ICAR AIEEA PG 2024

SOIL SCIENCE

Solved Paper

Key Answers are available at the bottom of this document

1)PHYSICAL SCIENCE

Question No. 1 / Question ID 30037 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Theory proposed/Characteristic,)	**(Thinker/Name of Theory, etc.)**
(A). Saturated flow in soil	(I). Wien's law
(B). Soil textural analysis	(II). Darcy's law
(C). Wavelength of emitted radiation-temperature relation	(III). Fick's law
(D). Diffusive flux of gas	(IV). Stokes law

Choose the **correct** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 2 / Question ID 30089 Marks: 4.00

Removaloflimeinsolutionfromuppertothelowerpartofthesoilprofileleadstotheformationof... of -----

1.Salinesoils
2.Regur
3.Karisoils
4.Kankar

○ 1 2 3 4 (Chosen
○ Option)
○
●

Question No. 3 / Question ID 30052 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A), and the other one labeled as Reason (R).

Assertion (A): Drainage increases the soil temperature.

Reason (R): Drainage decreases the heat capacity

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- (●) 1 (Chosen Option)
- ( ) 2 3 4
- ( )
- ( )

Question No. 4 / Question ID 30051 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A), and the other one is labelled as Reason (R).

Assertion (A): The effective rainfall erosion index of a given area is linearly proportional to the percentage of ground that is not covered by vegetation.

Reason (R): The rain erosion index includes both the kinetic energy of rain and the maximum 30-minute rain intensity.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ( ) 1
- ( ) 2
- ( ) 3
- ( ) 4

Question No. 5 / Question ID 30006 Marks: 4.00

The O_a sub-horizon denotes-

1. Organic horizon with highly decomposed organic matter
2. Organic horizon with intermediately decomposed organic matter
3. Organic horizon with least decomposed organic matter
4. Organic horizon without decomposed organic matter

- (●) 1 (Chosen Option)
- ( ) 2 3 4
- ( )
- ( )

Question No. 6 / Question ID 30080 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Rock	**Mineral**
(A). Igneous rock	(I). Volcanic ash
(B). Marine sedimentary rock	(II). Granite
(C). Metamorphic rock	(III). Limestone
(D). Terrestrial sedimentary rock	(IV). Gneiss

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 7 / Question ID 30054 Marks: 4.00

Saturated hydraulic conductivity in situ is measured by

1. Guelph permeameter
2. Neutron probe
3. Infiltrometer
4. Piezometer

○ 1 2 3 4 (Chosen
○ Option)
○
● ○

Question No. 8 / Question ID 30059 Marks: 4.00

Original design of tensiometer was first proposed by

1. Willard Gardner
2. L. A. Richards
3. B. E. Livingstom
4. Henry Darcy

○ 1
○ 2
○ 3
○ 4

Question No. 9 / Question ID 30094 Marks: 4.00

The comprehensive system of soil classification is based on

1. Soil colour and vegetation
2. Soil environmental factors
3. Measurable soil properties
4. Intrinsic properties of soil

- ○ 1 2 3 (Chosen
- ○ Option) 4
- ● ○
- ○

Question No. 10 / Question ID 30048 Marks: 4.00

Given below are two statements:

Statement (I): The surface of a 'Pedon' is roughly polygonal

Statement (II): The surface area of a pedon ranges from 1 m^2 to 10 m^2

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 11 / Question ID 30099 Marks: 4.00

Which of the following statement is not true for chloroplast

1. It contains DNA as its genetic material
2. It produces ATP
3. It has an electron transport chain
4. It contains transcriptional but no translational apparatus

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 12 / Question ID 30096 Marks: 4.00

Colchicine treated cells are arrested in

1. S phase
2. Prophase
3. G1 phase
4. Metaphase

- 1
- 2
- 3
- 4

Question No. 13 / Question ID 30020 Marks: 4.00

Arrange the following consequences of submergence in the soil in the correct sequence:

(A). Depletion of soil oxygen,

(B). Accumulation of toxic substances like hydrogen sulfide,

(C). Loss of beneficial soil organisms,

(D). Increased soil pH in acidic soil.

Choose the **correct** answer from the options given below:

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

- 1
- 2
- 3
- 4

Question No. 14 / Question ID 30100 Marks: 4.00

Match **List-I** with **List-II**

List-I **(Reaction)**	**List-II** **(Occurance)**
(A) Dark acidification	(I) Smooth endoplasmic reticulum
(B). Fatty acid synthesis	(II). CAM plants
(C). Hill reaction	(III). Regeneration of RUBP
(D). Rubisco	(IV). Oxygen evolution
(E). Calvin cycle	(V). Photorespiration

Choose the **correct** answer from the options given below:

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

1 2 3 (Chosen Option) 4

Question No. 15 / Question ID 30046 Marks: 4.00

Arrange the following forms of soil consistencies with decreasing soil wetness.

(A). Hard

(B). Friable /Soft

(C). Plastic

(D). Viscous

(E). Sticky

Choose the **correct** answer from the options given below:

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

1 2 3 4 (Chosen Option)

Question No. 16 / Question ID 30103 Marks: 4.00

Weed not found in rice crop is

1. Echinochloa spp.
2. Cyperus iria
3. Chenopodium album
4. Eleusine indica

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 17 / Question ID 30071 Marks: 4.00

A stem nodulating plant

1. *Glyricidia maculata*
2. *Sesbania rostrata*
3. *Pongamia pinnata*
4. *Sesbania aculeata*

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 18 / Question ID 30003 Marks: 4.00

The pF range of soft or friable consistency of soil is-

1. More than 4.5,
2. 2.8-4.5
3. 0.5-2.8
4. Less than 0.5

- ○ 1 2 3 4 (Chosen
- ○ Option)
- ○
- ●

Question No. 19 / Question ID 30040 Marks: 4.00

The Indian Remote Sensing Satellite (IRS)

(A). Look over a fixed point at the same local time

(B). Are at a low altitude (<1000 km)?

(C). Are used for weathering forecasting?

(D). Have large agricultural and natural resources application

(E). Provide service to telecommunications.

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. (A), (D) and (E) only.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 20 / Question ID 30102 Marks: 4.00

Choose the correct sequence

1. Chrysynthemum cinerariaefolium → Pyrethrins →Insecticide
2. Streptomyces griseus → Streptomycin → Nematicide
3. Streptomyces griseochromogenes → Blasticidin → Insecticide
4. Streptomyces griseochromogenes → Blasticidin → Herbicide

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 21 / Question ID 30118 Marks: 4.00

Model is an example of

1. Display type of visual aid
2. Attractive type of visual aid
3. Design type of visual aid
4. Presentation type of visual aid

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 22 / Question ID 30014 Marks: 4.00

Arrange the following in decreasing order according to the number of linkages among silicon tetrahedra of soil particles

(A). Nesosilicates

(B). Phyllosilicates

(C). Tectosilicates

(D). Inosilicates

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 23 / Question ID 30033 Marks: 4.00

The organic certificate of an organic farm is valid for

1. One year
2. Two year
3. Three years
4. Four year

○ 1
○ 2
○ 3
○ 4

Question No. 24 / Question ID 30106 Marks: 4.00

Organic nutrients in water bodies promote

1. Growth of the natural population of aquatic bacteria
2. BOD
3. Eutrophication
4. Growth of the natural population of aquatic bacteria, BOD and Eutrophication

○ 1 2 3 4 (Chosen
○ Option)
○
●

Question No. 25 / Question ID 30009 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Gypsum is commonly used for the reclamation of sodic soil.

Reason (R) : Reclamation process involves reduction in exchangeable sodium with calcium and its removal from soil solution through leaching.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- (●) 1 (Chosen Option)
- ( ) 2 3 4
- ( )
- ( )

Question No. 26 / Question ID 30027 Marks: 4.00

Given below are two statements:

Statement (I): Single superphosphate, double superphosphate, triple superphosphate are mono-calcium phosphate.

Statement (II): Mono calcium phosphates are water soluble and thus have high leaching losses.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ( ) 1
- ( ) 2
- ( ) 3
- ( ) 4

Question No. 27 / Question ID 30107 Marks: 4.00

Laterite soil is rich in

1. Ca
2. Fe
3. C
4. Cu

- ( ) 1 2 (Chosen
- (●) Option) 3 4
- ( )
- ( )

Question No. 28 / Question ID 30004 Marks: 4.00

The amount of organic matter in a soil with 'Value 0' according to Munsell colour system is-

1. High
2. Medium,
3. Low
4. Does not depend.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 29 / Question ID 30068 Marks: 4.00

The parameters of N use efficiency are

(A). Appaent N. recovery

(B). Agronomic efficiency

(C). Production efficiency

(D). Physiological N efficiency

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.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 30 / Question ID 30002 Marks: 4.00

Which of the following nutrient is related with deficiency symptoms like discoloration of leaf buds, breaking and dropping of buds?

1. Boron,
2. Molybdenum,
3. Iron,
4. Magnesium.

- ◉ 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 31 / Question ID 30053 Marks: 4.00

The steady-state soil infiltration rate is

1. Soil Surface controlled
2. Soil profile controlled
3. Water supply controlled
4. Ground water controlled

○ 1 2 3 (Chosen
○ Option) 4
● ○
○

Question No. 32 / Question ID 30086 Marks: 4.00

Dolomite is a source of

(A). Calcium

(B). Magnesium

(C). Iron

(D). Sulphur

Choose the ***correct*** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 33 / Question ID 30042 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A), and the other one is labeled as Reason (R).

Assertion (A): Equilibrium water content in soil at a certain matric potential is higher when the soil is under the drying process (desorption) compared to when the soil is under the wetting process (sorption).

Reason (R): The contact angle between water and the soil solid phase is greater during the imbibition of water than during drainage.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

○ 1
○ 2
○ 3
○ 4

Question No. 34 / Question ID 30076 Marks: 4.00

Elements associated with nitrogenase enzyme in biological nitrogen fixation

(A). Molybdenum

(B). Iron

(C). Copper

(D). Nickel

Choose the ***correct*** answer from the options given below:

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

- [x] 1 (Chosen Option)
- [ ] 2 3 4
- [ ]
- [ ]

Question No. 35 / Question ID 30073 Marks: 4.00

Mottle leaf of citrus is caused by the deficiency of

1. Mo
2. B
3. Zn
4. Cu

- [ ] 1 2 3 (Chosen Option) 4
- [x]
- [ ]

Question No. 36 / Question ID 30090 Marks: 4.00

Bray No. 1 is

1. 0.5M $NaHCO_3$ at pH 8.5
2. 0.5N $NaHCO_3$ at pH 8.5
3. 0.03M NH_4F + 0.025N HCl
4. 0.03N NH_4F + 0.025N HCl

- [ ] 1 2 3 4 (Chosen Option)
- [ ]
- [ ]
- [x]

Question No. 37 / Question ID 30075 Marks: 4.00

Microorganisms that oxidise ammonia to nitrite

(A). Nitrosomonas

(B). Thiobacillus

(C). Nitrobacter

(D). Nitrosolobus

Choose the ***correct*** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 38 / Question ID 30001 Marks: 4.00

According to Bray's Nutrient Mobility concept, which among following element is mobile in plants but immobile in soil?

1. Nitrogen
2. Phosphorus
3. Boron
4. Zing

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 39 / Question ID 30016 Marks: 4.00

Arrange the following in decreasing order of Basal Spacing

(A). Kaolinite

(B). Montmorillonite

(C). Illite

(D). Vermiculite

Choose the **correct** answer from the options given below:

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

- ○ 1 2 3 4 (Chosen
- ○ Option)
- ○
- ● ○

Question No. 40 / Question ID 30026 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Activity	**Plant Direction**
(A). Phototropism	(I). Bend towards soil
(B). Geotropism	(II). Response to day length
(C). Thigmotropism	(III). Bending towards light
(D). Photoperiodism	(IV). Response to touch or movement

Choose the **correct** answer from the options given below:

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

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 41 / Question ID 30105 Marks: 4.00

The term oligotrophic refers to

1. Higher nutrients in the water
2. High aquatic productivity
3. Algal blooms
4. Low nutrients and low productivity

○ 1 2 3 4 (Chosen
○ Option)
○

Question No. 42 / Question ID 30008 Marks: 4.00

Which of the following is/are the example of nitrifying bacteria?

1. Nitrosomonas
2. Nitrobacter
3. Nitrospira
4. Nitrosomonas, Nitrobacter, Nitrospira

○ 1 2 3 4 (Chosen
○ Option)
○

Question No. 43 / Question ID 30023 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Event	**Observation**
(A). Harvest Planning	(I). Determining field boundaries and property lines accurately.
(B). Soil Sampling	(II). Collecting soil samples at precise locations for analysis and management decisions.
(C). Boundary Mapping	(III). Planning optimal routes for harvesting equipment to maximize efficiency.
(D). Pest Management	(IV). Tracking pest populations and movements to inform control strategies.

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 44 / Question ID 30036 Marks: 4.00

The height of the capillary rise of water in the soil is

(A). Inversely proportional to the radius of the tube

(B). Inversely proportional to the density of water

(C). Directly proportional to the radius of the tube

(D). Inversely proportional to the surface tension of water

Choose the ***correct*** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 45 / Question ID 30039 Marks: 4.00

Given below are two statements:

Statement (I): Hue is a measure of the chromatic composition of light.

Statement (II): The Munsell colour system is based on five principal hues.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 46 / Question ID 30082 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Cations adsorbed on soil colloids determine aggregate formation

Reason (R) : Cations form electropositive links between electronegative soil particles

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A)
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A)
3. (A) is correct but (R) is not correct
4. (A) is not correct but (R) is correct

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 47 / Question ID 30056 Marks: 4.00

The pF curve is same as

1. Moisture - density relation
2. Soil temperature - water relation
3. Soil pH- base saturation relation
4. Soil water content - matric potetential relation

- ○ 1 2 3 4 (Chosen
- ○ Option)
- ○
- ○

Question No. 48 / Question ID 30011 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Implementing agroforestry practices helps in soil conservation.

Reason (R) : Agroforestry combines the cultivation of trees and crops on the same land, which reduces soil erosion by providing ground cover and enhancing soil structure through the roots of trees.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- [x] 1 (Chosen Option)
- [ ] 2 3 4
- [ ]
- [ ]

Question No. 49 / Question ID 30021 Marks: 4.00

Arrange the following factors affecting irrigation water quality in agriculture in the correct sequence:

(A). Salinity,

(B). pH

(C). Sediment content,

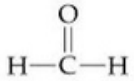
(D). Chemical contaminants.

Choose the **correct** answer from the options given below:

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

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4

Question No. 50 / Question ID 30112 Marks: 4.00



Which group is this  ?

1. Ketone
2. Carboxylic acid
3. Aldehyde
4. Amide

- [x] 1 (Chosen Option)
- [ ] 2 3 4
- [ ]
- [ ]

Question No. 51 / Question ID 30120 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Crop)	**(Water requirement (cm).)**
(A). Sugar cane	(I). 200
(B). Rice	(II).100
(C). Wheat	(III). 35
(D). Spinach leafy vegetable	(IV).15

Choose the **correct** answer from the options given below:

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

- [ ] 1 2 3 (Chosen
- [ ] Option) 4
- [ ]
- [ ]

Question No. 52 / Question ID 30109 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Different act	**Year**
(A). The Environment Protection Act	(I). 1972
(B). The Forest Conservation Act	(II). 1986
(C). The water (Prevention and Control of pollution)	(III). 1980
(D). The Wildlife Protection Act	(IV). 1974

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

- [x] 1 (Chosen Option)
- [ ] 2 3 4
- [ ]
- [ ]

Question No. 53 / Question ID 30114 Marks: 4.00

Which one of the following is an aromatic amino acid?

1. Histidine
2. Proline
3. Tyrosine
4. Lysine

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4

Question No. 54 / Question ID 30043 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Physical Parameter)	**(Unit.)**
(A). Surface tension	(I). Kilogram per cubic meter
(B). Viscosity	(II). Newton per meter
(C). Soil permeability	(III). Meter per hour
(D). Particle density	(IV). Pascal - second

Choose the **correct** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
■
○

Question No. 55 / Question ID 30104 Marks: 4.00

Dichloral urea is used as a

1. Soil herbicide for pre emergence treatment
2. Soil herbicide for post-emergence treatment
3. Soil nematicide for pre emergence treatment
4. Soil fungicide for post emergence treatment

○ 1
○ 2
○ 3
○ 4

Question No. 56 / Question ID 30117 Marks: 4.00

Mass media channels are relatively more important than interpersonal channels for

1. Laggard
2. Late Adopters
3. Early adopters
4. Early Majority

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 57 / Question ID 30029 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A) , and other one labeled as Reason (R).

Assertion (A): The break of monsoon at critical stages for soil moisture stress leads to a reduction in yield.

Reason (R): Only when the break of monsoon exceeds 15 days duration or more.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ○ 1 2 3 (Chosen
- ○ Option) 4
- ● ○
- ○

Question No. 58 / Question ID 30045 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A), and the other one labeled as Reason (R).

Assertion (A): Darc's law is valid for a steady and stationary flow process in the soil.

Reason (R): In a steady flow condition, potential and gradient at every point in the flow path remain constant.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ● 1 (Chosen Option)
- ○ 2 3 4
- ○
- ○

Question No. 59 / Question ID 30005 Marks: 4.00

The most common 1:1 type of clay mineral in soil is-

1. Montmorillonite,
2. Kaolinite,
3. Vermiculite,
4. Halloysite.

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 60 / Question ID 30067 Marks: 4.00

Stable compound formed during urea hydrolysis

1. Ammonium hydroxide
2. Ammonium crbamate
3. Ammonia
4. Ammonium carbonate

○ 1
○ 2
○ 3
○ 4

Question No. 61 / Question ID 30091 Marks: 4.00

The form of phosphorus in rock phosphate

1. $Ca(H_2PO_4)_2$
2. $CaHPO_4$
3. $Ca_3(PO_4)_2$
4. $3(Ca_3PO_4)_2.Ca(OH)_2$

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 62 / Question ID 30074 Marks: 4.00

Humic substances are composed of

(A).Phenols

(B). Quinones

(C). Carboxylic acid

(D). Fatty acid

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.

○ 1 2 (Chosen Option) 3 4
○
○

Question No. 63 / Question ID 30019 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Waterlogged soil typically displays a grayish color due to reduced oxygen levels.

Reason (R): Upland soil usually maintains a reddish or brownish hue due to its well-aerated nature.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

○ 1
○ 2
○ 3
○ 4

Question No. 64 / Question ID 30022 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Event	**Function**
(A). Thermal Imaging	(I). Monitoring crop water stress and irrigation management
(B). Radar Remote Sensing	(II). Identifying crop types and crop health
(C). Normalized Difference Vegetation Index (NDVI)	(III). Mapping soil moisture content and terrain elevation
(D). Multispectral Imaging	(IV). Detecting temperature variations in crops for stress detection.

Choose the **correct** answer from the options given below:

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

○ 1
○ 2
○ 3
○ 4

Question No. 65 / Question ID 30065 Marks: 4.00

Certified Organic logo in India is –

1. India organic
2. India green
3. India Healthy
4. India Fresh

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 66 / Question ID 30116 Marks: 4.00

Which covalent bond is present in nucleic acid?

1. Peptide bond
2. Phosphodiester bond
3. Glycosidic bond
4. Thymine bond

- ○ 1 2 (Chosen
- ● Option) 3 4
- ○
- ○

Question No. 67 / Question ID 30108 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Event	**Occurance**
(A). Carcinogenic	(I). Promoting cancer
(B). Pollution	(II). Photochemical smog
(C). Eutrophication	(III). Cell
(D). Gene	(IV). Over application of fertilizer

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

- ○ 1 2 3 (Chosen
- ○ Option) 4
- ●
- ○

Question No. 68 / Question ID 30101 Marks: 4.00

Increasing order of Water Use Efficiency.

(A). Drip Irrigation

(B). Pitcher pot Irrigation

(C). Surface Irrigation

(D). Sprinkler Irrigation

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

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

○ 1 2 3 4 (Chosen
○ Option)
○
●

Question No. 69 / Question ID 30069 Marks: 4.00

Chemical weathering involving complete disintegration or modification in structure and composition of primary minerals

1. Hydration
2. Oxidation
3. Hydrolysis
4. Carbonation

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 70 / Question ID 30031 Marks: 4.00

Certification is essential for authenticating organic products because

(A). A third-party certification agency monitoring the organic production system

(B). Organic products are produced by following NPOP guidelines

(C). Organic farmers are dedicated in cultivation practices

(D). Potentiality of marketing of organic products are increasing

Choose the ***correct*** answer from the options given below:

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

- ○ 1 2 3 (Chosen
- ○ Option) 4
- ●
- ○

Question No. 71 / Question ID 30063 Marks: 4.00

Natural Farming is associated with

1. John Howard
2. Nicholas Lampkin
3. Lord Northbourne
4. Masanobu Fukuoka

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 72 / Question ID 30024 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Method	**Determination**
(A). Kjeldahl method	(I). Primarily assesses the available phosphorus content in the soil.
(B). Bray P1 test	(II). Measures the potassium content in the soil solution.
(C). Ammonium acetate extraction	(III). Determines the total nitrogen content in the soil.
(D). Flame photometry	(IV). Quantifies the exchangeable ammonium and potassium content in the soil.

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

○ 1 2 3 4 (Chosen
○ Option)
○
● |o|

Question No. 73 / Question ID 30088 Marks: 4.00

The different pools of potassium in soils are

(A). Soil solution K

(B). Fixed K

(C). Exchangeable K

(D). Lattice K

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.

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 74 / Question ID 30050 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Theory proposed)	**Name of Theory)**
(A). Hydrodynamics	(I). Daniel Bernoulli
(B). Acoustics	(II). Johannes Kepler
(C). Mechanics	(III). Hermann Von Helmholtz
(D). Aerodynamics	(IV). Ludwig Prandtl

Choose the **correct** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
● ○
○

Question No. 75 / Question ID 30055 Marks: 4.00

The process by which neutrons lose their kinetic energy through elastic collisions in the soil is known as

1. Normalization
2. Cooling
3. Radiation
4. Thermalization

○ 1 2 3 4 (Chosen
○ Option)
○
● ○

Question No. 76 / Question ID 30070 Marks: 4.00

Given below are two statements:

Statement (I): Nitrobacteria are obligate autotrophic aerobes

Statement (II): Nitrate will not be produced from NH_4^+ in the absence of oxygen

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are correct
2. Both Statement (I) and Statement (II) are incorrect
3. Statement (I) is correct but Statement (II) is incorrect
4. Statement (I) is incorrect but Statement (II) is correct

1 (Chosen Option)
2 3 4

Question No. 77 / Question ID 30010 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Ammonium-based fertilisers are the major contributors to soil acidification.

Reason (R): Especially the non-leachable nitrogen ions which have been taken up by plants contribute to the soil acidity

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

1 (Chosen Option)
2 3 4

Question No. 78 / Question ID 30079 Marks: 4.00

Parent material transported by wind is called

1. Aeolian
2. Colluvium
3. Loess
4. Alluvium

1 (Chosen Option)
2 3 4

Question No. 79 / Question ID 30030 Marks: 4.00

Nutrient supply in organic farming is based on feeding the soil not feeding the crop -Justify

(A). In organic management nutrient sources are mostly on-farm produced and naturally occurred not off-farm external inputs

(B). Soil fertility is maintained by a variety of means like crop rotation, organic mulching, cover crop, etc.

(C). Recycling and reuse of products and by-products of different components of an organic farm

(D). Nutrients enrichment of soil by encouraging natural cycles and soil biological activity

Choose the ***correct*** answer from the options given below:

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

- 1 2 3 (Chosen
- Option) 4
-
-

Question No. 80 / Question ID 30047 Marks: 4.00

Given below are two statements:

Statement (I): Application of nitrogenous fertilizer leads to N_2O emission from the soil

Statement (II): Nitrous oxide is present in large quantities compared to methane in the atmosphere and therefore processes higher potent danger.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- 1 2 3 (Chosen
- Option) 4
-
-

Question No. 81 / Question ID 30062 Marks: 4.00

The term 'Organic farming ' was first coined by

1. Lord Northbourne
2. Bill Mollison
3. Rudolf Stainer
4. Masanobu Fukuoka

- 1
- 2
- 3
- 4

Question No. 82 / Question ID 30061 Marks: 4.00

Given below are two statements:

Statement (I): The capacitance method measures soil moisture content by analyzing changes in electrical capacitance, offering precise numerical readings due to its direct correlation with moisture levels.

Statement (II): The finger-licking method estimates soil moisture content based on tactile sensations, yielding subjective numerical values prone to individual interpretation biases.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 83 / Question ID 30017 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
List I (Parent rock)	List II (Metamorphic rock)
(A). Conglomerate	(I). Graphite
(B). Slate	(II). Phyllite
(C). Coal	(III). Gneiss
(D). Sandstone	(IV). Quarzite

Choose the **correct** answer from the options given below:

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

- ○ 1 2 (Chosen
- Option) 3 4
-
-

Question No. 84 / Question ID 30034 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Organic farming promotes environmental sustainability

Reason (R): Organic farming avoids the use of synthetic pesticides and fertilizers, which helps preserve soil health, conserve water resources, and reduce pollution of air and water bodies.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- [x] 1 (Chosen Option)
- [ ] 2 3 4
- [ ]
- [ ]

Question No. 85 / Question ID 30098 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Year)	**(Milestone)**
(A). 1952	(I). Agricultural Technology Management Agency (ATMA)
(B). 1964	(II). Community Development Program
(C). 1998	(III). Intensive Agricultural District Program
(D). 1960	(IV). Intensive Agricultural Area Program

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

- [ ] 1
- [ ] 2
- [ ] 3

○ 4

Question No. 86 / Question ID 30032 Marks: 4.00

Conversion period of an organic farm is generally (for perinnial crop)

1. One year
2. Two year
3. Three year
4. Four year

○ 1
○ 2
○ 3
○ 4

Question No. 87 / Question ID 30072 Marks: 4.00

Bone meal is a source of

(A). Ca

(B). N

(C). P

(D). Mo

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.

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 88 / Question ID 30111 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Name of Gas	**Chemical Formula**
(A). Methane	(I). C_3H_8
(B). Ethane	(II). CH_4
(C). Propane	(III). C_4H_{10}
(D). Butane	(IV).C_2H_6

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 89 / Question ID 30087 Marks: 4.00

K fixing power of clay minerals follow the order

(A). Illite

(B). Montmorillonite

(C). Kaolonite

(D). Vermiculite

Choose the **correct** answer from the options given below:

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

○ 1
○ 2
○ 3
○ 4

Question No. 90 / Question ID 30093 Marks: 4.00

Release of iron from primary minerals and their dispersal as coatings on soil particles to impart brown to red colour to soil particles

(A).Braunification

(B).Ferruginisation

(C).Rubification

(D). Laterisation

Choose the ***correct*** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 91 / Question ID 30084 Marks: 4.00

Trace elements that show affinity for sulphide minerals are called

1. Siderophile
2. Chalcophile
3. Lithophile
4. Hydrophile

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 92 / Question ID 30095 Marks: 4.00

Mixing of soil matrix within a pedon resulting in irregular or broken horizons over permafrost

1. Eluviation
2. Pedoturbation
3. Illuviation
4. Cryoturbation

○ 1 2 3 4 (Chosen
○ Option)
○
● |○|

Question No. 93 / Question ID 30081 Marks: 4.00

Given below are two statements:

Statement (I): 2:1 layer silicates consist of two tetrahedral sheets bound to either side of an octahedral sheet

Statement (II): Two tetrahedral sheets of 2:1 layer silicates is bound to one side of an octahedral sheet in 2:1 layer silicates

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

○ 1 2 3 (Chosen
○ Option) 4
● |○|
○

Question No. 94 / Question ID 30038 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A), and the other one labeled as Reason (R).

Assertion (A): Organic mulch conserves soil moisture.

Reason (R): Organic mulches cut off solar radiation falling on the soil surface and reduce evaporation.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

● 1 (Chosen Option)
○ 2 3 4
○
○

Question No. 95 / Question ID 30028 Marks: 4.00

When rainfall is inadequate to meet the evapotranspiration losses, usually occurs in Humid Regions.

(A). Invisible drought

(B). Contingent drought

(C). Meteorological drought

(D). Permanent drought

Choose the ***correct*** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
● ○
○

Question No. 96 / Question ID 30057 Marks: 4.00

In the International Union of Soil Science classification system, fine sand has a size range of

1. 0.2 - 2.0 mm
2. 0.02 - 0.2 mm
3. 0.002 - 0.02 mm
4. <0.002 mm

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 97 / Question ID 30110 Marks: 4.00

Ecological races are also know as

1. Ecards
2. Ecotone
3. Ecophens
4. Ecotypes

○ 1 2 3 4 (Chosen
○ Option)
○
●

Question No. 98 / Question ID 30018 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
List I (Soil Order)	List II (Characteristics)
(A). Ultisols	(I). Deep soils with high organic matter content and more than 50% base saturation.
(B). Vertisols	(II). clay-rich soils with swelling shrinkage properties according to soil moisture content.
(C). Mollisols	(III). base saturation <35% with argillic or kandic horizon.
(D). Alfisols	(IV). soils that have argillic, kandic, or nitric horizon and a base saturation of 35% or greater with ochric epipedon, but may have an umbric epipedon.

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 99 / Question ID 30115 Marks: 4.00

Which sugar is present in DNA?

1. Ribose
2. Arabinose
3. Deoxyribose
4. Glucose

○ 1 2 3 (Chosen
○ Option) 4
○

Question No. 100 / Question ID 30044 Marks: 4.00

The soil hydraulic head is expressed by

(A). Potential energy per unit mass of soil water.

(B). Potential energy per unit volume of soil water.

(C). Potential energy per unit weight of soil water.

(D). Height of standing water on the soil surface.

Choose the ***correct*** answer from the options given below:

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

○ 1 2 3 4 (Chosen
○ Option)
○
● ○

Question No. 101 / Question ID 30035 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Cover cropping is a common practice in organic farming systems.

Reason (R) : Cover crops help to improve soil health, suppress weeds, and enhance biodiversity, aligning with the principles of organic agriculture

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

○ 1 2 3 (Chosen
○ Option) 4
● ○
○

Question No. 102 / Question ID 30064 Marks: 4.00

Father of Modern Organic Agriculture is

1. John Howard
2. Nicholas Lampkin
3. Lord Northbourne
4. Masanobu Fukuoka

○ 1
○ 2
○ 3
○ 4

Question No. 103 / Question ID 30113 Marks: 4.00

Which one the following is not a monosaccharide?

1. Glucose
2. Fructose
3. Rhamnose
4. Maltose

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 104 / Question ID 30083 Marks: 4.00

The charactristic of Saline-Alkali sail are

1. pH > 8.5, EC> 4 dSm^{-1}, ESP >15
2. pH >8.5, ESP <15, EC >4 dSm^{-1}
3. pH <8.5, ESP>15, EC <4 dSm^{-1}
4. pH > 8.5, ESP >15, EC <4 dSm^{-1}

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 105 / Question ID 30041 Marks: 4.00

Which of the following statement (s) is/are true for tensiometer?

(A). It measures soil water potential.

(B). It is simple in operation and very useful for scheduling irrigation.

(C). It can also be used for measuring soil water flux.

(D). Although limited to < 1 bar matric potential, this range can be increased by increasing the permeability of its porous cup.

Choose the ***correct*** answer from the options given below:

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

○ 1 2 (Chosen
◉ Option) 3 4
○
○

Question No. 106 / Question ID 30066 Marks: 4.00

The most dominant exchangeable cation in the earth's crust

1. Aluminium
2. Calcium
3. Sodium
4. Magnesium

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 107 / Question ID 30007 Marks: 4.00

Who first observed that legumes can utilize atmospheric nitrogen?

1. M. W. Beijerinck
2. J. B. Boussingault
3. A. I. Virtanen
4. G. S. Sekhon

● 1 (Chosen Option)
○ 2 3 4
○
○

Question No. 108 / Question ID 30085 Marks: 4.00

Element associated with urease activity

1. Ni
2. Mo
3. Fe
4. Co

● 1 (Chosen Option)
○ 2 3 4
○
○

Question No. 109 / Question ID 30015 Marks: 4.00

Arrange the following in increasing the amount of nitrogen in the fertilizers

(A). Ammonium sulphate,

(B). Ammonium nitrate,

(C). Ammonium chloride,

(D). Calcium ammonium nitrate.

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 110 / Question ID 30060 Marks: 4.00

Given below are two statements:

Statement (I): Acid sulfate soils can release harmful concentrations of heavy metals such as aluminum, iron, and manganese into the environment under acidic conditions.

Statement (II): Acid sulfate soils are typically characterized by their high organic matter content, which contributes to their fertility and ability to support diverse plant life.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

○ 1
○ 2
○ 3
○ 4

Question No. 111 / Question ID 30012 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Manganese deficiency in plants primarily affects the photosynthetic process.

Reason (R) : Manganese is a cofactor for several enzymes involved in the photosynthetic electron transport chain, facilitating electron transfer reactions within chloroplasts.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

● 1 (Chosen Option)
○ 2 3 4
○
○

Question No. 112 / Question ID 30097 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Element	**Occurance**
(A) Chloride	(I) Little leaf disease
(B). Zinc	(II). Regeneration of PEP
(C). Sodium	(III). Splitting of water
(D). Manganese	(IV). Nitrogen metabolism
(E). Molybdenum	(V). Interveinal chlorosis

Choose the **correct** answer from the options given below:

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

○ 1 2 (Chosen
● Option) 3 4
○
○

Question No. 113 / Question ID 30077 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Liming should not be done along with ammoniacal fertilizer applicaton

Reason (R) : Liming leads to volatilisation loss of ammonia

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 114 / Question ID 30025 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Type of pollution	**Effect**
(A). Point source pollution	(I). Pollution that originates from a specific, identifiable source, such as a factory or sewage treatment plant.
(B). Non-point source pollution	(II). Pollution that comes from diffuse sources, such as agricultural runoff or urban stormwater.
(C). Groundwater pollution	(III). Contamination of underground water sources, often caused by industrial spills or improper waste disposal.
(D). Surface water pollution	(IV). Pollution of lakes, rivers, and oceans due to various human activities such as industrial discharge, agricultural runoff, and sewage overflow.

Choose the **correct** answer from the options given below:

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

○ 1 2 3 (Chosen
○ Option) 4
●
○

Question No. 115 / Question ID 30078 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Free silica occurs in soil s quartz and opal

Reason (R) : Quartz consists of a continuous framework of silica tetrahedra

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

● 1 (Chosen Option)
○ 2 3 4
○
○

Question No. 116 / Question ID 30119 Marks: 4.00

A personnel who because of special interest and fitness is selected to serve as a leader in advancing some phase of local extension programme is called

1. Project leader
2. Cooperator
3. Administrator
4. Community leader

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 117 / Question ID 30013 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Intense weathering of soil shifts its Zero Point Charge towards higher pH owing to greater accumulation of iron and aluminium oxides

Reason (R): The application of organic matter in soil also pushes the soil Zero Point Charge towards higher pH.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 118 / Question ID 30049 Marks: 4.00

Followingarefourstagesofgullydevelopment.Arrangetheseinorder.

(A).Healingstage

(B).Developmentstage

(C).Stabilizationstage

(D).Formationstage

Choosethecorrectanswerfromtheoptionsgivenbelow:

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

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

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

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

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 119 / Question ID 30058 Marks: 4.00

Water erosion follows the sequence

(A). Ravine

(B). Sheet

(C). Splash

(D). Rill

(E). Gully

Choose the **correct** answer from the options given below:

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

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 120 / Question ID 30092 Marks: 4.00

Laterisation inolves the following

1. Removal of Fe and al complexed with humus from upper to lower horizon
2. Removal of silica from soil
3. Removal of silica and accumulation of sesquioxides in soil
4. Accumulation of sesquioxides in soil

- ○ 1
- ○ 2
- ○ 3
- ○ 4

NATIONAL TESTING AGENCY

Indian Council of Agricultural Research (ICAR) - PG

Final Answer Key

Exam Date: 29-06-2024 Exam Timing: 10:00 to 12:00

Subject: PHYSICAL SCIENCE

Question ID	Correct Option ID	Question ID	Correct Option ID	Question ID	Correct Option ID
30001	2	30041	1	30081	3
30002	1	30042	1	30082	1
30003	2	30043	3	30083	1
30004	1	30044	4	30084	2
30005	2	30045	1	30085	1
30006	1	30046	4	30086	2
30007	2	30047	3	30087	2
30008	4	30048	1	30088	3
30009	1	30049	2	30089	4
30010	3	30050	4	30090	4
30011	1	30051	2	30091	3
30012	1	30052	1	30092	3
30013	3	30053	2	30093	3
30014	2	30054	1	30094	3
30015	4	30055	4	30095	4
30016	4	30056	4	30096	4
30017	2	30057	2	30097	2
30018	2	30058	2	30098	4
30019	3	30059	3	30099	4
30020	1	30060	3	30100	3
30021	2	30061	3	30101	4
30022	3	30062	1	30102	1
30023	2	30063	4	30103	3
30024	4	30064	1	30104	1
30025	3	30065	1	30105	4
30026	1	30066	1	30106	4
30027	3	30067	3	30107	2
30028	1	30068	3	30108	3
30029	1	30069	3	30109	1
30030	3	30070	1	30110	4
30031	3	30071	2	30111	2
30032	3	30072	2	30112	3
30033	1	30073	3	30113	4
30034	1	30074	3	30114	3
30035	1	30075	2	30115	3
30036	3	30076	2	30116	2
30037	3	30077	1	30117	4
30038	1	30078	2	30118	1
30039	1	30079	1	30119	1
30040	1	30080	2	30120	1