ICAR AIEEA PG

QUESTION PAPER



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PREVIEW QUESTION BANK

Module Name : PHYSICAL SCIENCE-ENG
Exam Date : 09-Jul-2023 Batch : 10:00-12:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	501	Water use efficiency in increasing order (A) Surface Irrigation (B) Sprinkler Irrigation (C) Drip Irrigation (D) Pitcher pot Irrigation Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D). 2. (D), (C), (A), (B). 3. (B), (A), (D), (C). 4. (C), (B), (D), (A). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	502		4.0	1.00

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

List-I (Nature of reaction)	List-II (Nature of the process)
(A) Reduction of iron in waterlogged soil	(I) Argillation
(B) Leaching of dispersed particles	(II) Podsolisation
(C) Intermixing of soil horizon	(III) Gleisation
(D) Eluviation of oxides of Fe, Al & Humus	(IV) Pedoturbation

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

3 503 4.0 1.00

Given below are two statements :

Statement (I) : Saline soil has the characteristics of EC > 4 ds/m, ESP > 15, and pH < 8.5

Statement (II) : Alkaline soils have the characteristics of EC > 4 ds/m, ESP < 15, and pH > 8.5

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.

A1 : 1

A2 : 2

		A3 : 3 A4 : 4		
Objective Question				
4	504	What will be the soil texture if it contains 60% clay, 20% silt, and 20% sand particles ? 1. Sandy clay 2. Clayey 3. Silty loam 4. Loamy sand A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
5	505	The ionic product of water at ordinary temperature (25°C) is a constant value of : 1. 10^{-4} 2. 10^{-7} 3. 10^{-8} 4. 10^{-14} A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
6	506		4.0	1.00

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

List-I (Method)	List-II (Estimation)
(A) Kjeldahl method	(I) Estimation of Soil moisture
(B) Walkley & Black method	(II) Estimation of Sedimentation of soil particals
(C) Hydrometer method	(III) Estimation of Organic Carbon
(D) Gravimetric method	(IV) Estimation of Nitrogen

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

7 | 507 | 4.0 | 1.00

Identify the copper-containing minerals.

(A) Covellite

(B) Azurite

(C) Powellite

(D) Limonite

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 508

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

Assertion (A) : The organochlorine pesticides accumulate in the fatty tissues in the human body.

Reason (R) : Organochlorine pesticides are chemically unstable and hydrophobic.

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 and **(R)** is not correct explanation of **(A)**.
3. **(A)** is correct but **(R)** is not correct.
4. **(A)** is not correct but **(R)** is correct.

4.0 1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9 509

Which of the following method likely to be used where the water supply is limited and the market value of the crop is high ?

1. Sprinkler irrigation
2. Drip irrigation
3. Furrow irrigation
4. Surface irrigation

4.0 1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
10	510	Plantation of high water - consuming for withdrawal of ground water is term as : 1. Surface drainage 2. Bio drainage 3. Sub surface drainage 4. Mole drainage A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
11	511	The word soil has been derived from. 1. French 2. Latin 3. Greek 4. Arabic A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
12	512		4.0	1.00

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

List-I (Name of Scientist)	List-II (Discovered)
(A) James Wilson	(I) Nitrogen-fixing bacteria
(B) Winogradsky	(II) Host plant resistance
(C) R.H. Painter	(III) Hybrid wheat
(D) S.S. Bains	(IV) Relay cropping

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

13 513

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

4.0 1.00

List-I (Name of Author)	List-II (Name of Book)
(A) Rachel Carson	(I) Elements of Agricultural Chemistry
(B) Humphrey Davy	(II) Natures of plant
(C) Theophrastus	(III) Soil Genesis and classification
(D) S. Buol	(IV) Silent Spring

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

14	514	The science that deals with soil genesis and classification is called as : 1. Petrology 2. Pedology 3. Pedagology 4. Petrography	4.0	1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15	515	Diseases occurring due to Ca deficiency are (A) Hollow heart in Groundnut (B) Frenching of Citrus (C) Pod popping in Groundnut (D) Pillowing of Cucumber Choose the ***correct*** answer from the options given below : 1. Only (A) and (B) 2. Only (B) and (C) 3. Only (A) and (D) 4. Only (C) and (D)	4.0	1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 | 516 | 4.0 | 1.00

Which are the fundamental soil-forming process ?

(A) Eluviation

(B) Illuviation

(C) Laterization

(D) Humification

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17 | 517 | 4.0 | 1.00

Suppose roots, straw, and grains of a wheat crop produce dry matter of 2.5 t/ha, 6 t/ha, and 4 t/ha containing 0.2%, 0.5%, and 1.5% N, respectively. How much total N uptake by the above-ground portion ?

1. 30 kg/ha
2. 60 kg/ha
3. 90 kg/ha
4. 120 kg/ha

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

18 | 518 | 4.0 | 1.00

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

List-I	**List-II**
Instrument	**Used for Measurement of**
(A) Liquid Limit Device	(I) Wind speed
(B) Pycnometer	(II) Soil Plasticity
(C) Beufort scale	(III) Depth of water table
(D) Piezometer	(IV) Specific Gravity of soil

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

19 | 519 | 4.0 | 1.00

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

Assertion (A) : *Bacillus megaterium* is an efficient P-solubilizing bacteria.

Reason (R) : *Bacillus megaterium* produces different organic acids for dissolution.

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.

A1 : 1

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
20	520	Given below are two statements, one is labeled as **Assertion (A)**, and the other one is labeled as **Reason (R)**. **Assertion (A) :** Humic acids are more resistant than fulvic acid. **Reason (R) :** Humic acids have low molecular weight and simple structure than fulvic acids. 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. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
21	521		4.0	1.00

Which of the following theories are associated with humus formation ?

(A) Polyphenol theory

(B) Linin-protein theory

(C) Chemiosmosis theory

(D) Sugar-amine condensation theory

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

22	522	The Strategic Research Extension Plan (SREP) is related with 1. National Institute of Agriculture Extension Management (MANAGE). 2. Agriculture Technology Information Centre (ATIC). 3. Agriculture Technology Management Agency (ATMA). 4. National Bank for Agricultural & Rural Development (MABARD). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

23	523		4.0	1.00

The characteristics of the Plinthite horizon are

(A) It is rich in humus

(B) It is rich in sesquioxide

(C) Presence of yellowish or greyish mottles

(D) Hardens reversibly due to repeated wetting and drying

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 524

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

List-I	**List-II**
(Land Capability Classes)	**(Colour)**
(A) Class II	(I) Green
(B) Class IV	(II) Yellow
(C) Class III	(III) Brown
(D) Class I	(IV) Pink

4.0 1.00

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 525 4.0 1.00

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

List-I (Soil Moisture Regime)	List-II (Mean Annual Soil Temperature)
(A) MESIC	(I) 15°C to < 22°C
(B) THERMIC	(II) 8°C to < 15°C
(C) HYPERTHERMIC	(III) 28°C or more
(D) MEGHATHERMIC	(IV) 22°C to < 28°C

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26 526 4.0 1.00

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

Assertion (A) : Universal Soil Loss Equation A= RKLSCP

Reason (R) : Universal soil loss equation determination for the reduction of soil erosion to tolerable limits necessitates the adoption of properly planned cropping practices and soil conservation measures.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

27 527 4.0 1.00

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

List-I	List-II
(A) Land use	(I) Cover crop
(B) C : N ratio	(II) Hilly areas
(C) Landslide	(III) Mineralization and immobilization
(D) Soil and water conservation	(IV) Soil capability classification

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

28 528 4.0 1.00

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

List-I (Parameter)	List-II (Unit)
(A) Relative Humidity	(I) Okta
(B) Temperature	(II) km/hr
(C) Wind Speed	(III) °C
(D) Cloud Cover	(IV) %

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 529 4.0 1.00

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

Assertion (A) : Water requirement for wheat crops varies from 300 to 600 mm.

Reason (R) : Water requirement varies depending on the soil type and rainfall and variety.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

30 530

(i) Very dark, cracking clay-dominated soils; (ii) locally called regur, karail, and bhal; (iii) high clay varying from 30-60%, base-rich; (iv) occur in Maharastra, Madhya Pradesh., Gujarat, Rajasthan, Chhattisgarh and some parts of Karnataka and T.N. ..... is called

(A) Black Soils

(B) Alluvial Soils

(C) Red Soils

(D) Laterite and Lateritic Soils

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

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

A1 : 1

4.0 1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

31 | 531 | 4.0 | 1.00

Objective of GIS

(A) Maximizing the efficiency of planning and decision-making.

(B) Providing efficient means for data distribution and handling.

(C) Elimination of redundant database - minimize duplication.

(D) Capacity to integrate information from many sources.

Choose the ***most 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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32 | 532 | 4.0 | 1.00

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

Assertion (A) : The notation of Munsell colour chart is 2.5YR5/6.

Reason (R) : Because hue is 2.5 YR, value is 5 and chroma is 6

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.

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
33	533	Soil Water Content increasing order (A) field capacity (B) Oven dry (C) Hygroscopic (D) Permanent wilting Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D). 2. (B), (C), (D), (A). 3. (B), (A), (D), (C). 4. (C), (B), (D), (A). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
34	534		4.0	1.00

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

List-I (Institutes)	List-II (Headquarts)
(A) I I S S	(I) Hyderabad
(B) I I H R	(II) Bangalore
(C) C R I D A	(III) Jodhpur
(D) C A Z R I	(IV) Bhopal

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

35 | 535 | 4.0 | 1.00

The characteristics of Imogolite are

(A) They are found in Andisol

(B) They have low bulk density and high plasticity

(C) They have a high Potassium fixation capacity

(D) They are paracrystalline in nature

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

36	536	A soil 80 cm deep has a volume water content = 0.12. Find out the quantity of water that must be added to bring the volume water content to 0.30. 1. 9.6 2. 24.0 3. 14.4 4. 18.4 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

37	537	When structure of two soils is compared, it will be better in that soil whose cumulative mean weight diameter (CMWD) is : 1. unity 2. zero 3. lower 4. higher A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

38	538		4.0	1.00

Unit of Mixing Ratio is

1. %
2. kg/m^3
3. kg/kg
4. m^3/m^3

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

39 539 4.0 1.00

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

List-I (Soil parameters)	List-II (Measurement)
(A) Bulk Density	(I) Cl^{36}
(B) Soil water content	(II) C^{13}
(C) Seepage	(III) H^2
(D) Soil salinity	(IV) Am – Be
(E) Soil aggregation	(V) Cs^{137}

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40 540 4.0 1.00

		What is the average life of a radioactive element whose half-life of 30 days ? 1. 60.03 2. 15.21 3. 20.79 4. 43.29 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
41	541	Which of the following is a representation of vector map ? (a) Point, (b) Pixel, (c) Polygon 1. (a) only 2. (b) only 3. (a) and (b) only 4. (a) and (c) only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
42	542		4.0	1.00

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

List-I (Element)	List-II (Electronic Configuration)
(A) Mg	(I) 2, 1
(B) Na	(II) 2, 8, 7
(C) Li	(III) 2, 8, 1
(D) Cl	(IV) 2, 8, 2

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43	543	Water has Maximum density at temperature 1. $273\ ^0K$ 2. $277\ ^0K$ 3. $289\ ^0K$ 4. $298\ ^0K$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

44	544		4.0	1.00

		Normalized Difference Vegetation Index to monitor crop health is determined from 1. Reflectance of red band 2. Reflectance of blue and red band 3. Reflectance of shortwave and red band 4. Reflectance of near-infrared and red band A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
45	545	Vertical movement of air and heat from earth surface to the atmosphere is 1. Convection 2. Conduction 3. Advection 4. Sublimation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
46	546	Training dataset is used to identify desired features in remote sensed images in 1. Supervised classification method 2. Self-learning image analysis method 3. Classification using manually 4. Un-supervised classification method A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
47	547	The equation governing flow of water in saturated soil is 1. Poiseuille's equation 2. Bernoulli equation 3. Darcy's equation 4. Navier-Stokes equation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
48	548	The capillary rise in soil (h, cm) with average pore radius (r, cm) is related as 1. hr= 0.15 2. hr= 1.5 3. hr= 0.30 4. hr= 3.0 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
49	549	The value of tortuosity in soil is 1. 0 2. <1 3. >1 4. 1 A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

50 550 4.0 1.00

The term "Infiltrability" is coined by

1. Robert E. Horton
2. Daniel Hillel
3. J.R. Philip
4. Green, W. H., and G. A. Ampt

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

51 551 4.0 1.00

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
(E)	Soil water potential	(V)	Pascal-second

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52 552 4.0 1.00

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

53 553 4.0 1.00

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

Assertion (A) : Soil clay has maximum influence on soil behavior.

Reason (R) : Clay has greater surface area per unit mass and is most physicochemical active.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

54	554	Arrange the following soil texture with decreasing field capacity water content. (A) Sandy loam (B) Sandy (C) Silty loam (D) Clay (E) Clay loam Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D), (E) 2. (A), (C), (D), (E), (B) 3. (B), (A), (C), (E), (D). 4. (D), (E), (C), (A), (B) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

55	555		4.0	1.00

Given below are two statements :

Statement (I) : Alluvial soils are the largest group of soils in India.

Statement (II) : Alluvial soils are rich in nitrogen but deficient in potassium.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

56	556		4.0	1.00

Given below are two statements :

Statement (I) : At field capacity matric potential, the soil water content is higher when dry soil is getting wet.

Statement (II) : The drying of soil depends on the narrow radii of the connecting channels, whereas the wetting process depensds on large pore diameters.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

57	557	Microwave remote sensing is useful in monitoring (A) Soil moisture (B) Canopy structure (C) Snow cover (D) Moisture profiling in the atmosphere (E) Ocean circultion Choose the ***correct*** answer from the options given below : 1. (A), (B) and (D) only. 2. (B), (C) and (D) only. 3. (A), (B), (C) and (D) only. 4. (A), (B), (C) and (D) and (E). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
58	558		4.0	1.00

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

List-I (Book etc.)	List-II (Author, etc.)
(A) Soil Physics	(I) Sehgal
(B) A Text Book on Pedology	(II) Bahl and Bahl
(C) A Text Book on Organic Chemistry	(III) Chakraborty and Sahoo
(D) Fundamentals of Geographic Information System	(IV) Ghildyal and Tripathi

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

59 559

Arrange the following minerals in terms of increasing stability

(A) Biotitie

(B) Quartz

(C) Hornblende

(D) Muscovite

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

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

4.0 1.00

A1 : 1

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
60	560	Arrange the following atmospheric gases in terms of increasing global warming potential (A) CH_4 (B) N_2O (C) CO_2 (D) SF_6 Choose the ***correct*** answer from the options given below : 1. (C), (A), (B), (D). 2. (B), (A), (C), (D). 3. (A), (B), (D), (C). 4. (C), (B), (D), (A). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
61	561		4.0	1.00

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

Assertion (A) : The sky is blue due to scattering of sunlight.

Reason (R) : The sky reflects the sea and ocean, which are blue.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

62 562

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

Assertion (A) : Raster data is obtained from satellite images, aerial cameras, and scanned maps.

Reason (R) : Georeferencing allows you to viewed, query, and analyze raster data with other geographic data.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

63 | 563 | 4.0 | 1.00

Sequence the steps for georeferencing a map in QGIS

(A) Select transformation type

(B) Open the image to be georeferenced

(C) Open the map that you want to georeference

(D) Find ground control points

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64 | 564 | 4.0 | 1.00

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

Assertion (A) : Primary objective of summer ploughing is opening of the soil crust and turn the soil underneath

Reason (R) : It facilitates to sow the crops immediately after onset of monsoon

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.

A1 : 1

A2 : 2

		A3 : 3 A4 : 4		
Objective Question				
65	565	Given below are two statements, one is labelled as **Assertion (A)** and other one labelled as **Reason (R)**. **Assertion (A) :** Sentinel satellite mission is one of the European Space Agency's next-generation earth-observation missions. **Reason (R) :** There are six Sentinel satellites which provide free data to the user. In light of the above statements, choose the ***most appropriate*** 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 correct but **(R)** is not correct. 4. **(A)** is not correct but **(R)** is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
66	566		4.0	1.00

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

List-I (Characteristic)	List-II (Terminology)
(A) Si^{4+} is replaced by Al^{3+} ions	(I) Ionic double layer
(B) Attachment of Ca^{2+} on clay surface	(II) pH dependent charge
(C) Na^{+} replacing other cations on clay surface	(III) Dispersion of clay
(D) H dissociated from hydroxyl ions on clay surface	(IV) Isomorphous substitution

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

67 567

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

Assertion (A) : Crop residue on soil surface in conservation tillage systems can decrease the rate of soil temperature change.

Reason (R) : Surface residue increases the reflection of incident solar radiation.

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.

A1 : 1

4.0 1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
68	568	Arrange the following space mission (earlier to most recent) (A) Radar Imaging Satellite-1 (B) Chandrayan-2 (C) Mars orbital mission (D) Indian National Satellite-1A Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D). 2. (D), (C), (B), (A). 3. (B), (A), (D), (C). 4. (D), (A), (C), (B). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
69	569		4.0	1.00

Order the following electromagnetic radiation in terms of their decreasing energy level

(A) Infrared rays

(B) Gamma rays

(C) Visible rays

(D) Radio waves

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70	570	Remote sensing of vegetation characteristics is obtained by using (A) UV rays (B) Visible light (C) Microwave (D) Infrared rays 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. A1 : 1 A2 : 2	4.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
71	571	_____ is the determination of one or few constituents from the sample. 1. Partial analysis 2. Completer analysis 3. Proximate 4. ultimate A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
72	572	The pH range at which the desirable colour change occurs for a particular indicator is _____. 1. pH 2. pF 3. Rh 4. pT A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
73	573	Equivalent weight of a salt depends on _____. 1. No. of equivalent weight of an acid that combine into salt 2. Basicity 3. Acidity 4. Weight of oxygen	4.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
74	574	Error in measurement caused by factors which vary with measurements is _____. 1. Crude error 2. Reagent error 3. Random error 4. Operational error A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
75	575	Which of the following is true ? 1. Uptake of Mo by plant reduces with S application 2. Boron toxicity decreases with decreasing concentration of calcium 3. Iron plays a synergistic role in relation to zinc 4. High copper in soil cause dieback in citrus A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
76	576		4.0	1.00

		Active absorption is governed by _____ theory. 1. Diffusion 2. Mass flow 3. Lecithin 4. Donnan equilibrium A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
77	577	Mass of sample in picogram method is _____ gram. 1. 1-10 2. $<10^{-12}$ 3. 10^{-6}-0.001 4. 0.05-0.5g A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
78	578		4.0	1.00

Phosphorus is immobile in soil because

(A) phosphate ions are held by anion exchange

(B) Phosphate ions are held by ligand exchange

(C) Phosphate ions are adsorbed as sparing soluble phosphates of Fe/Al.Ca

(D) Phosphate ions are leached as completely soluble phosphates of Fe/Al.Ca

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

79	579	Given below are two statements, one is labelled as **Assertion (A)** and other one labelled as **Reason (R)**. **Assertion (A) :** Surface tension of water is very high (72.7dynes/cm) compared to other liquids. **Reason (R) :** High attraction of water molecules for each other is because of H bond. 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. A1 : 1 A2 : 2	4.0	1.00

A3 : 3

A4 : 4

Objective Question

80 580 4.0 1.00

When the original value of N in urea is 46% and the estimated value is 45.5 %,then the relative error is _____%.

1. 0.5
2. 1.068
3. 0.005
4. 0.1068

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81 581 4.0 1.00

Point out the mobile nutrients in soil

(A) Cu^{2+} ,NO_3^- , Fe^{2+}, $H_3BO_3^-$

(B) NO_3^- , Cl^-, $H_2PO_4^-$, MoO_4^{2-}

(C) NO_3^- , Cl^-, $H_3BO_3^-$

(D) NO_3^- , Cl^-, $H_3BO_3^-$,NH_4^+

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

82	582	Arrange the minerals based on the descending order of weatherability (A) Biotite>Augite>Garnet >Quartz (B) Zircon>Tourmaline>Olivine> Muscovite (C) Albite>Ilmenite>Hornblende>Olivine (D) Anorthite> apatite>Zircon>Titanite Choose the ***correct*** answer from the options given below : 1. Only (A) 2. (A) and (B) 3. (A), (B) and (C) 4. (A), (B), (C) and (D) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

83	583	Quantity of Na_2CO_3 required to prepare 500 ml of 0.1N Na_2CO_3 is _____. 1. 2.65 2. 0.265 3. 26.5 4. 0.00265 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

84	584		4.0	1.00

Estimating the colored complex with chelating agent is _____.

1. Preciptometry
2. Complexometry
3. Argentometry
4. Thiocyanometry

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

85 585 4.0 1.00

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

List-I (Theory proposed)	List-II (Author)
(A) Father of fertilizer Chemistry	(I) Jackson
(B) Nutrient index	(II) Stanley A Barber
(C) Root interception	(III) Liebig
(D) Weathering index	(IV) Parker

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

86 586 4.0 1.00

Arrange the soil particles in the ascending order of its diameter (mm)

(A) silt

(B) clay

(C) fine sand

(D) coarse sand

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

87 587

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

List-I (Theory proposed)	**List-II (Author/formula)**
(A) Textural triangle	(I) Sorenson
(B) Ideal gas	(II) Schofield
(C) pH	(III) Whitney
(D) pF	(IV) PV=nRT

4.0 1.00

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)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88 588

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

List-I (Theory proposed)	**List-II (Author)**
(A) Contact exchange	(I) Bray
(B) Air capacity of soil	(II) Jenny and Overstreet
(C) Mobility of nutrients	(III) Mitscherlich
(D) Growth factor and yield	(IV) Khonke

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

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

4.0 1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

89 589

4.0 1.00

Arrange the minerals in the order of decreasing weathering index

(A) Kaolinite

(B) Montmorillonite

(C) Vermiculite

(D) Mica

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90	590	Given below are two statements : **Statement (I) :** International pipette method is regarded as the standard method for particle size analysis due to its accuracy. **Statement (II) :** The hydrometer method is rapid but less accurate. 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. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
91	591	Arrange the soil in the decreasing order of soil wetness (A) Friable/firm (B) Very plastic (C) Hard (D) Indunated Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D). 2. (B), (C), (D),(A) 3. (B), (A), (C), (D). 4. (C), (B), (D), (A). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
92	592		4.0	1.00

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

List-I	List-II
Soil type	**Bulk density ($Mg\ m^{-3}$)**
(A) Peat	(I) 2.0
(B) Compact	(II) 1.1 to 1.4
(C) Fine textured	(III) 1.4 to 1.75
(D) Coarse textured	(IV) 0.5

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93 593

Given below are two statements :

Statement (I) : Olivine is least stable.

Statement (II) : Has independent silica tetrahedron and held together by forming bonds with hydolysable Magnesim or oxidisable Iron.

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.

A1 : 1

A2 : 2

4.0 1.00

A3 : 3

A4 : 4

Objective Question

94 | 594 | 4.0 | 1.00

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

Assertion (A) : Mobility is the overall process where by nutrients reach the root surface and sorption into plant.

Reason (R) : Mobility involves the solution or exchange of nutrients and movement to root surface.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

95 | 595 | 4.0 | 1.00

Consider the following statements :

Characteristic feature of Minerals are.

(A) Minerals have a definite chemical composition

(B) Minerals are inorganic in nature

(C) The atoms that make up minerals are not arranged in an orderly pattern

(D) Minerals are the "Building Blocks" of rocks

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

96	596	When the benzene ring is a substitution in a molecule, it is known as : 1. Phenyl group 2. Phenol group 3. Imidizole group 4. Prosthetic group A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

97	597		4.0	1.00

		What is the common formula for the alkanes ? 1. C_nH_{2n} 2. C_nH_{2n+2} 3. C_nH_{2n-2} 4. C_nHn A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
98	598	What is the common name of Butan-1-ol ? 1. Methanol 2. n-Butyl alcohol 3. n-Butanol n-Butyl alcohol 4. Isobutyl alcohol A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
99	599	What type of covalent bonds link the amino acids in a protein ? 1. Peptide bonds 2. Hydrogen bonds 3. Glycosidic bonds 4. Ester bonds A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question

100 | 600 | 4.0 | 1.00

Mutations are errors in DNA that :

1. Always harmful
2. Increase tumor growth
3. Occur spontaneously at a low rate
4. Only occur on the X chromosome

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

101 | 601 | 4.0 | 1.00

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

List-I		**List-II**	
Column A		**Column B**	
(A)	n- hexadecanaic acid	(I)	Watson and Crick
(B)	Secondary amino group	(II)	Proline
(C)	Double helical DNA	(III)	Palmitic acid
(D)	Enantiomer	(IV)	Optical isomer

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) - (II), (C) - (I), (D) - (IV)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

102	602	Arrange the following carbohydrate molecules in the increasing molecular weights : (A) Starch (B) Sucrose (C) Glucose (D) Amylopectin Choose the ***correct*** answer from the options given below : 1. (A), (B), (C). (D) 2. (B), (A), (C), (D) 3. (B), (A), (D), (C) 4. (A), (D), (C), (B) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
103	603	Arrange the following amino acids on the basis of increasing side chain size (A) Alanine (B) Glycine (C) Isoleucine (D) Leucine Choose the ***correct*** answer from the options given below : 1. (A), (B), (C), (D). 2. (B), (D), (A), (C). 3. (B), (A), (D), (C). 4. (A), (D), (C), (B). A1 : 1 A2 : 2	4.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
104	604	Photochemical smog formation in urban areas is mainly due to the presence in the atmosphere of. 1. Ozone, PAN, and Nitrogen dioxide. 2. Fog and Smoke. 3. Particulates and fog. 4. Winter climate and high humidity A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
105	605	Under which law the industries likely to cause environmental pollution should be examined by 1. The Factories Act,1948 2. The Water Act 1974. 3. The Environment Protection Act 1986 4. The Air Act 1981 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
106	606	Riparian Erosion occurs at 1. Clear cut forest land 2. Harvested croplands 3. Banks of streams 4. Places having excessive grazin	4.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
107	607	The Environment Protection Act was enacted in India in the year 1. 1988 2. 1987 3. 1989 4. 1986 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
108	608	The process of self purification process of polluted waters can be noted by the 1. Physical changes 2. Chemical changes 3. Biological changes 4. Physical, chemical and biological changes. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
109	609		4.0	1.00

		Which of the following is an amino acid 1. Cysteine 2. Histidine 3. Proline 4. Glycine A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
110	610	Which of the following statement is incorrect : 1. Amylose is water soluble fraction of starch 2. Amylopectin is water-insoluble fraction of starch 3. α- D Glucose units are present in amylose and amylopectin. 4. Amylose is water-insoluble fraction of starch A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
111	611	In plants, the photoassimilates are translocated as 1. Sucrose 2. Sorbitol 3. Stachyose 4. Sucrose, Sorbitol and Stachyose A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

112 612 4.0 1.00

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

List-I (Column A)	List-II (Colums B)
(A) DNA is found at the end of the linear eukaryotic chromosome	(I) Centromere
(B) Protein structure on eukaryotic chromosomes where spindle fiber attaches	(II) Telomere
(C) DNA site where kinetochores are found	(III) Nucleolar organizer
(D) DNA sequence that serves as the template for synthesis and amplification	(IV) Kinetochore

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

113 613 4.0 1.00

(A) Enzymes enhance reaction rate by a factor of 2 to 10.

(B) Activation energy of a reaction is lowered by enzymes.

(C) Interactions between enzymes and substrates are hydrogen, ionic and hydrophobic bonds.

(D) Substrate concentration does not affect the rate of enzyme-catalyzed reactions.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

114 614 4.0 1.00

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

List-I (Mineral Element)	**List-II** (Function)
(A) Molybdenum	(I) Water Oxidation
(B) Manganese	(II) Chlorophyll Structure
(C) Magnesium	(III) Nitrogen fixation
(D) Zinc	(IV) Auxin Synthesis

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

115 615

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

List-I (Discover)	List-II (Scientist)
(A) Nutrient essentiality criteria	(I) Y.L. Nene
(B) Stages of cell	(II) Arnon and Stout
(C) Cell	(III) Robert Hooke
(D) Khaira disease	(IV) Walther Fleming

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

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

4.0 1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

116 616

Which of the following group of compounds is produced by *Streptomyces hygroscopicus* ?

1. Tetranactin
2. Avermectins
3. Strobilurins
4. Milbemycin

4.0 1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

117 617

Which of the following is not insecticide synergist ?

1. Dillapiole
2. Sesamol
3. Nimbinol
4. PBO

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

118 618

Given below are two statements :

Statement (I) : Black gram as a cover crop reduces surface runoff and soil loss during rainy seasons.

Statement (II) : Black gram as a live mulch crop reduces surface runoff and soil loss during rainy seasons.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

119 619

4.0 1.00

The following is the list of pesticides

(A) B.H.C.

(B) D.D.T

(C) NaCN

(D) Heptachlor

(E) Carbendazim

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

1. (A) to (E) Pesticide are banned for use in India
2. Only (E) is banned for use in India
3. (A) to (E) are not banned for use in India
4. (A) to (D) are banned for use in India except (E)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

120	620	Given below are Four statements : **Statement (I) :** Bromadiolone is used as a rodenticide. **Statement (II) :** Atrazine is a herbicide. **Statement (III) :** Carbamate group of pesticides was related to the Bhopal gas incident. **Statement (IV) :** Rotenone a, natural compound is used as an insecticide and herbicide. In light of the above statements, choose the ***most appropriate*** answer from the options given below. 1. **Statements (I)** and **(II)** and **Statements (III)** and **(IV)** are true. 2. **Statements (I)** and **(II)** and **Statements (III)** ands **(IV)** are false. 3. **Statement (I)** is true but **Statement (II)** is false. 4. **Statement (III)** is false but **Statement (IV)** is true. A1 : 1	4.0	1.00

		A2 : 2 A3 : 3 A4 : 4		

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