

61 Agricultural Physics ICAR SEPT 2022

Topic:- GEN KNOW COMMON PHD

1) Colour of the tag used on certified seed bags is[Question ID = 16958][Question Description = 101_221_GKD_SEP22_Q01]

1. Blue [Option ID = 37829]
2. Purple [Option ID = 37830]
3. White [Option ID = 37831]
4. Golden Yellow [Option ID = 37832]

2) Following are the statements regarding the Usar soil -

- A. It is reclaimed by adding lime.
- B. This soil has pH more than seven.
- C. Paddy crop can be grown in this soil.

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

[Question ID = 16959][Question Description = 102_221_GKD_SEP22_Q02]

1. A and B only [Option ID = 37833]
2. B and C only [Option ID = 37834]
3. C only [Option ID = 37835]
4. A only [Option ID = 37836]

3) When total utility of a commodity increases, marginal utility will be

[Question ID = 16960][Question Description = 103_221_GKD_SEP22_Q03]

1. Negative but increasing
[Option ID = 37837]
2. Positive but decreasing
[Option ID = 37838]
3. Constant
[Option ID = 37839]
4. Either positive or negative
[Option ID = 37840]

4) Where is the headquarter of International Fund for Agriculture Development located?

[Question ID = 16961][Question Description = 104_221_GKD_SEP22_Q04]

1. Vienna, Austria
[Option ID = 37841]
2. Rome, Italy
[Option ID = 37842]
3. New York, USA
[Option ID = 37843]
4. Berlin, Germany
[Option ID = 37844]

5) Mid-Oceanic Ridges are one of the important divisions of the ocean floor. In this respect, point out the incorrect statement regarding the 'Mid-Oceanic Ridges'. [Question ID = 16962][Question Description = 105_221_GKD_SEP22_Q05]

1. It is the largest mountain chain on the surface of the earth [Option ID = 37845]
2. It is a series of interconnected chain within the ocean. [Option ID = 37846]
3. It is characterised by a central rift system [Option ID = 37847]
4. The rift system at the crest is the zone of very low volcanic activity. [Option ID = 37848]

6) Consider the following facts about the union territory of India and point out the one which is incorrect in relation to union territory.[Question ID = 16963][Question Description = 106_221_GKD_SEP22_Q06]

1. These are the areas under the direct control of central government. [Option ID = 37849]
2. Also known as the 'centrally administered territories. [Option ID = 37850]

3. These territories constitute a conspicuous departure from the unitary feature of India. [Option ID = 37851]
4. There is no uniformity in their administrative systems. [Option ID = 37852]

7) Variety of flora and fauna are found in the different types of forest in India. In this regard, species of trees like teak, *sal shisham*, *sandalwood*, etc. are found in which of the following type of forests in India?[Question ID = 16964][Question Description = 107_221_GKD_SEP22_Q07]

1. Tropical evergreen forests [Option ID = 37853]
2. Tropical thorn forests [Option ID = 37854]
3. Tropical deciduous forests [Option ID = 37855]
4. Montane forests [Option ID = 37856]

8) The Marginal Preference Theory of consumption behaviour was proposed by

[Question ID = 16965][Question Description = 108_221_GKD_SEP22_Q08]

1. Armstrong
[Option ID = 37857]
2. J.K.Hicks
[Option ID = 37858]
3. Neumann
[Option ID = 37859]
4. Edmund Cannon
[Option ID = 37860]

9) Point out the incorrect statements regarding the service sector in India.[Question ID = 16966][Question Description = 109_221_GKD_SEP22_Q09]

1. It is the highest contributor to GDP [Option ID = 37861]
2. It requires skilled labour [Option ID = 37862]
3. It is the fastest growing sector [Option ID = 37863]
4. It is restricted to very few sectors. [Option ID = 37864]

10) Consider the statements regarding the agriculture sector in India and point out the incorrect statement.[Question ID = 16967][Question Description = 110_221_GKD_SEP22_Q10]

1. Agriculture sector is the largest employer of workforce [Option ID = 37865]
2. It has contributed to the Gross Value Added (GVA) [Option ID = 37866]
3. Growth in allied sectors is the major drivers of overall growth in the sector. [Option ID = 37867]
4. Minimum Support Price (MSP) policy is used as to promote crop uniformity. [Option ID = 37868]

11) In case of related goods, the cross elasticity of demand is[Question ID = 16968][Question Description = 111_221_GKD_SEP22_Q11]

1. Low [Option ID = 37869]
2. High [Option ID = 37870]
3. Zero [Option ID = 37871]
4. Unity [Option ID = 37872]

12) With reference to organic farming in India, consider the following statements :

- A. The National Programme for Organic Production' (NPOP) is operated under the guidelines and directions of the Union Ministry of Rural Development.
- B. The Agricultural and Processed Food Products Export Development Authority' (APEDA) functions as the Secretariat for the implementation of NPOP.
- C. Sikkim has become India's first fully organic state.

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

[Question ID = 16969][Question Description = 112_221_GKD_SEP22_Q12]

1. A and B only
[Option ID = 37873]
2. B and C only
[Option ID = 37874]
3. C only
[Option ID = 37875]
4. A, B and C

[Option ID = 37876]

13) With reference to the circumstances in Indian agriculture, the concept of "Conservation Agriculture" assumes significance. Which of the following falls under the Conservation Agriculture ?

- A. Avoiding the monoculture practices.
- B. Adopting minimum tillage.
- C. Avoiding the cultivation of plantation crops.
- D. Using crop residues to cover soil surface.
- E. Adopting spatial and temporal crop sequencing/ crop rotations.

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

[Question ID = 16970][Question Description = 113_221_GKD_SEP22_Q13]

- 1. A, C and D only [Option ID = 37877]
- 2. B, C, D and E only [Option ID = 37878]
- 3. B, D and E only [Option ID = 37879]
- 4. A, B, C and E only [Option ID = 37880]

14) Consumers are likely to get a variety of goods in which kind of market competition[Question ID = 16971][Question Description = 114_221_GKD_SEP22_Q14]

- 1. Monopoly [Option ID = 37881]
- 2. Duopoly [Option ID = 37882]
- 3. Oligopoly [Option ID = 37883]
- 4. Monopolistic [Option ID = 37884]

15) What is the correct chronological order of the following laws enacted for the conservation and protection of environment ?

- A. Environment (Protection) Act.
- B. Water (Prevention & Control of Pollution) Act.
- C. Air (Prevention & Control of pollution) Act.
- D. National Green Tribunal Act.

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

[Question ID = 16972][Question Description = 115_221_GKD_SEP22_Q15]

- 1. B, C, A, D [Option ID = 37885]
- 2. A, B, C, D [Option ID = 37886]
- 3. C, B, A, D [Option ID = 37887]
- 4. D, C, B, A [Option ID = 37888]

16) The scientific study of soil is[Question ID = 16973][Question Description = 116_221_GKD_SEP22_Q16]

- 1. Earth Study [Option ID = 37889]
- 2. Soil Science [Option ID = 37890]
- 3. Pedology [Option ID = 37891]
- 4. Soil Chemistry [Option ID = 37892]

17) *Triticum aestivum*, the common bread wheat is -

[Question ID = 16974][Question Description = 117_221_GKD_SEP22_Q17]

- 1. Tetraploid
[Option ID = 37893]
- 2. Hexaploid
[Option ID = 37894]
- 3. Haploid
[Option ID = 37895]
- 4. Diploid
[Option ID = 37896]

18) Sectoral inflation refers to[Question ID = 16975][Question Description = 118_221_GKD_SEP22_Q18]

- 1. Running inflation [Option ID = 37897]

2. Comprehensive inflation [Option ID = 37898]
3. Sporadic inflation [Option ID = 37899]
4. Creeping inflation [Option ID = 37900]

19) Keynes Liquidity trap refers to[Question ID = 16976][Question Description = 119_221_GKD_SEP22_Q19]

1. Speculative demand for money [Option ID = 37901]
2. Transactions motive of money is inelastic [Option ID = 37902]
3. Precautionary motive of money is inelastic [Option ID = 37903]
4. Transactions motive of money is constant [Option ID = 37904]

20) A business is solvent if[Question ID = 16977][Question Description = 120_221_GKD_SEP22_Q20]

1. Total receipts exceed total expenditures [Option ID = 37905]
2. Total debt exceeds total equity [Option ID = 37906]
3. Total sales exceed total cash expense [Option ID = 37907]
4. Total assets exceed total liabilities [Option ID = 37908]

Topic:- Natural Resource Mgmt 1_PHD

1) A tensiometer reading of 10-25 centibar indicates

[Question ID = 15953][Question Description = 101_148_NR1_SEP22_Q01]

1. Saturation water content [Option ID = 33809]
2. Field capacity water content [Option ID = 33810]
3. Water content between field capacity and wilting point [Option ID = 33811]
4. Wilting point water content [Option ID = 33812]

2) Following are the facts about soil temperature

- A. It oscillates as a pure harmonic function of time around an average value
- B. Soil temperature and air temperature changes happen at the same pace
- C. Application of charcoal over the surface enhance the soil temperature
- D. Conduction is the primary mode of heat transfer in soil

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

[Question ID = 15954][Question Description = 102_148_NR1_SEP22_Q02]

1. A, B and D only [Option ID = 33813]
2. A and C only [Option ID = 33814]
3. B, C and D only [Option ID = 33815]
4. A, C and D only [Option ID = 33816]

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

Assertion A : When a sandy layer is overlying a clay loam layer, a “perched water table” develops in the sandy layer during infiltration, just above its boundary with the clay loam layer

Reason R : Sandy soil has higher saturated hydraulic conductivity compared to clay loam layer

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

[Question ID = 15955][Question Description = 103_148_NR1_SEP22_Q03]

1. Both A and R are true and R is the correct explanation of A [Option ID = 33817]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 33818]
3. A is true but R is false [Option ID = 33819]
4. A is false but R is true [Option ID = 33820]

4) Which of the following is NOT true?

[Question ID = 15956][Question Description = 104_148_NR1_SEP22_Q04]

1. Emissivity relates to Planck's law [Option ID = 33821]
2. Emissivity has no unit [Option ID = 33822]
3. For a perfect black body, emissivity has the highest value [Option ID = 33823]
4. The emissivity of soil decreases when its water content becomes higher [Option ID = 33824]

5) Which of the following is NOT an active remote sensing sensor.[Question ID = 15957][Question Description = 105_148_NR1_SEP22_Q05]

1. Radar [Option ID = 33825]
2. Lidar [Option ID = 33826]

3. SONAR [Option ID = 33827]
4. Microwave radiometer [Option ID = 33828]

6) The earth behaves as a blackbody with mean average temperature of[Question ID = 15958][Question Description = 106_148_NR1_SEP22_Q06]

1. 65 °F [Option ID = 33829]
2. 300 °K [Option ID = 33830]
3. 15 °C [Option ID = 33831]
4. 25 °C [Option ID = 33832]

7) Which of the following thermometers placed inside the Stevenson screen in a meteorological observatory is used to measure humidity?

[Question ID = 15959][Question Description = 107_148_NR1_SEP22_Q07]

1. Wet bulb thermometer and dry bulb thermometer [Option ID = 33833]
2. Wet bulb thermometer, dry bulb thermometer and normal thermometer [Option ID = 33834]
3. Wet bulb thermometer and normal thermometer [Option ID = 33835]
4. Wet bulb thermometer, dry bulb thermometer, maximum thermometer and minimum thermometer [Option ID = 33836]

8) Which of the following instrument is used to measure global solar radiation?[Question ID = 15960][Question Description = 108_148_NR1_SEP22_Q08]

1. Pyrheliometer [Option ID = 33837]
2. Pyranometer [Option ID = 33838]
3. Pyradiometer [Option ID = 33839]
4. Albedometer [Option ID = 33840]

9) In relational database management system (RDBMS) of geographical information system (GIS) environment, number of rows and columns are called as[Question ID = 15961][Question Description = 109_148_NR1_SEP22_Q09]

1. Attribute and tuple, respectively [Option ID = 33841]
2. Cardinality and degree, respectively [Option ID = 33842]
3. Tuple and cardinality, respectively [Option ID = 33843]
4. Tuple and attribute, respectively [Option ID = 33844]

10) Which one is correct in cylindrical equal area projection system, which is also known as Lambert's projection system

[Question ID = 15962][Question Description = 110_148_NR1_SEP22_Q10]

1. View of pole is distorted [Option ID = 33845]
2. The shape of the area at high latitude is distorted [Option ID = 33846]
3. Both area and all four edges are distorted [Option ID = 33847]
4. All four edges are distorted [Option ID = 33848]

11) The time interval after a pulse has occurred during which the counter is insensitive to further ionizing events is called as[Question ID = 15963][Question Description = 111_148_NR1_SEP22_Q11]

1. Dead time [Option ID = 33849]
2. Resolving time [Option ID = 33850]
3. Ionizing time [Option ID = 33851]
4. Sensitive time [Option ID = 33852]

12) First law of thermodynamics for isothermal expansion of an ideal gas can be expressed as

[Question ID = 15964][Question Description = 112_148_NR1_SEP22_Q12]

1. $\Delta Q = \Delta W$ [Option ID = 33853]
2. $\Delta Q = \Delta U$ [Option ID = 33854]
3. $\Delta U = \Delta W$ [Option ID = 33855]
4. $\Delta Q = \Delta T$ [Option ID = 33856]

13) The statement "two systems in thermal equilibrium with a third system separately are in thermal equilibrium with each other" represents

[Question ID = 15965][Question Description = 113_148_NR1_SEP22_Q13]

1. First law of thermodynamics [Option ID = 33857]
2. Second law of thermodynamics [Option ID = 33858]
3. Zeroth law of thermodynamics [Option ID = 33859]
4. Third law of thermodynamics [Option ID = 33860]

14) Match List I with List II

List I	List II
Physical quantity	SI unit
A. Momentum	I. Volt
B. Viscosity	II. kg m^{-3}
C. Density	III. $\text{kg m}^{-1}\text{s}^{-1}$
D. Electromotive force	IV. kg ms^{-1}

Choose the correct answer from the options given below:

[Question ID = 15966][Question Description = 114_148_NR1_SEP22_Q14]

1. A-IV, B-III, C-II, D-I [Option ID = 33861]
2. A-III, B-I, C-IV, D-II [Option ID = 33862]
3. A-III, B-II, C- IV, D-I [Option ID = 33863]
4. A-I, B-II, C-III, D-IV [Option ID = 33864]

15) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Characteristic X-rays are produced with specific energies

Reason R : Continuous X-rays have broad spectrum of photon energies

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

[Question ID = 15967][Question Description = 115_148_NR1_SEP22_Q15]

1. Both A and R are true and R is the correct explanation of A [Option ID = 33865]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 33866]
3. A is true but R is false [Option ID = 33867]
4. A is false but R is true [Option ID = 33868]

16) Due to rising CO_2 in the atmosphere, the C/N ratio of C3 plants is likely to [Question ID = 15968][Question Description = 116_148_NR1_SEP22_Q16]

1. Increase [Option ID = 33869]
2. Decrease [Option ID = 33870]
3. No change [Option ID = 33871]
4. First decrease then increase [Option ID = 33872]

17) Crop model 'CERES' stands for [Question ID = 15969][Question Description = 117_148_NR1_SEP22_Q17]

1. Crop Environment Resource Synthesis [Option ID = 33873]
2. Crop Environment Resource Simulation [Option ID = 33874]
3. Crop Engineered for Resource Synthesis [Option ID = 33875]
4. Crop Environment Interaction Research [Option ID = 33876]

18) Large Aperture Scientillometer directly measures [Question ID = 15970][Question Description = 118_148_NR1_SEP22_Q18]

1. Latent heat flux [Option ID = 33877]
2. Sensible heat flux [Option ID = 33878]
3. Water Vapour flux [Option ID = 33879]
4. Methane flux [Option ID = 33880]

19) Practical measurement of gaseous flux in turbulent atmosphere requires at the order of [Question ID = 15971][Question Description = 119_148_NR1_SEP22_Q19]

1. One minute [Option ID = 33881]
2. One second [Option ID = 33882]
3. One mili-second [Option ID = 33883]
4. One-tenth of second [Option ID = 33884]

20) IBSNAT stands for [Question ID = 15972][Question Description = 120_148_NR1_SEP22_Q20]

1. International Beureau of Sites Network for Agrotechnology Transfer [Option ID = 33885]
2. International Benchmark Sites Network for Agrotechnology Transfer [Option ID = 33886]
3. International Books System Network for Agrotechnology Transfer [Option ID = 33887]
4. International Books System Network for Agroecology Transfer

[Option ID = 33888]

21) Which type of relationship is there between El Nino and Indian summer monsoon rainfall in general? [Question ID = 15973][Question Description = 121_148_NR1_SEP22_Q21]

1. Positive [Option ID = 33889]
2. Negative [Option ID = 33890]
3. Neutral [Option ID = 33891]

4. Nonsense [Option ID = 33892]

22) What information is given through 'Damini' App of IMD ?

A. Lightning and thunderstorm

B. Name of the clouds

C. Rainfall analysis

D. Weather based Agroadvisory

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

[Question ID = 15974][Question Description = 122_148_NR1_SEP22_Q22]

1. A only [Option ID = 33893]
2. B and C only [Option ID = 33894]
3. C and D only [Option ID = 33895]
4. A and D only [Option ID = 33896]

23) What is the normal date of onset of south west monsoon at mainland of India?[Question ID = 15975][Question Description = 123_148_NR1_SEP22_Q23]

1. 10th May [Option ID = 33897]
2. 25th May [Option ID = 33898]
3. 1st June [Option ID = 33899]
4. 7th June [Option ID = 33900]

24) By which process frosting occur on leaves of the plant?[Question ID = 15976][Question Description = 124_148_NR1_SEP22_Q24]

1. Condensation [Option ID = 33901]
2. Sublimation [Option ID = 33902]
3. Evaporation [Option ID = 33903]
4. Transpiration [Option ID = 33904]

25) By which instrument the outgoing longwave radiation from the Earth surface can be measured?[Question ID = 15977][Question Description = 125_148_NR1_SEP22_Q25]

1. Pyranometer [Option ID = 33905]
2. Pyrhelimeter [Option ID = 33906]
3. Pyrgeometer [Option ID = 33907]
4. Line Quantum sensor [Option ID = 33908]

26) About 50% of atmospheric mass lies within the altitude of

[Question ID = 15978][Question Description = 126_148_NR1_SEP22_Q26]

1. 10.4 km [Option ID = 33909]
2. 15.5 km [Option ID = 33910]
3. 5.6 km [Option ID = 33911]
4. 22.4 km [Option ID = 33912]

27) The word "klima" means and derived from

[Question ID = 15979][Question Description = 127_148_NR1_SEP22_Q27]

1. Atmosphere, Greek word [Option ID = 33913]
2. Slope, Greek word [Option ID = 33914]
3. Earth, Latin word [Option ID = 33915]
4. Climate, Latin word [Option ID = 33916]

28) Match List I with List II

List I	List II
Cloud	Characteristics
A. Cirrus	I. Silky appearance
B. Altostratus	II. Medium cloud
C. Nimbostratus	III. Cloud with vertical development
D. Cumulus	IV. Rainfall producing cloud

Choose the correct answer from the options given below:

[Question ID = 15980][Question Description = 128_148_NR1_SEP22_Q28]

1. A - I, B - II, C - IV, D - III [Option ID = 33917]

2. A - II, B - IV, C - I, D - III [Option ID = 33918]
3. A - IV, B - II, C - III, D - I [Option ID = 33919]
4. A - II, B - IV, C - III, D - I [Option ID = 33920]

29) Monitoring meteorological drought using SPI (Standardized Precipitation Index) requires

[Question ID = 15981][Question Description = 129_148_NR1_SEP22_Q29]

1. Moisture data [Option ID = 33921]
2. Precipitation data [Option ID = 33922]
3. Rainfall and humidity data [Option ID = 33923]
4. Rainfall and evapotranspiration data [Option ID = 33924]

30) Which of the following wind system or zone is observed between 5 degree North to 5 degree South Latitude?[Question ID = 15982][Question Description = 130_148_NR1_SEP22_Q30]

1. Trade wind belt [Option ID = 33925]
2. Easterlies [Option ID = 33926]
3. Westerlies [Option ID = 33927]
4. Doldrum [Option ID = 33928]

31) The first issue of the journal 'The Indian Forester' was published in which year?

[Question ID = 15983][Question Description = 131_148_NR1_SEP22_Q31]

1. December, 1863 [Option ID = 33929]
2. July, 1875 [Option ID = 33930]
3. January, 1906 [Option ID = 33931]
4. October, 1827 [Option ID = 33932]

32) As per the India State of Forest Report-2021, highest average net annual gains in forest cover for the period 2010-2020 has been recorded in the country:[Question ID = 15984][Question Description = 132_148_NR1_SEP22_Q32]

1. Australia [Option ID = 33933]
2. Pakistan [Option ID = 33934]
3. China [Option ID = 33935]
4. India [Option ID = 33936]

33) Given below are two statements

Statement I: The Indian Forest (Amendment) Bill, 2017 was introduced in Lok Sabha by Mr. Harsh Vardhan, then Minister of Environment, Forest, and Climate Change on December 18, 2017.

Statement II: The Bill replaces the Indian Forest (Amendment) Ordinance, 2017 and amends the Indian Forest Act, 1927. The Act consolidates laws relating to forests, transit of forest-produce and the duty to be levied on them.

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

[Question ID = 15985][Question Description = 133_148_NR1_SEP22_Q33]

1. Both Statement I and Statement II are true [Option ID = 33937]
2. Both Statement I and Statement II are false [Option ID = 33938]
3. Statement I is true but Statement II is false [Option ID = 33939]
4. Statement I is false but Statement II is true [Option ID = 33940]

34) Forestry Statistics India- 2021 an important document compilation of important time series data on forestry aspects from 2010-11 to 2021-21 and is published by

[Question ID = 15986][Question Description = 134_148_NR1_SEP22_Q34]

1. Forestry Survey of India, Dehradun [Option ID = 33941]
2. Indian Council of Forestry Research and Education, Dehradun [Option ID = 33942]
3. National Sample Survey Organization, Govt. of India [Option ID = 33943]
4. Regional office, World Agroforestry Centre, New Delhi [Option ID = 33944]

35) Match List I with List II

List I	List II
International Day of Forests	Theme
A. 2022	I. Forests and Biodiversity: Too precious to loose
B. 2021	II. Forests and Education
C. 2020	III. Forest restoration: a path to recovery and well being
D. 2019	IV. Forests and sustainable production and consumption

Choose the correct answer from the options given below:

[Question ID = 15987][Question Description = 135_148_NR1_SEP22_Q35]

1. A - I, B - II, C - III, D - IV [Option ID = 33945]
2. A - IV, B - III, C - I, D - II [Option ID = 33946]
3. A - III, B - I, C - II, D - IV [Option ID = 33947]
4. A - II, B - IV, C - III, D - I [Option ID = 33948]

36) Forest Research Institute (FRI), Dehradun has its roots in the erstwhile Imperial Forest Research Institute established in the year

[Question ID = 15988][Question Description = 136_148_NR1_SEP22_Q36]

1. 1894 [Option ID = 33949]
2. 1906 [Option ID = 33950]
3. 1927 [Option ID = 33951]
4. 1947 [Option ID = 33952]

37) The headquarter of International Tropical Timber Organization (ITTO) is located at

[Question ID = 15989][Question Description = 137_148_NR1_SEP22_Q37]

1. Vienna, Austria [Option ID = 33953]
2. Sydney, Australia [Option ID = 33954]
3. Yokohama, Japan [Option ID = 33955]
4. Nairobi, Kenya [Option ID = 33956]

38) Based on the analysis of robust data pertaining to forest fires for fairly long period as reported in India State of Forest Report (ISFR) 2021, ____ % of the forest cover of the country is in the category of 'less fire prone'.

[Question ID = 15990][Question Description = 138_148_NR1_SEP22_Q38]

1. 64.54 [Option ID = 33957]
2. 53.39 [Option ID = 33958]
3. 37.67 [Option ID = 33959]
4. 23.59 [Option ID = 33960]

39) Advanced Research Centre for Bamboo and Rattan is located at.....[Question ID = 15991][Question Description = 139_148_NR1_SEP22_Q39]

1. Aizawal, Mizoram [Option ID = 33961]
2. Barapani, Meghalaya [Option ID = 33962]
3. Jorhat, Assam [Option ID = 33963]
4. Imphal, Manipur [Option ID = 33964]

40) Which of the following protocol is related to ozone depletion?[Question ID = 15992][Question Description = 140_148_NR1_SEP22_Q40]

1. Copenhagen Protocol [Option ID = 33965]
2. Kyoto Protocol [Option ID = 33966]
3. Montreal Protocol [Option ID = 33967]
4. Doha Protocol [Option ID = 33968]

41) Eco-auditing focuses on[Question ID = 15993][Question Description = 141_148_NR1_SEP22_Q41]

1. Assessment of actual effects of existing activities [Option ID = 33969]
2. Assessment of project decisions [Option ID = 33970]
3. Policy assessment [Option ID = 33971]
4. Post project assessment [Option ID = 33972]

42) Under the Climate Change Action Plan of Government of India, which of the renewable source of energy has been identified as a priority for exploitation?[Question ID = 15994][Question Description = 142_148_NR1_SEP22_Q42]

1. Solar energy [Option ID = 33973]
2. Wind energy [Option ID = 33974]
3. Geothermal energy [Option ID = 33975]
4. Tidal energy [Option ID = 33976]

43) According to the Bureau of Indian Standards (BIS), the upper limit of total dissolved solids (TDS) levels in drinking water supply should not exceed[Question ID = 15995][Question Description = 143_148_NR1_SEP22_Q43]

1. 250 ppm [Option ID = 33977]
2. 500 ppm [Option ID = 33978]
3. 350 ppm [Option ID = 33979]
4. 600 ppm [Option ID = 33980]

44) Michael Carsson in her book Silent Spring has raised concern on [Question ID = 15996][Question Description = 144_148_NR1_SEP22_Q44]

1. Economical & social impacts [Option ID = 33981]
2. Deforestation [Option ID = 33982]
3. Climate Change [Option ID = 33983]
4. Environmental harm caused by the indiscriminate use of pesticides [Option ID = 33984]

45) Which one of the following air pollution control device has the highest efficiency in controlling dust? [Question ID = 15997][Question Description = 145_148_NR1_SEP22_Q45]

1. Wet Scrubber [Option ID = 33985]
2. Electrostatic precipitator [Option ID = 33986]
3. Venturi Scrubber [Option ID = 33987]
4. Cyclonic spray scrubber [Option ID = 33988]

46) In which year the Ganga Action Plan (GAP) was launched? [Question ID = 15998][Question Description = 146_148_NR1_SEP22_Q46]

1. 1985 [Option ID = 33989]
2. 1987 [Option ID = 33990]
3. 1990 [Option ID = 33991]
4. 1995 [Option ID = 33992]

47) Seawater is a solution of?

[Question ID = 15999][Question Description = 147_148_NR1_SEP22_Q47]

1. 0.5 N NaCl and 0.05 N MnSO_4 [Option ID = 33993]
2. 0.5 N NaCl and 0.05 N MgSO_4 [Option ID = 33994]
3. 0.5 M NaCl and 0.05 M MnSO_4 [Option ID = 33995]
4. 0.5 M NaCl and 0.05 M MgSO_4 [Option ID = 33996]

48) In a catalytic converter, what is the correct order of reactions?

[Question ID = 16000][Question Description = 148_148_NR1_SEP22_Q48]

1. First reduction (NO) and after oxidation (HCs) [Option ID = 33997]
2. First oxidation (NO) and after reduction (HCs) [Option ID = 33998]
3. First oxidation (HCs) and after Reduction (NO) [Option ID = 33999]
4. First reduction (HCs) and after oxidation (NO) [Option ID = 34000]

49) Which detector is used for the analysis of peroxyacetyl nitrate (PAN) in gas chromatography? [Question ID = 16001][Question Description = 149_148_NR1_SEP22_Q49]

1. Flame ionization detector (FID) [Option ID = 34001]
2. Electron capture detector (ECD) [Option ID = 34002]
3. Flame photometric detector (FPD) [Option ID = 34003]
4. Thermal conductivity detector (TCD) [Option ID = 34004]

50) Which pollutant is responsible for the hardening of rubber?

[Question ID = 16002][Question Description = 150_148_NR1_SEP22_Q50]

1. Ozone [Option ID = 34005]
2. Peroxyacetyl nitrate [Option ID = 34006]
3. SO_2 [Option ID = 34007]
4. Hydrocarbons [Option ID = 34008]

Topic:- 61 Agricultural Physics_PHD

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

Assertion A : A partially submerged ruler or drinking straw in water appears bent

Reason R : The ratio of the sine of the angle of incidence to the sine of the angle of reflection is constant

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

[Question ID = 16103][Question Description = 101_199_AGP_SEP22_Q01]

1. Both A and R are true and R is the correct explanation of A [Option ID = 34409]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 34410]
3. A is true but R is false [Option ID = 34411]
4. A is false but R is true [Option ID = 34412]

2) Ratio of the magnitudes of electric force to the gravitational force between two protons at a distance 'r' apart is of the order of[Question ID = 16104][Question Description = 102_199_AGP_SEP22_Q02]

1. 10^{38} [Option ID = 34413]
2. 10^{-39} [Option ID = 34414]
3. 10^{40} [Option ID = 34415]
4. 10^{36} [Option ID = 34416]

3) A police officer fires a bullet of mass of 50 g with a speed of 200 ms^{-1} on soft plywood of thickness of 2 cm. The bullet emerges with only 10% of its initial kinetic energy. The emergent speed of the bullet is,[Question ID = 16105][Question Description = 103_199_AGP_SEP22_Q03]

1. 36.1 m/s [Option ID = 34417]
2. 44.0 m/s [Option ID = 34418]
3. 20.5 m/s [Option ID = 34419]
4. 63.2 m/s [Option ID = 34420]

4) Which of the following statements are true?

- A. A polarizer permits only waves with a specific polarization direction to pass
- B. Incandescent light bulbs and flames do not emit monochromatic light
- C. The incident ray, reflected ray, and the normal to the surface lie in the different planes.
- D. X-ray diffraction has been one of the chief experimental techniques in working out the surface morphology of a material

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

[Question ID = 16106][Question Description = 104_199_AGP_SEP22_Q04]

1. A and B only [Option ID = 34421]
2. B and C only [Option ID = 34422]
3. A, B and D only [Option ID = 34423]
4. A and C only [Option ID = 34424]

5) Match List I with List II

List I (Thermodynamic process)	List II (Explanation)
A. Free expansion	I. No cyclic process can convert heat completely into work
B. Cyclic process	II. The flow of heat from a hot body to a cooler body
C. Irreversible process	III. The total internal energy change must be zero
D. Second law of thermodynamics	IV. Uncontrolled expansion of a gas into vacuum

Choose the correct answer from the options given below:

[Question ID = 16107][Question Description = 105_199_AGP_SEP22_Q05]

1. A-I, B-II, C-III, D-IV
[Option ID = 34425]
2. A-IV, B-III, C-II, D-I
[Option ID = 34426]
3. A-III, B-I, C-IV, D-II
[Option ID = 34427]
4. A-III, B-IV, C-I, D-II
[Option ID = 34428]

6) Given below are two statements

Statement I: The soil infiltration process depends upon both hydraulic conductivity (K_s) and the hydraulic gradient of the soil profile

Statement II: Soil profile rather than only the surface layer governs the steady-state infiltration rate

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

[Question ID = 16108][Question Description = 106_199_AGP_SEP22_Q06]

1. Both Statement I and Statement II are correct [Option ID = 34429]
2. Both Statement I and Statement II are incorrect [Option ID = 34430]
3. Statement I is correct but Statement II is incorrect [Option ID = 34431]
4. Statement I is incorrect but Statement II is correct [Option ID = 34432]

7) Which of the following is NOT a measurement of soil bulk density?[Question ID = 16109][Question Description = 107_199_AGP_SEP22_Q07]

1. Core method [Option ID = 34433]
2. Clod method [Option ID = 34434]
3. Gamma-ray backscattering [Option ID = 34435]
4. Soil penetrometer [Option ID = 34436]

8) The unit of the intrinsic permeability in the soil is[Question ID = 16110][Question Description = 108_199_AGP_SEP22_Q08]

1. $\text{m}^2 \text{s}^{-1}$ [Option ID = 34437]
2. m^2 [Option ID = 34438]
3. m s^{-1} [Option ID = 34439]
4. $\text{m}^{-1} \text{s}^{-1}$ [Option ID = 34440]

9) Given below are two statements

Statement I: Soil moisture content at any suction is lower in soil water sorption than desorption process

Statement II: It happens because soil pores are of irregular diameter and geometrically non-uniform

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

[Question ID = 16111][Question Description = 109_199_AGP_SEP22_Q09]

1. Both Statement I and Statement II are true [Option ID = 34441]
2. Both Statement I and Statement II are false [Option ID = 34442]
3. Statement I is true but Statement II is false [Option ID = 34443]
4. Statement I is false but Statement II is true [Option ID = 34444]

10) The quantity of heat transferred through a unit cross-sectional area in unit time under a unit temperature gradient is called[Question ID = 16112][Question Description = 110_199_AGP_SEP22_Q10]

1. Latent heat flux [Option ID = 34445]
2. Heat capacity [Option ID = 34446]
3. Thermal conductivity [Option ID = 34447]
4. Thermal diffusivity [Option ID = 34448]

11) Three different values of soil saturated hydraulic conductivity (K-sat) are possible when the soil is

- A. Isotropic
- B. Anisotropic
- C. Homogenous
- D. Non Homogenous

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

[Question ID = 16113][Question Description = 111_199_AGP_SEP22_Q11]

1. A and D only
[Option ID = 34449]
2. B and C only
[Option ID = 34450]
3. C only
[Option ID = 34451]
4. B only
[Option ID = 34452]

12) Which of the following Bowen ratio value closely represents a recently irrigated field?[Question ID = 16114][Question Description = 112_199_AGP_SEP22_Q12]

1. 20.0 [Option ID = 34453]
2. 2.0 [Option ID = 34454]
3. 0.2 [Option ID = 34455]
4. 1.0 [Option ID = 34456]

13) Which of the following is NOT true for hydraulic diffusivity?[Question ID = 16115][Question Description = 113_199_AGP_SEP22_Q13]

1. It is the ratio of flux to the soil water content gradient [Option ID = 34457]
2. The flow equation is synonymous with Fick's second diffusive equation only when it is constant [Option ID = 34458]
3. It has unit as length squared per unit time [Option ID = 34459]
4. It's range of variation with soil wetness is larger than hydraulic conductivity changes [Option ID = 34460]

14) Solar constant is defined as the quantity of solar energy at normal incidence on the earth surface at the mean sun-earth distance and its value is about[Question ID = 16116][Question Description = 114_199_AGP_SEP22_Q14]

1. 1.366 kW m⁻² [Option ID = 34461]
2. 1.36 langley min⁻¹ [Option ID = 34462]
3. 1.95 kW m⁻² [Option ID = 34463]
4. 1.36 cal cm⁻²s⁻¹ [Option ID = 34464]

15) Which of the following statements are correct about laws of radiation

- A. Stefan-Boltzman's law states that emitted radiation by a body is proportional to fourth power of temperature
- B. Wein's law states that energy content of a body is proportional to frequency
- C. Kirchoff's law states that absorptivity of an object for radiation of a specific wavelength is equal to emissivity
- D. Planck's law states that energy content of a body is proportional to wavelength

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

[Question ID = 16117][Question Description = 115_199_AGP_SEP22_Q15]

1. A, B and C only
[Option ID = 34465]
2. A, C and D only
[Option ID = 34466]
3. A and D only
[Option ID = 34467]
4. A and C only
[Option ID = 34468]

16) Among the following statements about wavelength of electromagnetic spectrum, which are correct?

- A. Wavelength of visible light is 0.4 to 0.76 μm
- B. Wavelength of yellow light is 0.53-0.58 μm
- C. Wavelength of infrared radiation 7.6 x 10⁻⁵ to 0.3 μm
- D. Wavelength of X-ray is 10⁻¹² to 10⁻⁶ μm

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

[Question ID = 16118][Question Description = 116_199_AGP_SEP22_Q16]

1. A, B and D only [Option ID = 34469]
2. A, C and D only [Option ID = 34470]
3. A and D only [Option ID = 34471]
4. A and B only [Option ID = 34472]

17) According to Rayleigh scattering, If the circumference of the scattering particle is less than about 1/10 of the wavelength of the incident radiation, the scattering coefficient is[Question ID = 16119][Question Description = 117_199_AGP_SEP22_Q17]

1. Inversely proportional to the fourth power of the wavelength of incident radiation [Option ID = 34473]
2. Directly proportional to the fourth power of the wavelength of incident radiation [Option ID = 34474]
3. Inversely proportional to the wavelength of incident radiation [Option ID = 34475]
4. Inversely proportional to the second power of the wavelength of incident radiation [Option ID = 34476]

18) Given below are two statements

Statement I: Albedo is defined as the percentage of total incoming solar radiation reflected by an object

Statement II: Albedo of dry sand dune is about 15-25%

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

[Question ID = 16120][Question Description = 118_199_AGP_SEP22_Q18]

1. Both Statement I and Statement II are correct [Option ID = 34477]
2. Both Statement I and Statement II are incorrect [Option ID = 34478]
3. Statement I is correct but Statement II is incorrect [Option ID = 34479]
4. Statement I is incorrect but Statement II is correct [Option ID = 34480]

19) Given below are two statements

Statement I: Atmospheric window is defined as the infrared region of the spectrum (8.5-11.0 μm), through which most part of the outgoing longwave radiation is escaped to sky

Statement II: In the atmospheric window, there is relatively little absorption of long wave infrared radiation by atmospheric gasses

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

[Question ID = 16121][Question Description = 119_199_AGP_SEP22_Q19]

1. Both Statement I and Statement II are correct [Option ID = 34481]
2. Both Statement I and Statement II are incorrect [Option ID = 34482]
3. Statement I is correct but Statement II is incorrect [Option ID = 34483]
4. Statement I is incorrect but Statement II is correct [Option ID = 34484]

20) According to Beer's law, the interception of light (I/I_a) by plant canopy depends on (I is the intensity of light within the plant canopy and I_a is the light intensity at the top of canopy)

[Question ID = 16122][Question Description = 120_199_AGP_SEP22_Q20]

1. Extinction coefficient of canopy [Option ID = 34485]
2. Leaf area index [Option ID = 34486]
3. Incident solar radiation [Option ID = 34487]
4. Both extinction coefficient of canopy and leaf area index [Option ID = 34488]

21) Given below are two statements

Statement I: Nuclear Magnetic Resonance spectroscopy is based on the absorption of electromagnetic radiation in the microwave region

Statement II: The nuclei of atoms show a change in energy state when an analyte is placed in an intense magnetic field

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

[Question ID = 16123][Question Description = 121_199_AGP_SEP22_Q21]

1. Both Statement I and Statement II are correct [Option ID = 34489]
2. Both Statement I and Statement II are incorrect [Option ID = 34490]
3. Statement I is correct but Statement II is incorrect [Option ID = 34491]
4. Statement I is incorrect but Statement II is correct [Option ID = 34492]

22) Which of the following is the standard method of examining DNA chains?[Question ID = 16124][Question Description = 122_199_AGP_SEP22_Q22]

1. Sedimentation [Option ID = 34493]
2. Polarization [Option ID = 34494]
3. Diffraction [Option ID = 34495]
4. Electrophoresis [Option ID = 34496]

23) We do NOT encounter diffraction effects of light in everyday observations because,

[Question ID = 16125][Question Description = 123_199_AGP_SEP22_Q23]

1. The wavelength of light is much larger than the dimensions of most obstacles [Option ID = 34497]
2. The velocity of light is much smaller than the dimensions of most obstacles [Option ID = 34498]
3. The wavelength of light is much smaller than the dimensions of most obstacles [Option ID = 34499]
4. The velocity of light is comparable to the dimensions of most obstacles [Option ID = 34500]

24) In ultracentrifugation, the molecules are separated as a function of

- A. Mass
- B. Shape
- C. Viscosity
- D. Density

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

[Question ID = 16126][Question Description = 124_199_AGP_SEP22_Q24]

1. A, B and C only [Option ID = 34501]
2. B and D only [Option ID = 34502]
3. A, B and D only [Option ID = 34503]
4. A and B only [Option ID = 34504]

25) Which of the following technique is used to measure the size and shape of nanomaterials in biological systems?

[Question ID = 16127][Question Description = 125_199_AGP_SEP22_Q25]

1. Transmission electron microscopy (TEM) [Option ID = 34505]
2. Nuclear magnetic resonance (NMR) [Option ID = 34506]
3. Polarization [Option ID = 34507]
4. Electron paramagnetic resonance (EPR) [Option ID = 34508]

26) DebyeScherrer equation is used to measure[Question ID = 16128][Question Description = 126_199_AGP_SEP22_Q26]

1. average crystallite size [Option ID = 34509]
2. actual particle size [Option ID = 34510]
3. average mass [Option ID = 34511]
4. reduced mass [Option ID = 34512]

27) Pick up the correct option

- A. Blue sky is a manifestation of Rayleigh scattering
- B. Water vapour and dust are the major causes of Mie scattering
- C. H₂O and O₂ are the major absorbing molecules in the microwave region
- D. Fog and clouds appear white in an image due to Rayleigh scattering

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

[Question ID = 16129][Question Description = 127_199_AGP_SEP22_Q27]

1. A, B and D only [Option ID = 34513]
2. A, B, and C only [Option ID = 34514]
3. B, C, and D only [Option ID = 34515]
4. B and D only [Option ID = 34516]

28) Total emission from an object over all wavelengths relates to its absolute temperature. This can be explained by:

[Question ID = 16130][Question Description = 128_199_AGP_SEP22_Q28]

1. Stefan-Boltzman's law [Option ID = 34517]
2. Fourier's law [Option ID = 34518]
3. Kirchoff's law [Option ID = 34519]
4. Wien's law [Option ID = 34520]

29) Match List I with List II

List I	List II
Indian Satellite	Application
A. IRNSS	I. Urban planning
B. INS-2TD	II. Disaster management
C. EOS-1	III. Communication
D. CMS-01	IV. Experimental
E. Cartosat-3	V. Navigation

Choose the correct answer from the options given below:

[Question ID = 16131][Question Description = 129_199_AGP_SEP22_Q29]

1. A - I, B - II, C - V, D - III, E - IV [Option ID = 34521]
2. A - I, B - II, C - III, D - IV, E - V [Option ID = 34522]
3. A - II, B - I, C - IV, D - V, E - III [Option ID = 34523]
4. A - V, B - IV, C - II, D - III, E - I [Option ID = 34524]

30) The first Indian satellite with a synthetic aperture radar (SAR) is:[Question ID = 16132][Question Description = 130_199_AGP_SEP22_Q30]

1. RISAT-2B [Option ID = 34525]
2. HysIS [Option ID = 34526]
3. Cartosat-1 [Option ID = 34527]
4. IRS-1A [Option ID = 34528]

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

Assertion A: The normalized Difference Vegetation Index (NDVI) can detect plants under stress

Reason R: An healthy plant absorbs most of the visible energy incident upon it (<20% reflectance) and reflects a large portion (>50%) of incident near-infrared radiation.

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

[Question ID = 16133][Question Description = 131_199_AGP_SEP22_Q31]

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 34529]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 34530]

3. A is correct but R is not correct

[Option ID = 34531]

4. A is not correct but R is correct

[Option ID = 34532]

32) Which of the following combinations of crops are NOT covered under the FASAL programme of DAC&FW (Department of Agricultural Cooperation and Farmers Welfare)?

[Question ID = 16134][Question Description = 132_199_AGP_SEP22_Q32]

1. kharif rice, jute, wheat [Option ID = 34533]

2. kharif rice, sugarcane, rabi rice [Option ID = 34534]

3. cotton, rapeseed, rabi sorghum [Option ID = 34535]

4. maize, wheat, kharif rice [Option ID = 34536]

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

Assertion A: Each plant in a wheat field contributes differently to the reflected radiation causing within-class variability or 'scene-noise'.

Reason R: Separability between classes depends on the combination of spectral bands than just the number of bands used for classification.

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

[Question ID = 16135][Question Description = 133_199_AGP_SEP22_Q33]

1. Both A and R are correct and R is the correct explanation of A [Option ID = 34537]

2. Both A and R are correct but R is NOT the correct explanation of A [Option ID = 34538]

3. A is correct but R is not correct [Option ID = 34539]

4. A is not correct but R is correct [Option ID = 34540]

34) Among the following statements on ordinary kriging, which are correct?

A. In ordinary kriging method, the larger is the nugget variance, the smaller are the weights of the points that are nearest to target point

B. In ordinary kriging method, near points carry more weight than more distant ones

C. In ordinary kriging method, clustered points carry less weight individually than isolated ones at the same distance

D. In ordinary kriging method, the relative weights of points also depend on the block size: as the block size increases, the weights of the nearest points increase and those of the more distant points decrease

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

[Question ID = 16136][Question Description = 134_199_AGP_SEP22_Q34]

1. A, B and C only [Option ID = 34541]

2. A, C and D only [Option ID = 34542]

3. A and C only [Option ID = 34543]

4. A and B only [Option ID = 34544]

35) Match List I with List II

List I	List II
Spatial interpolation methods	Interpolation characteristics

A. Theisen polygon	I. Weights are given on three surrounding data only
B. Triangulation	II. Interpolation is continuous and smooth
C. Natural neighbor	III. Weights are either 1 or 0
D. Inverse distance weighting	IV. Weights are inversely proportional to distance

Choose the correct answer from the options given below:

[Question ID = 16137][Question Description = 135_199_AGP_SEP22_Q35]

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

[Option ID = 34545]

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

[Option ID = 34546]

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

[Option ID = 34547]

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

[Option ID = 34548]

36) Among the following statements about slope and curvature derived from elevation surface, which are correct?

A. Slope is defined as the first order derivative of elevation surface

B. Plan curvature and profile curvature is third order derivatives of elevation surface

C. Slope may be expressed as radian or per cent

D. Plan curvature and profile curvature may be expressed as degree

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

[Question ID = 16138][Question Description = 136_199_AGP_SEP22_Q36]

1. A, B and C only [Option ID = 34549]

2. A, C and D only [Option ID = 34550]

3. A and C only [Option ID = 34551]

4. A and B only [Option ID = 34552]

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

Assertion A: In h-scattergram plot, the closer the points lie to the diagonal line with gradient 1, the larger is the semivariance, $\gamma(h)$

Reason R: In geostatistics, h-scattergram is the plot between a random variable $z(x)$ and its value at lag distance h , $z(x+h)$

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

[Question ID = 16139][Question Description = 137_199_AGP_SEP22_Q37]

1. Both A and R are correct and R is the correct explanation of A [Option ID = 34553]

2. Both A and R are correct but R is NOT the correct explanation of A [Option ID = 34554]

3. A is correct but R is not correct [Option ID = 34555]

4. A is not correct but R is correct [Option ID = 34556]

38) Which of the following relation between scale and spatial resolution of a map is correct?[Question ID = 16140][Question Description = 138_199_AGP_SEP22_Q38]

1. 1:10,000 scale represents 10 m spatial resolution [Option ID = 34557]

2. 1:50,000 scale represents 25 m spatial resolution [Option ID = 34558]

3. 1:5,00,000 scale represents 200 m spatial resolution [Option ID = 34559]

4. 1:24,000 scale represents 10 m spatial resolution [Option ID = 34560]

39) Given below are two statements

Statement I: In cylindrical map projection system, the view of the pole is not distorted

Statement II: In azimuthal map projection system, the area is distorted

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

[Question ID = 16141][Question Description = 139_199_AGP_SEP22_Q39]

1. Both Statement I and Statement II are correct [Option ID = 34561]

- Both Statement I and Statement II are incorrect [Option ID = 34562]
- Statement I is correct but Statement II is incorrect [Option ID = 34563]
- Statement I is incorrect but Statement II is correct [Option ID = 34564]

40) In the Universal Transverse Mercator (UTM) projection system, the earth is divided into different projection zones, which are:[Question ID = 16142][Question Description = 140_199_AGP_SEP22_Q40]

- 5° longitude wide [Option ID = 34565]
- 3° longitude wide [Option ID = 34566]
- 10° longitude wide [Option ID = 34567]
- 6° longitude wide [Option ID = 34568]

41) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Normal atmospheric pressure near sea level is close to 14.7 pounds per square inch.

Reason R : Because the weight of a column of air (1 square inch in cross section), extending from the sea level to the tropopause, it would weigh very nearly 14.7 pounds.

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

[Question ID = 16143][Question Description = 141_199_AGP_SEP22_Q41]

- Both A and R are true and R is the correct explanation of A [Option ID = 34569]
- Both A and R are true but R is NOT the correct explanation of A [Option ID = 34570]
- A is true but R is false [Option ID = 34571]
- A is false but R is true [Option ID = 34572]

42) Match List I with List II

List I	List II
Parameter	Unit
A. Luminous Flux	I. Candela
B. Luminous Intensity	II. Lumen
C. Luminance	III. Lux
D. Illuminance	IV. Cd m ⁻²

Choose the correct answer from the options given below:

[Question ID = 16144][Question Description = 142_199_AGP_SEP22_Q42]

- A - I , B - III , C - II , D - IV [Option ID = 34573]
- A - III , B - II , C - I , D - IV [Option ID = 34574]
- A - I , B - III , C - IV , D - II [Option ID = 34575]
- A - II , B - I , C - IV , D - III [Option ID = 34576]

43) What is the effect called when warm air blows through a small plot with little or no guard area, a very severe horizontal heat transfer occurs?

[Question ID = 16145][Question Description = 143_199_AGP_SEP22_Q43]

- Oasis effect [Option ID = 34577]
- Clothesline effect [Option ID = 34578]
- Convergence effect [Option ID = 34579]
- Divergence effect [Option ID = 34580]

44) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Wind machines are used to protect from frost.

Reason R : Because wind machines break the nocturnal temperature inversion by mechanically mixing the air.

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

[Question ID = 16146][Question Description = 144_199_AGP_SEP22_Q44]

- Both A and R are true and R is the correct explanation of A [Option ID = 34581]
- Both A and R are true but R is NOT the correct explanation of A [Option ID = 34582]
- A is true but R is false [Option ID = 34583]
- A is false but R is true [Option ID = 34584]

45) How the slope of the saturation vapour pressure (kPa) changes with temperature (°C)?

[Question ID = 16147][Question Description = 145_199_AGP_SEP22_Q45]

- Linearly [Option ID = 34585]
- Exponentially [Option ID = 34586]
- Logarithmically [Option ID = 34587]

4. Polinomially [Option ID = 34588]

46) What is “reference surface” according to FAO Expert Consultation on Revision of FAO Methodologies for Crop Water Requirements?

[Question ID = 16148][Question Description = 146_199_AGP_SEP22_Q46]

1. "A hypothetical reference crop with an assumed crop height of 0.12 m, a fixed surface resistance of 70 s m^{-1} and an albedo of 0.23." [Option ID = 34589]
2. "A hypothetical reference crop with an assumed crop height of 1.0 m, a fixed surface resistance of 70 s m^{-1} and an albedo of 0.23." [Option ID = 34590]
3. "A hypothetical reference crop with an assumed crop height of 0.12 m, a fixed surface resistance of 50 s m^{-1} and an albedo of 0.23." [Option ID = 34591]
4. "A hypothetical reference crop with an assumed crop height of 1.0 m, a fixed surface resistance of 50 s m^{-1} and an albedo of 0.23." [Option ID = 34592]

47) Match List I with List II

List I	List II
Name of Cyclone	Name given by
A. Asani	I. Oman
B. Yaas	II. Pakistan
C. Gati	III. Myanmar
D. Tauktae	IV. India

Choose the correct answer from the options given below:

[Question ID = 16149][Question Description = 147_199_AGP_SEP22_Q47]

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

[Option ID = 34593]

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

[Option ID = 34594]

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

[Option ID = 34595]

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

[Option ID = 34596]

48) Match List I with List II

List I	List II
Phenomena/ Parameter	Instrument
A. Evaporation	I. Pan Evaporimeter
B. Transpiration	II. Pressure Bomb Apparatus
C. Photosynthesis	III. Infra-Red Gas Analyzer
D. Leaf Water Potential	IV. Potometer

Choose the correct answer from the options given below:

[Question ID = 16150][Question Description = 148_199_AGP_SEP22_Q48]

1. A-I, B-II, C-III, D-IV [Option ID = 34597]

2. A-II, B-III, C-I, D-IV [Option ID = 34598]

3. A-III, B-IV, C-II, D-I [Option ID = 34599]

4. A-I, B-IV, C-III, D-II [Option ID = 34600]

49) Which of the following defines the basal crop coefficient (K_{cb})?[Question ID = 16151][Question Description = 149_199_AGP_SEP22_Q49]

1. The ratio of ET_c to ET_o under well watered condition [Option ID = 34601]
2. The ratio of ET_o to ET_c under well watered condition [Option ID = 34602]
3. The ratio of ET_o to ET_c under well watered condition but soil surface is dry [Option ID = 34603]
4. The ratio of ET_c to ET_o under well watered condition but soil surface is dry

[Option ID = 34604]

50) For how many days in advance, weather forecasts are currently issued by IMD in DAMU Project?[Question ID = 16152][Question Description = 150_199_AGP_SEP22_Q50]

1. 3 days [Option ID = 34605]
2. 5 days [Option ID = 34606]
3. 10 days [Option ID = 34607]
4. 15 days [Option ID = 34608]

