

CUET PG 2025 Water Engineering and Management Question Paper

Time Allowed :1 Hour 45 Mins

Maximum Marks :300

Total questions :75

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 105 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the Atmospheric Science paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

1. The minimum size of glass tubing that can be used to measure water level, if the capillary rise in the tube is not to exceed 0.25 cm. (Take surface tension of water in contact air as 0.0075 kg(f)/m).

- (A) 1.2 cm
- (B) 1 cm
- (C) 0.8 cm
- (D) 0.6 cm

2. For the flow through a pipe, if Reynolds's number is greater than 4000, it indicates:

- (A) Streamline flow
- (B) Laminar flow
- (C) Steady flow
- (D) Turbulent flow

3. Match List-I with List-II

List-I List-II

Type of fluids	Relationship between shear stress and velocity gradient
(A) Newtonian fluid	(I) Zero velocity gradient
(B) Non-Newtonian fluid	(II) With definite yield stress and linear relationship
(C) Ideal Fluid	(III) Linear
(D) Ideal Plastic	(IV) Non-linear

- 1. (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
- 2. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
- 3. (A) - (III), (B) - (III), (C) - (II), (D) - (IV)
- 4. (A) - (II), (B) - (IV), (C) - (I), (D) - (II)

4. Match List-I with List-II

List-I **List-II**

Dimensionless number	Types of forces
(A) Euler's number	(I) Pressure force
(B) Froude's number	(II) Gravity force
(C) Mach number	(III) Surface Tension
(D) Weber number	(IV) Compressibility force

1. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (III), (C) - (II), (D) - (V)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

5. Dynamic viscosity of a fluid is 2.2 poise and specific gravity is 0.7. Then kinematic viscosity in SI units is:

1. $3.14 \times 10^{-4} \text{ m}^2/\text{s}$
2. $3.14 \times 10^{-3} \text{ m}^2/\text{s}$
3. $1.5 \times 10^{-4} \text{ stokes}$
4. $1.5 \times 10^{-3} \text{ stokes}$

6. In order to determine the workability of a concrete mixture, the recommended tests are:

- (A) Flow test
- (B) Compaction Factor test
- (C) Flexural strength test
- (D) Slump test

Choose the correct answer from the options given below:

1. (B), (C) and (D) only
 2. (A), (B) and (C) only
 3. (A), (B), (C) and (D)
 4. (A), (B) and (D) only
-

7. In proportion of concrete mix, 1:12 (M 25) represents

- (A) Cement : fine aggregates : water
 - (B) Fine aggregates : cement : coarse aggregates
 - (C) Coarse aggregates : fine aggregates : cement
 - (D) Cement : fine aggregates : coarse aggregates
-

8. As per IS code, the standard size of the brick in mm is:

- (A) 220 x 120 x 120
 - (B) 190 x 90 x 90
 - (C) 200 x 100 x 50
 - (D) 210 x 110 x 110
-

9. Consider the following compounds of cement:

- (A) C_2S
- (B) C_4AF
- (C) C_3S
- (D) C_3A

The correct sequence of these compounds in the decreasing order of rate of hydration is:

1. (D), (C), (B), (A)
2. (D), (B), (C), (A)

3. (B), (A), (D), (C)

4. (A), (B), (C), (D)

10. The length of the survey line was measured with a 30 m tape and was found to be 1000 m. As a check, the length was again measured with another 20 m tape, and was found to be 1010 m. On comparing the 30 m tape with a test gauge, it was found to be 0.10 m too long. Find the actual length of the 20 m chain.

1. 19.87 m

2. 20.87 m

3. 21.87 m

4. 22.87 m

11. The magnetic bearing of line AB is $88^{\circ}45'$. Calculate the true bearing if the magnetic declination is $5^{\circ}30'$ east.

1. $93^{\circ}15'$

2. $83^{\circ}15'$

3. $94^{\circ}15'$

4. $84^{\circ}15'$

12. The R.L. of the floor of a factory is 30.500. Staff reading on the floor is 1.610 m and staff reading when the staff is held inverted with the bottom touching the tie beam of the roof truss is 3.700 m. Find the height of the tie beam above the floor.

1. 6.310 m

2. 5.310 m

3. 7.310 m

4. 4.310 m

13. The fore bearing of line AB is $15^\circ 30'$. What will be the back bearing of the line AB?

1. $196^\circ 30'$
2. $197^\circ 30'$
3. $165^\circ 30'$
4. $195^\circ 30'$

14. Match List-I with List-II.

List-I	List-II
Type of correction	Formula used
(The symbols have their usual meaning)	
(A). Sag correction	(I). $\pm L(1 - h/R)$
(B). Pull correction	(II). $-1/24 \times (W/P)^2$
(C). Temperature correction	(III). $\pm(T_f - T_s)L$
(D). Mean sea level correction	(IV). $\pm(P_t - P_s) \times L/AE$

Table 1: Types of Correction and Corresponding Formulas

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
2. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
3. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
4. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

15. Match List-I with List-II.

List-I	List-II
(A) Alidade	(I) Chain surveying
(B) Arrow	(II) Leveling
(C) Bubble Tube	(III) Plain table surveying

(D) Stadia hair (IV) Theodolite surveying

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
 2. (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
 3. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
 4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
-

16. Consider the following characteristics of contour:

- (A) A uniform slope is indicated when contour lines are spaced uniformly
- (B) Contour lines cannot go anywhere but can close on themselves
- (C) A set of closed contours indicates a depression or a summit, according to the lower or higher values being respectively inward
- (D) A contour is an imaginary line passing through the points of an equal level on the surface of earth

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
 2. (A), (B) and (C) only
 3. (A), (B), (C) and (D)
 4. (B), (C) and (D) only
-

17. Consider the following statements:

- (A) Engineering survey is used to collect requisite data for planning, design and execution of engineering projects.
- (B) Reconnaissance survey is used to determine the feasibility and estimation of a scheme.
- (C) Route survey is used for depiction of topography of a region.
- (D) Archaeological survey is used for determining unearthing relics of antiquity.

Choose the correct answer from the options given below:

1. (A), (B), (C) and (D)
 2. (A), (B) and (C) only
 3. (A), (B), and (D) only
 4. (B), (C) and (D) only
-

18. As per Indian standard specifications, the length of one link in 30 meter chain is:

1. 20 cm
 2. 30 cm
 3. 40 cm
 4. 50 cm
-

19. What is the volume of a 6 m deep tank having rectangular shaped top $6\text{ m} \times 4\text{ m}$ and bottom $4\text{ m} \times 2\text{ m}$? (use mean-area method)

1. 92 m^3
 2. 94 m^3
 3. 96 m^3
 4. 90 m^3
-

20. Match List-I with List-II.

List-I List-II

- | | |
|----------------------|--|
| (A) Young's modulus | (I) Lateral strain to linear strain within elastic limit |
| (B) Poisson's ratio | (II) Stress to strain within elastic limit |
| (C) Bulk modulus | (III) Shear stress to shear strain within elastic limit |
| (D) Rigidity modulus | (IV) Direct stress to corresponding volumetric strain |

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
 2. (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
 3. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
 4. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
-

21. What will be the degree of BMD curve, if the load intensity is of n degree?

1. $n + 2$
 2. $n + 1$
 3. $n + 3$
 4. $n + 4$
-

22. A beam of triangular cross-section is subjected to a shear force of 50kN. The base width of the section is 250 mm and the height is 200 mm. The beam is placed with its base horizontal. The shear stress at the neutral axis will be nearly-

1. 1.2 N/mm^2
 2. 3.2 N/mm^2
 3. 3.7 N/mm^2
 4. 2.4 N/mm^2
-

23. Earliest finish of an activity is always:

1. Less than earliest event of the following node
 2. Greater than earliest event of the following node
 3. Less than or equal to earliest event of the following node
 4. Greater than or equal to earliest event of the following node
-

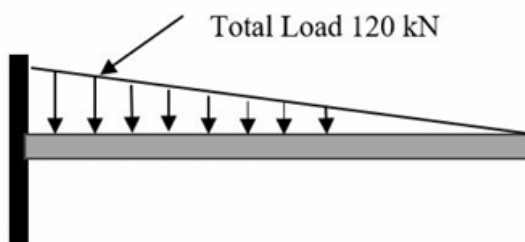
24. Consider the following salient points in a stress-strain curve of mild steel bar:

- (A) Yield point
- (B) Breaking point
- (C) Proportionality limit
- (D) Ultimate point

The correct sequence in which they occur while testing the mild steel bar in tension from initial zero strain to failure is:

1. (A), (B), (C), (D)
2. (A), (B), (C) only
3. (C), (A), (D), (B)
4. (B), (C) and (D) only

25. What are the support reactions at the fixed end of the cantilever beam of 3 m length as shown in the diagram below?



1. 120 kN, 120 kN-m
2. 120 kN, 240 kN-m
3. 240 kN, 120 kN-m
4. 120 kN, 60 kN-m

26. The failure theory which is the most conservative for ductile materials is

1. Maximum principal stress theory
2. Maximum shear stress theory
3. Maximum shear strain energy theory
4. Maximum principal strain theory

27. The reduction in project time normally results in

1. Increasing the direct cost and decreasing the indirect cost
2. Decreasing the direct cost and increasing the indirect cost
3. Increasing the direct cost and the indirect cost both
4. Decreasing the direct cost and the indirect cost both

28. A point load applied at shear center induces

1. Zero shear force
2. Zero bending
3. Pure twisting
4. Pure bending

29. A beam has the same section throughout its length with moment of inertia

$I = 1 \times 10^8 \text{ mm}^4$. It is subjected to a uniform BM = 40 kN·m, $E = 2 \times 10^5 \text{ N/mm}^2$. What is the radius of curvature of the circle into which the beam will bend in the form of an arc of a circle?

1. 1000 m
2. 500 m
3. 400 m
4. 350 m

30. Which of the following statement(s) is/are correct with regard to air pressure?

- (A) High pressure is related to cloudy sky and wet weather
- (B) Low pressure is associated with clear and sunny skies
- (C) The air always moves from high pressure to low pressure areas

(D) Low pressure involves air rising from earth's surface

Choose the correct answer from the options given below:

1. (A) and (B) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (C) and (D) only

31. Match List-I with List-II.

List-I List-II

- | | |
|-------------|--|
| (A) Rain | (I) Diameter of drop less than 0.5 mm and intensity < 1 mm/h |
| (B) Glaze | (II) Water droplets in contact with cold water surface (0°C) |
| (C) Sleet | (III) Diameter of drop 0.5 mm to 6 mm and intensity > 1 mm/h |
| (D) Drizzle | (IV) Small pellets of transparent ice having a diameter of 5 mm or less |

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
3. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

32. The Penman's evapotranspiration equation is based on

1. Water budget method
2. Energy balance approach only
3. Mass transfer approach only
4. Energy balance and mass transfer approach

33. Match List-I with List-II.

List-I List-II

- | | |
|----------------------|-----------------------------|
| (A) Horton equation | (I) Maximum flood discharge |
| (B) Muskingum Method | (II) Flood Routing |
| (C) Chezy's formula | (III) Infiltration |
| (D) Dicken's formula | (IV) Flow velocity |

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
4. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

34. The coefficient of variation of the rainfall for existing six rain gauge stations in the catchment was found to be 29.54%. The optimum number of stations in the catchment for an admissible 10% error in the estimation of mean rainfall will be:

1. 3
2. 6
3. 9
4. 12

35. Potential evapotranspiration (PET) be denoted as

1. Evapotranspiration when there is sufficient moisture available in a fully vegetated area
2. Evapotranspiration of a forest area
3. Actual evapotranspiration of a crop before application of irrigation water
4. Amount of water needed to bring the moisture content of soil to its field capacity

36. What would be the evaporation from the pond (in mm), if the pan evaporation is 45 mm and the pan coefficient is 0.70?

1. 13.5 mm
 2. 19.28 mm
 3. 31.5 mm
 4. 64.28 mm
-

37. Match List-I with List-II.

List-I List-II

- | | |
|-----------------------|--|
| (A) Hydrograph | (I) Cumulative rainfall vs time |
| (B) Mass curve | (II) Cumulative rainfall of nearby station vs Cumulative rainfall of concerned station |
| (C) Double mass curve | (III) Discharge vs time |
| (D) Hyetograph | (IV) Rainfall intensity vs time |

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
 2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
 3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
 4. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
-

38. The rainfall on five successive days on a catchment was 2 cm, 6 cm, 9 cm, 5 cm, and 3 cm. If the ϕ -index for the storm is taken as 3 cm/day, the total direct runoff from the catchment will be:

1. 26 cm
2. 16 cm
3. 11 cm
4. 13 cm

39. Match List-I with List-II.

List-I List-II

- | | |
|-------------------|--|
| (A) Loess | (I) Deposited from suspension in running water |
| (B) Peat | (II) Deposits of marine origin |
| (C) Alluvial soil | (III) Deposits by wind |
| (D) Marl | (IV) Organic soil |

Choose the correct answer from the options given below:

1. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
3. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
4. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)

40. Match List-I with List-II.

List-I List-II

- | | |
|--------------------------|------------|
| (A) Less than 0.002 mm | (I) Gravel |
| (B) 0.075 mm to 0.002 mm | (II) Sand |
| (C) 0.80 mm to 4.75 mm | (III) Silt |
| (D) 4.75 mm to 0.075 mm | (IV) Clay |

Choose the most appropriate answer from the options given below:

1. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

41. A sample of saturated soil has a water content of 29.6%. If the specific gravity of solids is 2.7, the dry unit weight (in gram/cm³) of the soil is equal to:

1. 0.5
 2. 0.75
 3. 1
 4. 1.5
-

42. The most expansive clay mineral is:

1. Quartz
 2. Montmorillonite
 3. Kaolinite
 4. Illite
-

43. The levels of soil density are given below:

- (A) Saturated density
- (B) Submerged density
- (C) Wet density
- (D) Dry density

Choose the most appropriate sequence in the decreasing order of magnitude of the densities of a soil sample:

1. (C), (B), (A), (D)
 2. (A), (B), (C), (D)
 3. (A), (C), (B), (D)
 4. (A), (B), (C), (D)
-

44. By placing a soil sample at 105° C for 24 hours in an oven, which of the following statements are correct?

- (A) Hygroscopic moisture is lost

- (B) Capillary water is lost
- (C) Free water is lost
- (D) Structural water is lost

Which of the above statements are correct?

- 1. (A), (B) and (D) only
- 2. (B), (C) and (D) only
- 3. (A), (B), (C) and (D)
- 4. (A), (B) and (C) only

45. Consider the following statements related to pore pressure parameter A , A_f (value of A at failure) and R (over consolidation ratio):

- (A) A_f is zero when $R = 1$
- (B) A_f is negative when $R > 4$
- (C) A_f increases as R decreases
- (D) A_f decreases as R decreases

Choose the most appropriate answer from the options given below:

- 1. (A) and (C) only
- 2. (A), (B) and (C) only
- 3. (A), (B), (C) and (D)
- 4. (B) and (D) only

46. If a sample of clay has a cohesion of 80 kPa and an angle of shearing resistance of 10° , the shear strength of clay at a normal stress of 100 kPa will be:

- 1. 97.63 kPa
- 2. 98.48 kPa
- 3. 78.78 kPa

4. 95.34 kPa

47. When effective stress on a normally consolidated clay is increased from 25 kN/m² to 50 kN/m², settlement becomes 5mm. If the stress is increased to 175 kN/m², settlement will increase to (assuming coefficient of volume-decrease to be constant):

1. 25 mm
 2. 30 mm
 3. 35 mm
 4. 40 mm
-

48. An open channel of symmetric right-angled triangular cross-section is conveying a discharge Q . If g is the acceleration due to gravity, what is the critical depth for this channel?

1. $\left(\frac{Q^2}{g}\right)^{\frac{1}{3}}$
 2. $\left(\frac{Q^2}{g}\right)^{\frac{1}{5}}$
 3. $\left(\frac{Q^2}{g}\right)^{\frac{1}{4}}$
 4. $\left(\frac{Q^2}{g}\right)^{\frac{1}{2}}$
-

49. The sequent ratio in a hydraulic jump formed in a horizontal rectangular channel is 16.48. The Froude number of the Supercritical stream is:

1. 4.0
 2. 3.0
 3. 12.0
 4. 14.0
-

**50. Which one of the following condition is a typical characteristics of critical flow?
(Symbols have their usual meaning)**

1. $\frac{Q^2 T}{g A^3} = 1$
 2. $\frac{Q^2}{g A^2} = 1$
 3. $\frac{Q^2}{g A^2} = 2$
 4. $\frac{Q^2 T}{g A^2} = 1$
-

51. In a field test of a formation having a porosity of 25%, the hydraulic gradient was found to be 0.04, and the velocity of a tracer added to the ground water was 6 cm/h. The permeability of the aquifer is about:

1. 1 cm/s
 2. 4 cm/s
 3. 0.004 cm/s
 4. 0.01 cm/s
-

52. Sequentially arrange the following steps in the water treatment process:

- (A). Screening**
- (B). Filtration**
- (C). Sedimentation**
- (D). Disinfection**

1. (A), (B), (C), (D)
 2. (A), (B), (C), (D)
 3. (B), (A), (C), (D)
 4. (C), (B), (D), (A)
-

53. Match List-I with List-II.

List-I:	Instruments used	Parameters
	(A) Tintometer	(I) Volatility
	(B) Nephelometer	(II) Color
	(C) Imhoff cone	(III) Turbidity
	(D) Muffle furnace	(IV) Settling

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
4. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)

54. The maximum rainfall intensity at a given location

- (A) increases with increase in duration
- (B) decreases with increase in duration
- (C) is independent of the duration of the rainfall
- (D) sometimes increases and sometimes decreases with increase in duration

55. Consider the following statements regarding the design of channels by the theory of Lacey's or Kennedy's.

- (A) Theoretical concept of silt transportation remains same in both the theories.
- (B) Lacey improves upon Kennedy theory.
- (C) There are no defects in either the theories of Lacey or of Kennedy.
- (D) Lacey and Kennedy theory related to designing a lined canal/channels.

Choose the correct answer from the options given below:

1. (A) and (B) only
2. (A) and (D) only

3. (B) and (C) only
 4. (B), (C) and (D) only
-

56. Dibbling is the process of:

- (1) placing seeds in holes made in seedbed and covering them
 - (2) applying fertilizer by hand with the main objective of spreading it uniformly over the entire field
 - (3) removing weeds with the use of a tool through cutting vegetative parts
 - (4) applying chemicals in powder form
-

57. Which of the following remain useful for engine selection and in choosing desirable operating points for an engine?

1. Engine performance map
 2. Engine efficiency map
 3. Engine testing map
 4. Engine speed map
-

58. Which of the following irrigation method is not suitable for those crops having high water demand?

1. Border strip method
 2. Check basin method
 3. Sprinkler method
 4. Furrow method
-

59. Which of the following expression stands true for the WME (mechanization index)?

- LM = Average sum of the total work done by Tractor machine.

- LT = Average sum of the total work done by Human + Average sum of the total work done by Tractor machine.

1. $WME = LM \times LT$
2. $WME = \frac{LM}{LT} \times 100$
3. $WME = \frac{LM}{LT}$
4. $WME = LM / LT$

60. Traction prediction equations developed by Brixius can be used for the prediction of:

- (A) gross traction ratio
- (B) motion resistance ratio
- (C) coefficient of traction
- (D) cone index

Choose the correct answer from the options given below:

1. (A), (B) and (C) only
2. (A), (B) and (D) only
3. (A), (C) and (D) only
4. (B), (C) and (D) only

61. The plough consists of a:

- (A) Common main frame
- (B) Disc beam assemblies
- (C) Heavy spring-loaded furrow wheel
- (D) Gauge wheel

Choose the correct answer from the options given below:

1. (A), (B) and (D) only

2. (A), (B) and (C) only
 3. (A), (B), (C) and (D) only
 4. (B), (C) and (D) only
-

62. Which of the following is not connected with tractor performance test?

1. Engine output (measured by belt or power take off dynamometers)
 2. Fuel economy
 3. Drawbar pull, drawbar horsepower and drawbar fuel company
 4. Braked and driven force
-

63. A heat engine remain as a device which converts heat energy into:

1. Chemical energy
 2. Mechanical energy
 3. Kinetic energy
 4. Potential energy
-

64. Match List-I with List-II

List-I:

- (A) General Purpose
- (B) Pull type
- (C) Tilling type
- (D) Dog type

List-II:

- (I) Two-wheel tractor coupled with a rotary tiller
- (II) Steering mechanism
- (III) Miscellaneous operations for rotary as well as traction
- (IV) Used for ploughing, leveling, seeding and transport work

Choose the correct answer from the options given below:

1. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)

3. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
-

65. Match List-I with List-II

List-I:

- (A) Podzolization
(B) Laterization
(C) Lessivation
(D) Pedoturbation

List-II:

- (I) Silica accumulation
(II) Clay migration
(III) Iron and aluminum oxides
(IV) Intermixing of soil particles due to external factors

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
2. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
-

66. The desert development program was initiated in the year of:

1. 1967-68
2. 1977-78
3. 1987-88
4. 1997-98
-

67. Match List-I with List-II

List-I:

- (A) Specific yield
(B) Coefficient of storage

List-II:

- (I) Volume of water released or stored per unit surface area
(II) Volume of water the aquifer releases from or takes into

(C) Specific retention

(III) Ratio of volume of water a material retains after draining

(D) Transmissivity

(IV) Rate at which water get transmitted through a unit width

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

68. A watershed of 1500 hectares is discharging through a drain at an average rate of $2.5 \text{ m}^3/\text{s}$. Calculate the drainage coefficient. If the drainage coefficient is 3 cm, what would be the discharge through the drain?

1. $0.11 \text{ m}^3/\text{s}$
2. $0.22 \text{ m}^3/\text{s}$
3. $0.33 \text{ m}^3/\text{s}$
4. $0.44 \text{ m}^3/\text{s}$

69. Which of the following is not a colour order system?

1. Munsell
2. CIELAB
3. MATABLAB
4. Hunter Lab

70. In general, the storage principles that may help to prevent the loss and spoilage of the commodity includes:

- (A) Lower the moisture content, longer the storage life

- (B) Lower the temperature, longer the shelf-life of the commodity
- (C) Airtight/thermally insulated structures that prevent spoilage of perishables and semi-perishables
- (D) Enzymatic activities do not play a major role

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
 2. (A), (B) and (C) only
 3. (A), (B), (C) and (D)
 4. (B), (C) and (D) only
-

71. The essential proteins present in wheat grain include:

- (A) Albumins
- (B) Globulins
- (C) Glutenin
- (D) Gliadins

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
 2. (A), (B) and (C) only
 3. (A), (B), (C) and (D)
 4. (B), (C) and (D) only
-

72. Radappertization is a method used for food preservation in which:

1. Food is preserved by addition of bacteriocin
2. Food is sterilized by radiation
3. Food is preserved by heating
4. Food is preserved by dehydration

73. Probiotics usually consist of:

- (A) Lactobacillus
- (B) Saccharomyces boulardii
- (C) Bifidobacterium
- (D) Zymomonas

Choose the correct answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

74. Match List-I with List-II

List-I:

- (A) Apple
- (B) Tomato
- (C) Orange
- (D) Mango

List-II:

- (I) 0.0 - 1.7°C
- (II) 1.7 - 3.3°C
- (III) 7.2 - 8.9°C
- (IV) 3.9 - 5.6°C

Choose the correct answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

75. The maximum limit of grain moisture content (% wet basis) for safe storage of raw and parboiled rice be:

1. 11 and 12
 2. 13 and 14
 3. 14 and 15
 4. 15 and 16
-