ICAR AIEEA PG

QUESTION PAPER

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PREVIEW QUESTION BANK

Module Name : AGRONOMY-ENG
Exam Date : 29-Jun-2024 Batch : 10:00-12:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	50001	The halophytes which can resist a wider range of salt concentrations are known as: 1. Euryhaline 2. Stenohaline 3. Thermal denaturation 4. Photoacclimation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
2	50002	Jasmonate is synthesized in plant from 1. Linolenic acid 2. Diphosphatidylglycerol 3. Leucine 4. Salicyclic acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
3	50003	Which of the following dyes is used for testing the viability of seeds? 1. Safranine 2. 2,6 dichorophenol indophenols 3. 2,3,5, triphenyl tetrazolium chloride 4. Acridine A1 : 1 A2 : 2	4.0	1.

A3 : 3

A4 : 4

Objective Question

4	50004	Oat has a protein composition of 80 percent 1. Hordenin 2. Glutelins 3. Zein 4. Gliadin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

5	50005	Rieske centre is 1. Core complex I 2. Cytochrome b_6-f complex 3. D_1 protein 4. D_2 protein A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

6	50006	The sap of a plant cell has an osmotic potential of -10 bars and there is a wall pressure of 2 bars, when this cell is placed with an osmotic potential of -3 bars, the force causing water to enter the cell is 1. -8 bar 2. -7 bar 3. -5 bar 4. -3 bar A1 : 1 A2 : 2	4.0	1.

A3 : 3

A4 : 4

Objective Question

7 | 50007 | 4.0 | 1.

Active transport of ions across the membrane of a root hair can be assumed to be taking place if

A. The cell produces more glutathione

B. The cell has mitochondria

C. The uptake of ions stops when cyanide is added

D. The uptake of ions is against the concentration gradient

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 | 50008 | 4.0 | 1.

Dinitrogenase is a

1. 240 KDa heterotetramer enzyme
2. 200 KDa heterotetramer enzyme
3. 150 KDa heterotetramer enzyme
4. 400 KDa heterotetramer enzyme

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9 | 50009 | 4.0 | 1.

ATP is produced in which of the following steps of ETS?

1. FAD-UQ
2. Cyt_b-Cyt_c
3. Cyt_c-Cyt_{c1}
4. Cyt_a-Cyt_c

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

10 | 50010 | 4.0 | 1.

Find out the correct equation from the following

1. DPD = O.P x T.P
2. DPD = O.P + T.P
3. DPD = O.P - T.P
4. DPD = M.P x O.P

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

11 | 50011 | 4.0 | 1.

hy4 gene related to photomorphogensis was later named as

1. cry1 gen
2. cry3 gene
3. cry9 gene
4. cry7 gene

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

12 | 50012 | 4.0 | 1.

The process whereby adjustments are made to structure and function of the photosynthetic apparatus in response to change in growth irradiance is called

1. Denaturation
2. Transition temperature
3. Photo-acclimation
4. Photorespiration

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

13 | 50013 | 4.0 | 1.

Which of the following is not a seed germination inhibitor

1. Coumarin
2. Phthalides
3. Ferulic acid
4. Gibberellic acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

14 | 50014 | 4.0 | 1.

The vernalization is the induction of the flowering process of the plant by exposure to a prolonged cold, these processes are

1. Aerobic
2. Anaerobic
3. Aerobic and anaerobic
4. Light sensitive

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15 | 50015 | 4.0 | 1.

Electro-osmotic theory for translocation of organic solutes was given by

1. Mason & Phillis
2. Fenson & Spanner
3. Van den Honert
4. De Varies & Curtis

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 | 50016 | In symplastic loading the transport sugars are mainly

1. Sucrose
2. Glucose
3. Maltose
4. Vitamin C

4.0 | 1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17 | 50017 | Legumes are generally rich in

1. Albuminus
2. Globulins
3. Glutelins
4. Prolamins

4.0

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

18 | 50018 | Lundegardh's Cytochrome pump theory believed that there was a definite correlation between

1. Photosynthesis and anion absorption
2. Respiration and anion absorption
3. Photosynthesis and cation absorption
4. Respiration and cation absorption

4.0 | 1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

19 50019 4.0 1.

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

List-I	List-II
(A). Glyoxysome	(I). Oil reach storage tissues of the seed
(B). GNOM gene	(II). Glutamate synthases
(C). GOGAT gene	(III). For development of roots and cotyledons
(D). Goldman diffusion potential	(IV). Calculated diffusion potential
(E). Goldman equation	(V). Predicts the diffusion potential across a membrane

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

1. A-1; B-3; C-4; D-5; E-2
2. A-1; B-2; C-3; D-4; E-5
3. A-1; B-3; C-2; D-4; E-5
4. A-4; B-2; C-3; D-5; E-1

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

20 50020 4.0 1.

Passage of mineral from top soil to subsoil through seepage of water is known as

1. Percolation
2. Leaching
3. Conduction
4. Transpiration

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

21	50021	Among the following, which thermometer is not installed in an agro-meteorology observatory? 1. Maximum temperature thermometer 2. Minimum temperature thermometer 3. Wet bulb thermometer 4. IR thermometer A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

22	50022	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R) Assertion (A) : The temperature decreases with height in the troposphere. Reason (R) : Ozone absorbs ultra violet radiation in the troposphere and makes it cool. 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	4.0	1.

Objective Question

23	50023	The date of summer solstice in the southern hemisphere is 1. 21st December 2. 21st March 3. 21st June 4. 23rd September	4.0	1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 50024 4.0 1.

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

List-I	**List-II**
(Instruments)	**(Parameter measured)**
(A). Wind vane	(I). PAR
(B). Line Quantum sensor	(II). Wind direction
(C). Pyranometer	(III). Relative humidity
(D). Hygrometer	(IV). Shortwave radiation

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 50025 4.0 1.

Optimum soil temperature for potato crop in tropics is

1. 17 °C
2. 20 °C
3. 25 °C
4. 28 °C

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26	50026	Given below are two statements: Statement (I) Global Warming Potential (GWP) is a measure of how much energy the emissions of 1 tonne of a gas will absorb over a given period of time, relative to the emissions of 1 tonne of carbon dioxide (CO_2). Statement (II): A gas with a smaller GWP warms the Earth more compared to CO_2 over that time period. 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.

Objective Question

27	50027	Remote sensing satellites are placed above the earth surface at a height of 1. 800 km 2. 1000 km 3. 18000 km 4. 36000 km A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

28	50028		4.0	1.

How many days in advance, weather forecasts are currently issued by IMD for a medium range weather forecasting?

1. 3 days
2. 5 days
3. 10 days
4. 21 days

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 | 50029 | 4.0 | 1.

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

Assertion (A) : In Global Positioning System three satellites are accommodated in each orbit at an altitude of 20,185 km from surface of the Earth

Reason (R) : All the GPS satellites are placed in six orbits.

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

30 | 50030 | 4.0 | 1.

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

Assertion (A) : The database concept is central to a Geographical Information System (GIS)

Reason (R) : GIS does not hold any maps and pictures, it holds only a database.

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

31 50031 4.0 1.

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

Assertion (A) : Operational microwave remote sensing has both active and passive sensors

Reason (R) : Active microwave remote sensing depends on the emission characteristics of various target surfaces or the media of interest.

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

32 50032 4.0 1.

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

List-I	List-II
(Name of ICAR research institutes)	(Headquarter)
(A). ICAR- Central Institute of Temperate Horticulture	(I). Motihari
(B). ICAR-Directorate of Onion and Garlic Research	(II). Srinagar
(C). ICAR- National Research Centre on Integrated Farming (ICAR-NRCIF)	(III). Solapur
(D). ICAR- National Research Centre on Pomegranate	(IV) Pune

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

33 50033 4.0 1.

Given below are two statements:

Statement (I): The optimum range of soil moisture for effective ploughing is 25 to 50 per cent depletion of available soil moisture.

Statement (II): Light soil can be ploughed in a narrow range of soil moisture conditions while the range is wider for heavy soils.

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

34 50034 4.0 1.

Arrange in the correct sequence the steps of Precision Agriculture

(A). Evaluation of precision agriculture

(B). Preparation of variability maps

(C). Managing variability

(D). Assessing variability

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

35 50035 4.0 1.

Which of the following primary products of carbon fixation are the 4 carbon compounds in C_4 plants?

1. Malic acid and aspartic acid
2. Aspartic acid and tartaric acid
3. Malic acid and tartaric acid
4. Malic acid, aspartic acid and tartaric acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

36 50036 4.0 1.

Which of the following statements are correct for "Gibberelins"?

(A). There are 50 forms of Gibberelins.

(B). Gibberelins broke the dormancy.

(C). Gibberelins hastens senescence.

(D). Gibberelins hastens water uptake of plants.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

37	50037	Enzyme responsible for carboxylation in C_4 plants 1. Phosphoenol pyruvic acid (PEP) carboxylase 2. Phosphophenol pyruvic acid (PEP) carboxylase 3. Phospho pyruvic acid (PEP) carboxylase 4. Phospheticenol pyruvic acid (PEP) carboxylase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

38	50038		4.0	1.

Given below are two statements:

Statement (I): The term preparatory cultivation and seed bed preparation are used synonymously

Statement (II): Preparatory cultivation consists of three distinct operations *viz.* primary tillage, secondary tillage and layout of seed bed

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

39 50039 4.0 1.

Weight of a soil sample with can is 210 g and dry weight with can is 180 g. Weight of empty moisture can is 40 g. Calculate moisture content of soil sample.

1. 18.0 %
2. 21.4 %
3. 25.0%
4. 27.3 %

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40 50040 4.0 1.

The idealized patterns range for planophile with most leaves nearly horizontal and erectophile with most leaves nearly vertical are :

1. >35° from horizontal and < 60° from horizontal
2. > 35° from horizontal and > 60° from horizontal
3. < 35° from horizontal and < 60° from horizontal
4. < 35° from horizontal and > 60° from horizontal

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

41 50041 4.0 1.

Yellow mite mainly attacks

1. *Capsularis* jute
2. *Olitorius* jute
3. *Crotalaria juncia*
4. *Avena sativa*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

42 50042 4.0 1.

Statement A : Retting in slow running water is better than stagnant water.

Statement B : The extraction of the fiber of sunhemp is more difficult than jute.

1. Both A and B are right
2. Both A and B are wrong
3. A is right but B is wrong
4. B is right but A is wrong

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43 50043 4.0 1.

List I	List II
A. *Cicer arietinum* L.	I. C-158
B. *Lens esculenta* moench	II. Virsha Arhar -1
C. *Cajanus cajan* L.	III. DPL-15
D. *Vigna sinensis*	IV. Pant G-114

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

44 50044 4.0 1.

International year of millets was celebrated during the year

1. 2011
2. 2020
3. 2023
4. 2024

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

45 50045 4.0 1.

Arka Garima is a variety of

1. Cowpea
2. Lentil
3. Fieldpea
4. Horsegram

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

46 | 50046 | 4.0 | 1.

"GYEI" Stands for

1. Grain yield efficiency intensity
2. Gross yield efficiency intensity
3. Gross yield efficiency index
4. Grain yield efficiency index

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

47 | 50047 | 4.0 | 1.

World's most water saving high yielding aromatic rice variety is

1. Pusa 1121
2. Pusa 1002
3. Pusa 2679
4. Pusa 2677

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

48 | 50048 | 4.0 | 1.

Weed seed dispersal by ants is known as

1. Myrmecochory
2. Autuchory
3. Blastochor
4. HerpoSchory

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49	50049	Statement A: 2,4-D should be applied in grain *Sorghum* when it attains a height of 10-30 cm Statement B: 2,4-D should be applied in wheat 18-25 days after sowing 1. Both A and B are true 2. Both A and B are false 3. A is true but B is false 4. B is true but A is false	4.0	1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

50	50050	Which of the following is a *desi* cotton cultivated species in india as per Hutchinson (1947) 1. *Gossypium arboreum* ,*Gossypium herbaceum* 2. *Gossypium hirsutum* , *Gossypium barbadense* 3. *Gossypium arboreum*, *Gossypium hirsutum* 4. *Gossypium herbaceum*, *Gossypium barbadense*	4.0	1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

51	50051		4.0	1.

Statement A: Drum seedling is a technique of DSR which is basically a type of dry seedling.

Statement B: It is invented by CRRI.

1. Both are true
2. Both are false
3. A is true and B is false
4. B is true and A is false

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52	50052	Early sowing of pulses is not recommended mainly due to 1. More vegetative growth 2. Higher weed pest problem 3. Photoperiod sensitivity 4. Less availability of water A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

53	50053	Direct solar radiation contains how much PAR? 1. 30% 2. 50% 3. 42% 4. 65% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

54	50054	Statement A : In case of triticale, wheat is the male parent and rye is the female parent. Statement B: It is mainly a *kharif* crop in India . Statement C: It is mainly used for animal feeding as roughage 1. Only A is true 2. Only B is true 3. Only C is true 4. All is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

55	50055	Find out the correct one from the following statements 1. In castor, varieties with high waxy bloom are more resistant to mites. 2. Castor is a long-day plant (LDP). 3. Warmer temperature during flowering promotes more female flower and cooler temperature promotes more male flower. 4. The germination of castor is epigeal type, so more problem of germination in crusted soil. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

56	50056		4.0	1.

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

List-I	List-II
Nutrient	Indicator weed species
(A). Phosphorus (P)	(I). *Solanum nigrum*
(B). Potassium (K)	(II). *Chenopodium serotinum*
(C). Magnesium (Mg)	(III). *Chrysanthemum leucanthamomum*
(D). Manganese (Mn)	(IV). *Chenopdium album*

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

57 50057 4.0 1.

Read the following statements.

A) *Orobanche* is total stem parasite of tomato

B) *Cuscuta campestris* is total stem parasite of linseed

C) *Loranthus longiflorus* is partial stem parasite of mango

D) Broom rape is obligate root parasite of mustard

Choose the correct answer out of the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

58 | 50058 | 4.0 | 1.

For weeds evolution, CSR refers to

1. C- Competitiveness, S- Sensitiveness to stress, R- Ruderal habit
2. C- Competitiveness, S- Stress tolerance, R- Ruderal habit
3. C- Crop, S- Stress, R- Resistance
4. C- Crop, S- Specific, R-Ruderal habit

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

59 | 50059 | 4.0 | 1.

Read the following statements regarding biological weed control.

A. It is ecofriendly because of no pollution.

B. It is long lasting because of its slow action.

C. A particular weed can be controlled in inaccessible areas.

D. It can lead to 100% control of a particular weed.

E. It is economical in the long-run.

Choose the correct answer out of the options given below.

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

60 | 50060 | 4.0 | 1.

		Which of the following weeds is an annual weed? 1. *Cyperus rotundus* 2. *Sonchus arvensis* 3. *Panicum maximum* 4. *Sonchus oleraceous* A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
61	50061	Which of the following herbicides is a contact herbicide? 1. Atrazine 2. Pyrazon 3. Nitrofen 4. Oxyfluorfen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
62	50062	From the following statements, find out the incorrect one 1. Higher is the temperature, lesser will be the activity of herbicides. 2. Chemical selectivity is true selectivity. 3. Selectivity is relative property of herbicides. 4. Due to more leaching, lower doses of herbicides are sufficient in light soils. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
63	50063		4.0	1.

Match the following

List - I	List - II
Target weed species	**Bioagent**
(A) *Parthenium hysterophorus*	(I) *Dactylopius tomentosus*
(B) *Opuntia sp*	(II) *Bactra verutana*
(C) *Lantana camara*	(III) *Zygogramma bicolorata*
(D) *Cyperus rotundus*	(IV) *Octotoma scabripennis*

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64 50064 4.0 1.

The first commercially available robotic weeding machine is known as

1. Robocrop
2. Robotic weeder
3. Robo power weeder
4. Robo weeder

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

65 50065 4.0 1.

Which of the following combinations is not correct?

Chemical	Source
1. Camphor	Salvia shurbs
2. Phlorizin	Phyllanthus emblica
3. Bialophos	Microorganism
4. Dhurrin	Sorghum

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

66 50066 4.0 1.

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

List-I	List-II
(Group)	(Herbicide)
(A) Isoxazolines	(I). Alachlor
(B) Diphenylethers	(II). Asulam
(C). Chloracetamides	(III). Aclonifen
(D). Carbamates	(IV) Pyroxasulfone

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

67 50067 4.0 1.

		Which among the followings is used as modifier for herbicides? 1. Butylate 2. Dazomet 3. Diethiolate 4. Molinate A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
68	50068	The major site of uptake for soil applied herbicides are A) Root B) Shoot C) Seed D) Leaves 1. A, B, C and D. 2. A and C only 3. B and C only 4. A, B and C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
69	50069	Optimum temperature and relative humidity for microbial degradation of herbicides in soil is 1. 25-35 °C and 50-100% 2. 20-25 °C and 50-75% 3. 25-30 °C and 75-100% 4. 25-35 °C and 75-90% A1 : 1 A2 : 2	4.0	1.

A3 : 3

A4 : 4

Objective Question

70 50070 4.0 1.

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

List-I	**List-II**
(Crop)	**(Herbicide)**
(A). Wheat	(I). Quizalfop-p-ethyl
(B). Sorghum	(II). Halosufuron-methyl
(C). Soybean	(III). Sulfosulfuron
(D). Sugarcane	(IV). Atrazine

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

71 50071 4.0 1.

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

List-I	**List-II**
(Category of water)	**(Major use)**
(A) Green water	(I). Crop production, ideal for kitchen gardens and lawns
(B) Fossil water	(II). Plants/crops, particularly forests, grass lands, and dryland agriculture
(C). Grey water	(III). Agriculture and domestic use
(D). Black water	(IV) Export-import of agricultural products leads to export-import of water.
(E). Virtual water	(V). Crop production, need to be treated for preventing heavy metals/ pathogens entering human chain

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 50072 4.0 1.

Given below are two statements:

Statement (I): The Qanats, the oldest known irrigation methods, were developed in Ancient Persia

Statement (II): The system comprises a network of canals and steeply sloping tunnels driven into sides of cliffs and steep hills for harvesting of rain water.

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

73 | 50073 | 4.0 | 1.

Correct order, in decreasing trend, of reservoirs based on their capacity at full reservoir level (Mm^3)

1. Ukai > Nagarjunasagar > Sriramsagar > Koyna >Idukki
2. Nagarjunasagar >Ukai > Sriramsagar> Idukki > Koyna
3. Nagarjunasagar > Sriramsagar > Ukai >Koyna> Idukki
4. Nagarjunasagar >Ukai > Sriramsagar> Koyna >Idukki

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

74 | 50074 | 4.0 | 1.

One cumec day is equal to

1. 8.64 ha-cm
2. 8.64 ha-m
3. 12.64 ha-m
4. 12.64 ha-cm

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

75 | 50075 | 4.0 | 1.

Read the following statements:

(A). Water holding capacity of sandy soil is high as larger pores can hold more water.

(B). Silty soils have medium to high water retentive capacity.

(C). Clay soils have small size pores, thus have low water holding capacity.

(D.) Clay soil have poor aeration and poor drainage.

(E). Water holding capacity of soil depends largely on its texture and organic matter present in it.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

76	50076	Total depth of irrigation applied for a wheat crop of 90 days base period is 70 cm, what will be the duty of water.	4.0

1. 1111 ha/ cumec
2. 672 ha/cumec
3. 630 ha/cumec
4. 1344 ha/cumec

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

77	50077		4.0	1.

Given below are two statements:

Statement (I): Capillary rise is responsible for loss of water from soil by evaporation.

Statement II: Retention of water by soil against gravitation pull depends on two surface forces, namely, cohesion and adhesion.

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

78	50078	In neutron method used to measure soil moisture, the source of fast neutrons is a mixture 1. Radium –beryllium 2. Silicon-beryllium 3. Silicon-sodium 4. Sodium and americium A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

79	50079		4.0	1.

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

List-I	**List-II**
(Instruments/Forces)	**(Purpose/ Effect)**
(A). Piezometer	(I) Pattern of molecular structure
(B). Penetrometer	(II). Soil moisture suction
(C). London-van der Waals	(III). Soil moisture
(D). Tensiometer	(IV). Soil strength
(E). FDR	(V.) Hydraulic head

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

80 | 50080 | 4.0 | 1.

One acre-foot water is equal to how many cubic meter water?

1. 1233.5
2. 1525.5
3. 3000.5
4. 3630.5

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81 | 50081 | 4.0 | 1.

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

Assertion (A) : High Na-concentration in irrigation water may reduce oxygen supply to the root system.

Reason (R): High sodium content in irrigation water causes flocculation of soil particles.

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

82	50082	A rice crop of 5 ha area was irrigated 10 times with 5 cm water per irrigation, find out the total quantity of water applied in cubic meter. 1. 5000 2. 10,000 3. 20,000 4. 25,000	4.0	1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

83	50083		4.0	1.

Read the follwing statements

(A). In furrow irrigation method, short, near horizontal furrows can be used on flat land with a maximum slope of 2%.

(B). On steep sloping land, contour furrows can be used upto a maximum slope of 6%.

(C). A minimum of 0.05% slope is recommended to assist drainage in a furrow system.

(D). Border irrigation can be used on sloping land upto 2% slope on a sandy soil.

(E). Border irrigation can be used on sloping land upto 3% slope on a clay soil.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

84 50084

A method of irrigation in which water is applied on per plant basis

1. Bubbler irrigation
2. Pulse irrigation
3. Micro-jet
4. Fogging system

4.0

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

85 50085

If water is available for three irrigations only, at which stages the wheat crop should be irrigated

1. CRI, Late jointing and Flowering
2. CRI, Late tillering and Flowering
3. CRI, Boot and Flowering
4. CRI, Boot and Milk

4.0 1.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

86 50086 4.0 1.

For qualifying as an essential nutrient, element must satisfy the essentiality criteria propounded by D.I. Arnon and P.R. Stout in the year -

1. 1937
2. 1938
3. 1939
4. 1940

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

87 50087 4.0

Deficiency of boron (B) can be corrected by application of which of the following fertilizers ?

(A). Borax

(B). Boric acid

(C). Solubor

(D). Lime

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

A3 : 3

A4 : 4

Objective Question

88 50088 4.0 1.

For commercial production of DAP (Diammonium phosphate), liquid ammonia is reacted with mineal acid

1. Nitric acid (HNO_3)
2. Sulphuric acid (H_2SO_4)
3. Hydrochloric acid (HCl)
4. Phosphoric acid (H_3PO_4)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

89 | 50089 | 4.0 | 1.

The law which states that whatever is being taken by plants from soil needs to be restored to maintain the nutrient supplying capacity of the soil is known as

1. Law of Restoration
2. Law of Restitution
3. Law of Maximum
4. Law of Conservation

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90 | 50090 | 4.0 | 1.

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

List-I	List-II
Nutrients	**Deficiency symptoms**
(A). Nitrogen	(I). Necrosis on leaf margins
(B). Phosphorus	(II). Symptoms appearing first on older leaves; chlorosis starting from leaf tips.
(C). Potassium	(III). Symptoms appearing first on younger leaves; mottled yellow-green leaves with yellowish veins.
(D). Sulphur	(IV). Reddish colour on green leaves or stem.

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) - (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

91 50091 4.0 1.

(A). Nitrification is a two-step process which refers to the conversion of ammonium (NH_4^+) to nitrate (NO_3^-).

(B). In the first step, *Nitrosomonas* (obligate autotrophic bacteria) convert ammonium (NH_4^+) to nitrite (NO_2^-).

(C). The second step of nitrification occurs through *Nitrobacter* and *Nitrosolobus* species, which convert nitrite (NO_2^-) to nitrate (NO_3^-).

(D). The second step of nitrification occurs through *Nitrobacter* species only, which convert nitrite (NO_2^-) to nitrate (NO_3^-).

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

A3 : 3

A4 : 4

Objective Question

92 | 50092 | 4.0 | 1.

Followings are the major sources of feedstock for production of nitrogenous fertilizer. Arrange them in sequence according to their higher share of consumption in India.

(A). Naptha

(B). Natural Gas

(C). Coal or Coke

(D). Electrolysis of water

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93 | 50093 | 4.0 | 1.

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

Assertion (A) : For determination of total nitrogen in soil, the sample is usually digested with concentrated H_2SO_4 in the presence of catalyst mixture consisting of K_2SO_4 and $CuSO_4$ in the ratio of 10:1.

Reason (R) : The K_2SO_4 is used to raise the boiling point of H_2SO_4 that promote the oxidation of organic matter and conversion of organic N to NH_4^+-N, while, the $CuSO_4$ acts as a catalyst and hastens the breaking down of organic matter and conversion of N to $(NH_4)_2SO_4$.

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

94	50094	The characteriscs of saline-sodic soil are: 1. pH < 8.5, EC > 4 dS/m, SAR < 13, ESP < 15 2. pH > 8.5, EC > 4 dS/m, SAR > 13, ESP > 15 3. pH < 8.5, EC > 4 dS/m, SAR < 13, ESP > 15 4. pH < 8.5, EC > 4 dS/m, SAR > 13, ESP > 15 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

95	50095	The sequence of events occuring upon application of urea in soil are: (A). Hydrolysis (B). Nitrification (C). Denitrification (D). Leaching Choose the **correct** answer from the options given below: 1. (A), (B), (C), (D). 2. (A), (B), (D), (C). 3. (B), (A), (D), (C). 4. (C), (B), (D), (A). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

96	50096		4.0	1.

The characteriscis of ammonium sulphate are:

(A). Ammonium sulphate $[(NH_4)_2SO_4]$ is a white crystalline and free-flowing fertilizer.

(B). It contains only 20.5% N and classified as low analysis fertilizer and also contains 23.7% S.

(C). It is the best N-fertilizer having least hygroscopicity, indicating that it has excellent physical property.

(D). It is an excellent nitrogenous fertilizer for acid soil.

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

A3 : 3

A4 : 4

Objective Question

97 | 50097 | 4.0 | 1.

Followings are the slow release fertilizers having low water solubility that undergo chemical and/or microbial decomposition when applied to soil.

(A). Urea-formaldehyde

(B). Phenyl phosphorodiamidate (PPDA)

(C). Urea-Z

(D). Crotonylidene diurea

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

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

98 | 50098 | 4.0 | 1.

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

Assertion (A) : Saline soils are dominated by neutral soluble salts consisting of chlorides and sulphates of sodium, calcium and magnesium.

Reason (R) : Sodic soils contain sodium salts capable of causing alkaline hydrolysis, mainly Na_2CO_3

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

99	50099	Nutrient index value (Parker, 1952) is calculated from the number of soil samples falling in the category of low (Nl), medium (Nm) and high (Nh) nutrient status and represented by expression as given below. 1. Nutrient index value (NIV) = (Nl+3Nm+2Nh) / (Nl+Nm+Nh) 2. Nutrient index value (NIV) = (Nl+2Nm+3Nh) / (Nl+Nm+Nh) 3. Nutrient index value (NIV) = (3Nl+2Nm+Nh) / (Nl+Nm+Nh) 4. Nutrient index value (NIV) = (Nl+Nm+Nh) / (Nl+2Nm+Nh) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

100	50100		4.0	1.

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

List-I	List-II
(Nutrients)	(Essentiality given by the Scientist)
(A). Phosphorus	(I). Theodore de Saussure
(B). Nitrogen	(II). C. Sprengel
(C). Boron	(III). J.S. McHargue
(D). Manganese	(IV). K. Warington

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

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

101 50101 4.0 1.

Statement A: Variation in environment and landscape leads to soil evaluation rather than soil development.

Statement B : Intermediate topography affords the best condition for the formation of an agriculture-productive soil.

1. Both statements A and B are true
2. Statement A is true but B is false
3. Both statements A and B are false
4. Statement A is false but B is true

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

102 50102 4.0 1.

Which one of the following is not a genus of *Pennisetum* as per the clasification of Staph (1934)

1. *Gymnothria*
2. *Pennicillaria*
3. *Eupennisetum*
4. *Bicolor*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

103 | 50103 | 4.0 | 1.

BSH-169 and HBL-113 are the varieties of

1. Barley
2. Pearl millet
3. Sorghum
4. Maize

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

104 | 50104 | 4.0 | 1.

VL-149 and Gautami are the varieties of _____

1. Barley
2. Finger millet
3. Chick pea
4. Lentil

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

105 | 50105 | 4.0 | 1.

		Which of the followings is not a method of computing water balance in Thornthwaite's 1948 systems? 1. Moisture index 2. Humidity index 3. Seasonal rainfall variation 4. Thermal efficiency index A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
106	50106	Which one of the followings is not a drought tolerant variety ? 1. Sahbhagi Dhan 2. Swarna - sub 1 3. Pant Sankar Dhan 3 4. CSR35 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
107	50107	'Pusa Kiran' is a variety of 1. Wheat 2. Jowar 3. Maize 4. Bajra A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.
Objective Question				
108	50108		4.0	1.

'Priya' is a variety of which maize group ?

1. Baby corn
2. Pop corn
3. Sweet corn
4. Fodder maize

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109	50109	The flour corn is also known as 1. *Zea mays everta* 2. *Zea mays indurta* 3. *Zea mays amylacea* 4. *Zea mays tunicate* A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

110	50110	Sulphur deficiency first occurs in 1. Young leaves 2. Leaf sheath of older leaves 3. Young stems 4. Leaf blade of older leaf A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

111	50111		4.0	1.

(A). In normal P-sufficient plants, P-content varies from 0.1% to 0.4% by weight, which is 1/5th to 1/10th of N or K content.

(B). Phosphorus containing ATP is called the "Energy currency of the plants".

(C). Plant roots absorb P in the $H_2PO_4^-$ form, but under neutral to alkaline environments, HPO_4^{2-} and or PO_4^{3-} ions could also be taken up.

(D). Phosphorus is a structural component of the nucleic acids (DNA and RNA), and also a constituent of fatty phospholipids.

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

A3 : 3

A4 : 4

Objective Question

112 | 50112 | 4.0 | 1.

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

Assertion (A) : Fixation and release of K^+ in soil is influenced by absence or presence of ammonium ion (NH_4^+).

Reason (R) : The physics of NH_4^+ is closely related to that of K^+ because both ions have similar ionic radii and low hydration energy.

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

113 | 50113 | 4.0 | 1.

In India, EID (Parry) Ltd. for the first time produced single superphosphate (SSP) by treating fresh bone meal with H_2SO_4 in the year -

1. 1904
2. 1905
3. 1906
4. 1907

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

114 50114 4.0 1.

Immediately after application (injection) of anhydrous NH_3 into soil, it moves laterally as well as vertically (limited to < 5 cm), and a localized zone known as NH_3 retention zone is formed. A number of temporary yet dramatic changes occur in the NH_3 retention zone. These are:

(A). A retention zone of both ammonia (NH_3) and ammonium (NH_4^+) having circular to oval shape (3-13 cm diameter) is formed.

(B). The concentration of both NH_3 and NH_4^+ increased in the range of 1000-3000 ppm.

(C). The pH increased up to 9.0-9.5 in the vicinity of the point of application.

(D). Concentration of NO_2^- (nitrite) increased to toxic levels (100-300 ppm).

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

A3 : 3

A4 : 4

Objective Question

115 50115 4.0 1.

Potassium (K) is present in soil in different forms. Plants prefer to take up K from the soil as:

(A). Exchangeable K

(B). Solution K

(C). Total or Mineral K

(D). Non-exchangeable K

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

116	50116		4.0	1.

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

Assertion (A): Among components of sustainability, productivity and ecological viability are more important than economic and social viability.

Reason (R): Because food security depends upon per capita productivity and permanence of productivity depends on ecological base for production.

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 correct explanation of (A).
2. Both (A) and (R) are correct but (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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

117	50117		4.0	1.

Given below are some important features for a tree to be suitable for agroforestry.

(A). It should be suitable for prevailing agro-climatic conditions.

(B). It should be fast growing and preferably nitrogen fixing species.

(C). It should meet needs of farmers for timber, fodder, fuel, fruit and fibre.

(D). It should have ability to generate employment and high returns.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

118	50118	_____ is considered as father of conservation tillage. He wrote the book entitled_____. 1. "Jethro Tull" and "Horse Hoeing Husbandry" 2. "Edward H. Faulkner" and "Plowman's Folly: A Second Look" 3. "Pietro de'Crescenzi" and "Book of Rural Benefits" 4. "Glubler B. Triplets" and "Plowman's Folly: A Second Look" A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

Objective Question

119	50119	Assertion (A): Gypsum can be used to manage sub-soil acidity. Reason (R): The SO_4^{2-} released by dissolution of gypsum increases level of Ca and reduces level of Al in both soil solution and exchange complex. 1. (A) is true but (R) is false. 2. (A) is False but (R) is True. 3. Both (A) and (R) are correct; and (R) is correct explanation of (A). 4. Both A and (R) are correct but (R) is not correct explanation of (A).	4.0	1.

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		

Objective Question

120	50120	Journal of Soil and Water Conservation is published by 1. Soil Conservation Society of India, New Delhi. 2. Association of Soils and Crops Research Scientists, Nagpur. 3. Agricultural Research Communication Centre, Karnal. 4. Indian Association of Soil and Water Conservationists, Dehradun. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.

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