕਿ ਕਵਿਤਾ ਕੇਵਲ ਭਾਵ ਪਰਧਾਨ ਅਤੇ ਵਾਰਤਕ ਕੇਵਲ ਵਿਚਾਰ ਪਰਧਾਨ ਹੁੰਦੀ ਹੈ ਪਰ ਇਕ ਗੱਲ ਪੱਕੀ ਹੈ ਕਿ ਅਨੁਪਾਤਕ ਤੌਰ ਤੇ ਕਵਿਤਾ ਵਿਚ ਭਾਵਾਂ ਦੀ ਮਾਤਰਾ ਵਧੇਰੇ ਹੁੰਦੀ ਹੈ ਜਦੋਂ ਕਿ ਵਾਰਤਕ ਵਿਚ ਵਿਚਾਰਾਂ ਦੀ ਪੇਸ਼ਕਾਰੀ ਵਧੇਰੇ ਹੁੰਦੀ ਹੈ। ਮਨੁੱਖ ਆਮ ਬੋਲਚਾਲ ਤਾਂ ਮੁੱਢ ਵਿਚ ਵੀ ਵਾਰਤਕ ਅੰਦਰ ਹੀ ਕਰਦਾ ਹੋਵੇਗਾ ਪਰ ਕਲਾਤਮਿਕ ਸਿਰਜਣਾ ਪਹਿਲਾਂ ਪਹਿਲ ਕਵਿਤਾ ਵਿਚ ਹੀ ਹੋਈ ਹੋਵੇਗੀ।

ਉਪਰੋਕਤ ਪੈਰਾ ਦੇ ਅਧਾਰ ਤੇ ਉੱਤਰ ਦਿਓ:

ਮਨੁੱਖ ਨੇ ਰੋਜ਼ਾਨਾ ਜੀਵਨ ਵਿਚ ਘਰੇਲੂ ਪੱਧਰ 'ਤੇ ਗੱਲਬਾਤ ਲਈ ਸਭ ਤੋਂ ਪਹਿਲਾਂ ਕਿਹੜੇ ਸਾਹਿਤਕ ਰੂਪ ਦੀ ਵਰਤੋਂ ਕੀਤੀ ਹੋਵੇਗੀ ?

- (a) ਕਵਿਤਾ
- (b) ਵਾਰਤਕ
- (c) ਕਵਿਤਾ ਅਤੇ ਵਾਰਤਕ ਦੋਨੋਂ
- (d) ਬੋਲੀਆਂ

83. 'ਛਾਹ ਵੇਲਾ' ਕਿਹੜੇ ਸਮੇਂ ਨੂੰ ਕਿਹਾ ਜਾਂਦਾ ਹੈ ?

- (a) ਸ਼ਾਮ ਦੇ ਸਮੇਂ ਨੂੰ
- (b) ਦੁਪਹਿਰ ਦੇ ਸਮੇਂ ਨੂੰ
- (c) ਰਾਤ ਦੇ ਸਮੇਂ ਨੂੰ
- (d) ਸਵੇਰ ਦੇ ਸਮੇਂ ਨੂੰ

84. ਹੇਠ ਲਿਖੇ ਵਾਕ ਨੂੰ ਪੂਰਾ ਕਰਨ ਲਈ ਸਹੀ ਸ਼ਬਦ ਚੁਣੋ :

_____ ਦੀ ਵੰਡ ਨੇ ਦੋਵਾਂ ਭਰਾਵਾਂ ਨੂੰ _____ ਪਹੁੰਚਾ ਦਿੱਤਾ।

- (a) ਜੈਦਾਦ, ਕਚਹਿਰੀ
- (b) ਜਾਇਦਾਦ, ਕਚੈਹਰੀ
- (c) ਜੈਦਾਤ, ਕਚਹਰੀ
- (d) ਜਾਇਦਾਦ, ਕਚਹਿਰੀ

85. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਸਹੀ ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹ ਵਾਲਾ ਵਾਕ ਚੁਣੋ :

- (a) ਚੰਗਾ ਹੁਣ ਅਸੀਂ ਚੱਲਦੇ ਹਾਂ।
- (b) ਚੰਗਾ, ਹੁਣ ਅਸੀਂ ਚੱਲਦੇ ਹਾਂ।
- (c) ਚੰਗਾ ! ਹੁਣ ਅਸੀਂ ਚੱਲਦੇ ਹਾਂ।
- (d) ਚੰਗਾ; ਹੁਣ ਅਸੀਂ ਚੱਲਦੇ ਹਾਂ।

86. Chrysanthemum ਫੁੱਲ ਦਾ ਪੰਜਾਬੀ ਵਿੱਚ ਨਾਂ ਕੀ ਹੈ ?

- (a) ਚਮੇਲੀ
- (b) ਨਰਗਸ
- (c) ਗੁਲਦਾਊਦੀ
- (d) ਗੁਲਨਾਰ

87. ਪੱਛਮੀ ਪੰਜਾਬ ਵਿੱਚ ਸਾਂਦਲਬਾਰ ਦੀਆਂ ਔਰਤਾਂ ਦੇ ਨਾਚ ਦਾ ਨਾਂ ਹੈ -

- (a) ਗਿੱਧਾ
- (b) ਸੰਮੀ
- (c) ਮਾਹੀਆ
- (d) ਮਲਵਈ ਗਿੱਧਾ

88. 'ਭੁੱਖੇ ਦੀ ਧੀ ਰੱਜੀ ਉਡਾਉਣ ਲੱਗੀ' ਅਖਾਣ ਵਿੱਚ ਖਾਲੀ ਥਾਂ ਤੇ ਸਹੀ ਸ਼ਬਦ ਭਰੋ।

- (a) ਧਨ
- (b) ਮੌਜ
- (c) ਤੋਤੇ
- (d) ਖੇਹ

89. 'ਆਪ ਅੱਜ-ਕਲ੍ਹ ਕੀ ਕਰਦੇ ਹੋ ?' - ਕਿਹੜਾ ਪੁਰਖ ਹੈ ?

- (a) ਪਹਿਲਾ ਪੁਰਖ
- (b) ਦੂਜਾ ਪੁਰਖ
- (c) ਤੀਜਾ ਪੁਰਖ
- (d) ਇਨ੍ਹਾਂ ਵਿਚੋਂ ਕੋਈ ਨਹੀਂ

90. ਸਮਾਨਾਰਥਕ ਸ਼ਬਦਾਂ ਦੀ ਸੂਚੀ ਮਿਲਾਓ :

ਸੂਚੀ I

ਸੂਚੀ II

- | | |
|------------|--------------|
| A. ਤਹਿਜ਼ੀਬ | i. ਦੋਸਤੀ |
| B. ਗੌਂ | ii. ਜਿਸਮ |
| C. ਜੁੱਸਾ | iii. ਸੱਭਿਅਤਾ |
| D. ਸੱਜਣਤਾ | iv. ਮਤਲਬ |

ਉਪਰੋਕਤ ਦਾ ਸਹੀ ਮਿਲਾਨ ਕਰੋ :

- (a) A-iii, B-iv, C-i, D-ii
- (b) A-iii, B-iv, C-ii, D-i
- (c) A-iii, B-ii, C-iv, D-i
- (d) A-ii, B-iii, C-iv, D-i

91. Match the following :

List I

1. Author of the famous book 'Species Plantarum'
2. Proposed the concept of 'plant ideotypes' for the first time
3. Coined the term 'heterosis' for the first time

List II

- P. Carl Linnaeus
- Q. G.H. Shull
- R. C.M. Donald

Code :

- | | 1 | 2 | 3 |
|-----|----------|----------|----------|
| (a) | P | Q | R |
| (b) | R | Q | P |
| (c) | P | R | Q |
| (d) | R | P | Q |

92. Consider the following statements :

1. The wheat grain protein is called 'X'.
2. Initially, the potassium deficiency symptoms in barley appear on 'Y'.

Identify correct pair of X and Y (respectively)

- (a) Zein and Upper leaves
- (b) Gluten and Upper leaves
- (c) Glycinin and Middle leaves
- (d) Gluten and Lower leaves

93. If 30 maize plants are counted in 5 metre of row length and the row spacing is 60 cm, what will be the population density of maize ?

- | | |
|-----------------------------|-----------------------------|
| (a) 50,000 plants/ hectare | (b) 75,000 plants/hectare |
| (c) 1,00,000 plants/hectare | (d) 1,25,000 plants/hectare |

94. Flooding kills the weeds by excluding the _____ from their environment.

- | | |
|---------------|--------------|
| (a) Air | (b) Water |
| (c) Nutrients | (d) Microbes |

95. Loss of horizontal resistance to a plant disease during a breeding cycle is

- (a) Boom and bust cycle
- (b) Vertifolia effect
- (c) Quantitative resistance
- (d) Pathovar

96. Soils with $\text{pH} < 8.5$, $\text{EC} > 4 \text{ dS m}^{-1}$ and ESP less than 15 are designated as

- (a) Saline soils (b) Alkali soils
(c) Black alkali soils (d) Sodic soils

97. Pick the correct statement :

- (a) One standard atmosphere is equal to 101,325 hPa
(b) One standard atmosphere is equal to 101.325 hPa
(c) Generally, dry adiabatic lapse rate per 100 m ascent is 9.8°C
(d) Generally, dry adiabatic lapse rate per 100 m ascent is 0.98°C

98. Consider the following statements and choose the incorrect ones :

1. Widely spaced isobars represent steep change in pressure
 2. Cumulo-nimbus clouds are associated with heavy rainfall, thunder and lightning.
 3. India receives less than normal rainfall under the influence of La Nina.
- (a) 2 only (b) 3 only
(c) 1 and 2 only (d) 1 and 3 only

99. Match the following entities in list I with corresponding entries in List II :

List I

1. Father of modern organic agriculture
2. Father of Indian Plant Pathology
3. The father of extension in a global context

List II

- P. Sir Albert Howard
Q. E.J. Butler
R. B.B. Mundkur
S. Paul Leagans
T. Sigmund Freud

Code :

- | | 1 | 2 | 3 |
|-----|----------|----------|----------|
| (a) | R | Q | P |
| (b) | P | Q | S |
| (c) | Q | R | S |
| (d) | Q | R | T |

100. Yellow vein mosaic of okra is primarily transmitted by

- (a) Aphid (b) White fly
(c) Leaf hopper (d) Nematode

101. Choose the correct match :

- (a) Mancozeb and Thiram : Systemic fungicides
- (b) Glyphosate : Selective contact herbicide
- (c) Carbendazim : Systemic fungicide
- (d) Glyphosate : Nonselective contact herbicide

102. Fernoxone is _____

- (a) 2, 4-D ester salt
- (b) 2, 4-D amine salt
- (c) 2, 4-D sodium salt
- (d) 2, 4-D ester amine salt

103. Crop rotations are effective in controlling

- (a) Crop bound weeds but not crop associated weeds
- (b) Both crop bound weeds and crop associated weeds
- (c) Crop associated weeds but not crop bound weeds
- (d) Neither crop bound weeds nor crop associated weeds

104. The bio-agent useful for managing water hyacinth is

- (a) Bactra sp.
- (b) Cyrtobagous salviniae
- (c) Neochetina bruchi
- (d) Dactylopius sp.

105. Choose the correct options :

1. First herbicide-resistant weed in the world: *Amaranthus sp.*
 2. First herbicide-resistant weed in the world: *Senecio vulgaris*
 3. *Zea mays ceratina* is flour corn
 4. *Zea mays ceratina* is waxy corn
- (a) 1 and 3 only
 - (b) 2 and 3 only
 - (c) 1 and 4 only
 - (d) 2 and 4 only

106. Consider the following statements and choose the correct options :

1. Leaf reddening in cotton is due to deficiency of Mg.
 2. Leaf reddening in cotton is due to deficiency of Zn and Ca.
 3. Diamond back moth is a pest of crucifers.
 4. Diamond back moth is a pest of pulses and oil seeds.
- (a) 1 and 3 only
 - (b) 2 and 4 only
 - (c) 1 and 4 only
 - (d) 2 and 3 only

- 107.** The Bhopal Gas Tragedy was due the leakage of _____ gas.
- (a) Hexane (b) Methane
(c) Methyl thiocyanate (d) Methyl isocyanate
- 108.** If two chemicals, A and B have LD_{50} values of 85 mg kg^{-1} and 5010 mg kg^{-1} respectively, which one of the following statement is true ?
- (a) A is less toxic than B (b) B is less toxic than A
(c) Both have equal toxicity (d) Both are safe chemicals
- 109.** Which of the following is the most suitable combination related to the requirements for soil solarisation ?
- (a) Summer season; black polythene; moist soil
(b) Winter season; black polythene; dry soil
(c) Summer season; transparent polythene; moist soil
(d) Summer season; transparent polythene; dry soil
- 110.** Among the following, which group of elements is immobile in plants :
- (a) Ca, Cu, B, Fe (b) Cu, Mn, Mg, B
(c) Ca, N, K, S (d) S, Cu, Mg, B
- 111.** Which among the following is known as the “Queen of Oilseeds” ?
- (a) Groundnut (b) Sesame
(c) Sunflower (d) Mustard
- 112.** Which type of earthworm is useful for vermicomposting ?
- (a) Epigeic (b) Mesogeic
(c) Endogeic (d) Endogeic or Mesogeic
- 113.** 1. Central Soil Salinity Research Institute is located at X.
2. The first KVK in India was established in 1974 at Y.
Identify X and Y.
- (a) Karnal and Puducherry respectively
(b) Bathinda and Ahmedabad respectively
(c) Hyderabad and Delhi respectively
(d) Jaipur and Kolkata respectively

114. Pick the correct statement :

- (a) The largest source of irrigation in India is canals
- (b) Sunflower is a cross pollinated crop
- (c) Deep ploughing is recommended twice for every season
- (d) World Wetlands Day is celebrated on 21st March

115. Among the following, which crop has the highest water requirement in general ?

- (a) Wheat
- (b) Cotton
- (c) Sugarcane
- (d) Rye

116. Author of the book 'The Road Back to Nature : Regaining the Paradise Lost' is

- (a) Rachel Carlson
- (b) Subhash Palekar
- (c) Yoshikazu Kawaguchi
- (d) Masanobu Fukuoka

117. The process of dissolution and removal of sesquioxides from A horizon and their deposition in B horizon is called :

- (a) Podzolisation
- (b) Laterisation
- (c) Humification
- (d) Calcification

118. The phosphorus fixing capacity of clay minerals may be found in order :

- (a) Vermiculite > Illite > Montmorillonite > Muscovite
- (b) Montmorillonite > Vermiculite > Kaolinite > Muscovite
- (c) Muscovite > Illite > Montmorillonite > Vermiculite
- (d) Illite > Montmorillonite > Muscovite > Vermiculite

119. The organic matter content (%) of soil with 1.3 % organic carbon is :

- (a) 2.60
- (b) 1.95
- (c) 0.65
- (d) 2.24

120. Among the following, which crop yields leaf fibre :

- (a) Jute
- (b) Cotton
- (c) Agave
- (d) Mesta

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