71 Water Science and Technology 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 Secreatariat 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 f 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 2_PHD

1) The maximum permissible limit of biuret in urea as per FCO for foliar application is

[Question ID = 16353][Question Description = 101_152_NRM2_SEP22_Q01]

1. <0.25

   [Option ID = 35409]
2. >1.00%

   [Option ID = 35410]
3. <2.5%

   [Option ID = 35411]
4. <0.5%

   [Option ID = 35412]

2) Following are the statements about Molybdenum (Mo)

A. It comes under the category of beneficial elements

B. It is absorbed by plants as Mo O_4^{2-}

C. It moves to plant roots largely through diffusion

D. Deficiency of Mo increase with a decrease in soil pH

E. Deficiency of Mo can be prevented or overcome through seed treatment prior to planting or by spraying it on crop foliage

Choose the *correct* answer from the options given below

[Question ID = 16354][Question Description = 102_152_NRM2_SEP22_Q02]

1. A, C and D

   [Option ID = 35413]
2. B, C and E

   [Option ID = 35414]
3. B, D and E

   [Option ID = 35415]
4. A, C and E

   [Option ID = 35416]

3) Given below are two statements
Statement I: Generally, a large fraction of the carbon fixed prior to the seed filling is remobilized towards seed

Statement II: A small amount of photosynthates currently assimilated are utilized by the tissues that are currently growing actively, prior to seed filling

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

[Question ID = 16355][Question Description = 103_152_NRM2_SEP22_Q03]

1. Both Statement I and Statement II are correct [Option ID = 35417]
2. Both Statement I and Statement II are incorrect [Option ID = 35418]

3. Statement I is correct but Statement II is incorrect [Option ID = 35419]
4. Statement I is incorrect but Statement II is correct [Option ID = 35420]

4) Frost-stress tolerant rapeseed-mustard varieties are

[Question ID = 16356][Question Description = 104_152_NRM2_SEP22_Q04]

1. Pusa Mustard 26 and Navgold [Option ID = 35421]
2. RGN 145 and Vardan [Option ID = 35422]
3. Pusa Gold and Geeta [Option ID = 35423]
4. RH 819 and RGN 48 [Option ID = 35424]

5) Which type of cotton provides the highest ginning percentage?

[Question ID = 16357][Question Description = 105_152_NRM2_SEP22_Q05]

1. *Gossypium barbadense* [Option ID = 35425]
2. *Gossypium hirsutum* [Option ID = 35426]
3. *Gossypium arboreum* [Option ID = 35427]
4. No variation of ginning percentage among different types of cotton [Option ID = 35428]

6) Which among the following experimental designs is the least accurate one?

[Question ID = 16358][Question Description = 106_152_NRM2_SEP22_Q06]

1. CRD [Option ID = 35429]
2. RCBD [Option ID = 35430]
3. Split-plot Design [Option ID = 35431]
4. Strip-plot Design [Option ID = 35432]

7) When the yellow sarson should be harvested to obtain the highest oil content in seeds?[Question ID = 16359][Question Description = 107_152_NRM2_SEP22_Q07]

1. 27 days after flowering [Option ID = 35433]
2. 37 days after flowering [Option ID = 35434]
3. 47 days after flowering [Option ID = 35435]
4. 67 days after flowering [Option ID = 35436]

8) A wetland wooden plough ordinarily covers about _____ ha area in eight hours for the first puddling.[Question ID = 16360][Question Description = 108_152_NRM2_SEP22_Q08]

1. 0.28 [Option ID = 35437]
2. 0.24 [Option ID = 35438]
3. 0.16 [Option ID = 35439]
4. 0.10 [Option ID = 35440]

9) Maize and pigeonpea are sown in 250 m^2 in 1:1 ratio in replacement series of intercropping. The production of maize and pigeonpea from this intercropping is 150 and 25 kg, respectively. What is the intercrop yield of pigeonpea in q/ha?

[Question ID = 16361][Question Description = 109_152_NRM2_SEP22_Q09]

1. 2000 [Option ID = 35441]
2. 20 [Option ID = 35442]
3. 1000 [Option ID = 35443]
4. 10 [Option ID = 35444]

10) For a given level of soil fertility, decrease in soil moisture supply is associated with a definite increase in concentration of which nutrient in plant tissue?[Question ID = 16362][Question Description = 110_152_NRM2_SEP22_Q10]

1. Nitrogen [Option ID = 35445]
2. Phosphorus [Option ID = 35446]
3. Potassium [Option ID = 35447]
4. Calcium [Option ID = 35448]

11) Which anti-nutritional factor present in lentil reacts with lysine and methionine and reduces their availability during digestion process in human body?

[Question ID = 16363][Question Description = 111_152_NRM2_SEP22_Q11]

1. Phytic acid [Option ID = 35449]
2. Condensed tannins [Option ID = 35450]
3. Saponins [Option ID = 35451]
4. Phytolecithins [Option ID = 35452]

12) Which of the nitrogenous fertilizers has the highest salt index value

[Question ID = 16364][Question Description = 112_152_NRM2_SEP22_Q12]

1. Ammonium sulphate [Option ID = 35453]
2. Ammonium chloride [Option ID = 35454]
3. Ammonium nitrate [Option ID = 35455]
4. Calcium ammonium nitrate [Option ID = 35456]

13) Soil most suitable for corrugation irrigation

[Question ID = 16365][Question Description = 113_152_NRM2_SEP22_Q13]

1. Saline soil [Option ID = 35457]
2. Clay soil [Option ID = 35458]
3. Loam soil [Option ID = 35459]
4. Sandy soil [Option ID = 35460]

14) Equipment that provides a direct measure of the tenacity with which water is held by the soils

[Question ID = 16366][Question Description = 114_152_NRM2_SEP22_Q14]

1. Tensiometer [Option ID = 35461]
2. Pressure plate equipment [Option ID = 35462]
3. Neutron moisture meter [Option ID = 35463]
4. Gypsum block [Option ID = 35464]

15) In the "stability series" of weatherability of minerals, the least stable mineral which has independent tetrahedron is:

[Question ID = 16367][Question Description = 115_152_NRM2_SEP22_Q15]

1. Olivine [Option ID = 35465]
2. Biotite [Option ID = 35466]
3. Amphiboles [Option ID = 35467]
4. Mg-pyroxenes [Option ID = 35468]

16) The Universal Soil Loss Equation (USLE) as presented by expression $(A = R \times K \times L \times S \times C \times P)$ is proposed by:

[Question ID = 16368][Question Description = 116_152_NRM2_SEP22_Q16]

1. Wischmeier and Smith (1978) [Option ID = 35469]
2. Wischmeier (1959) [Option ID = 35470]
3. Zingg (1940) [Option ID = 35471]
4. Smith (1941) [Option ID = 35472]

17) As per International Union of Soil Sciences (IUSS), the size (diameter) of silt is:

[Question ID = 16369][Question Description = 117_152_NRM2_SEP22_Q17]

1. 0.002 mm [Option ID = 35473]
2. 0.02 mm [Option ID = 35474]
3. 0.2 mm [Option ID = 35475]
4. 2.0 mm [Option ID = 35476]

18) Given below are two statements
Statement I: The configuration of land surface is known as 'topography' or relief.

Statement II: Topography influences soil formation primarily through its effects on modifying water and temperature relations.

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

[Question ID = 16370][Question Description = 118_152_NRM2_SEP22_Q18]

1. Both Statement I and Statement II are true [Option ID = 35477]
2. Both Statement I and Statement II are false [Option ID = 35478]
3. Statement I is true but Statement II is false [Option ID = 35479]
4. Statement I is false but Statement II is true [Option ID = 35480]

19) The pedogenic process involving removal of silica from soil and accumulation of sesquioxides (goethite, gibbsite, *etc*.) with or without the formation of iron stone and concretions is known as:

[Question ID = 16371][Question Description = 119_152_NRM2_SEP22_Q19]

1. Ferruginisation [Option ID = 35481]
2. Podzolization [Option ID = 35482]
3. Laterization [Option ID = 35483]
4. Baunification [Option ID = 35484]

20) *Kaolinite group* of minerals includes a number of clay minerals such as:

A. Kaolinite

B. Halloysite

C. Dickite

D. Phlogopite

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

[Question ID = 16372][Question Description = 120_152_NRM2_SEP22_Q20]

1. A, B and C only [Option ID = 35485]
2. A, B and D only [Option ID = 35486]
3. A, C and D only [Option ID = 35487]
4. B, C and D only [Option ID = 35488]

21) Adsorption process involves accumulation of the substance adsorbed[Question ID = 16373][Question Description = 121_152_NRM2_SEP22_Q21]

1. Throughout the body of the substance adsorbing it. [Option ID = 35489]
2. On the surface of the adsorbing substance. [Option ID = 35490]
3. In a solution in contact with the adsorbing substance. [Option ID = 35491]
4. Below the adsorbing substance. [Option ID = 35492]

22) Micronutrient cations are extracted with DTPA extractant which consisted of:[Question ID = 16374][Question Description = 122_152_NRM2_SEP22_Q22]

1. 0.05 *M* DTPA + 0.1 M TEA + 0.01 M $CaCl_2$ [Option ID = 35493]
2. 0.05 *M* DTPA + 0.1 M TEA + 0.1 M $CaCl_2$ [Option ID = 35494]
3. 0.005 *M* DTPA + 0.1 M TEA + 0.01 M $CaCl_2$ [Option ID = 35495]
4. 0.05 *M* DTPA + 0.1 M TEA + 0.1 M $CaCl_2$ [Option ID = 35496]

23) A number of temporary yet dramatic changes occur in the NH_3 retention zone after application of anhydrous NH_3 in soil. 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 concentrations of both NH_3 and NH_4^+ are increased in the range of 1000-3000 ppm.

C. Concentration of NO_2^- (nitrite) is increased to toxic levels (100-300 ppm) because *Nitrobacter* is much more sensitive to high pH (9.0-9.5) than *Nitrosomonas*.

D. Population of microorganisms increased tremendously because free NH_3 (non-ionized NH_4) is less toxic to plants, animals, microorganisms.

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

[Question ID = 16375][Question Description = 123_152_NRM2_SEP22_Q23]

1. A, B and D only [Option ID = 35497]
2. A, B and C only [Option ID = 35498]
3. A, C and D only [Option ID = 35499]
4. B, C and D only [Option ID = 35500]

24) When a soil solution is concentrated four times, the activity ratio of potassium (K)-calcium (Ca) in solution will[Question ID = 16376][Question Description = 124_152_NRM2_SEP22_Q24]

1. Increase eight times [Option ID = 35501]
2. Decrease two times [Option ID = 35502]
3. Increase two times [Option ID = 35503]
4. Decrease four times [Option ID = 35504]

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

Assertion A: Nickel is associated with nitrogen metabolism by way of influencing urease activity.

Reason R: In systems where urea is used as the sole N fertilizer for foliar spray and nickel supply is poor, lower urease activity causes urea toxicity to the foliage and leads to severe necrosis of the root tips.

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

[Question ID = 16377][Question Description = 125_152_NRM2_SEP22_Q25]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 35505]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 35506]
3. **A** is true but **R** is false [Option ID = 35507]
4. **A** is false but **R** is true [Option ID = 35508]

26) Match List I with List II

List I	List II
A. Iron	I. Eriochrome Black T
B. Boron	II. Ferric alum
C. Chlorine	III. Orthophenanthroline
D. Calcium	IV. Azomethine-H

Choose the correct answer from the options given below:

[Question ID = 16378][Question Description = 126_152_NRM2_SEP22_Q26]

1. A-II, B-I, C-IV, D-III [Option ID = 35509]
2. A-IV, B-II, C-III, D-I [Option ID = 35510]
3. A-III, B-IV, C-II, D-I [Option ID = 35511]
4. A-I, B-III, C-II, D-IV [Option ID = 35512]

27) "Contaf" is a trade name of[Question ID = 16379][Question Description = 127_152_NRM2_SEP22_Q27]

1. Hexaconazole [Option ID = 35513]
2. Propiconazole [Option ID = 35514]
3. Imidacloprid [Option ID = 35515]
4. Cyhalothrin [Option ID = 35516]

28) Which of the following two pesticides should NOT be stored together?

[Question ID = 16380][Question Description = 128_152_NRM2_SEP22_Q28]

1. Insecticide and fungicide [Option ID = 35517]
2. Fungicide and rodenticide [Option ID = 35518]
3. Fungicide and plant growth regulator [Option ID = 35519]
4. Insecticide and herbicide [Option ID = 35520]

29) Diflubenzuron is an example of[Question ID = 16381][Question Description = 129_152_NRM2_SEP22_Q29]

1. Ecdysone inhibitor [Option ID = 35521]
2. Herbicide [Option ID = 35522]
3. Chitin synthesis inhibitor [Option ID = 35523]
4. Plant growth regulator [Option ID = 35524]

30) Rubber is an example of[Question ID = 16382][Question Description = 130_152_NRM2_SEP22_Q30]

1. Monoterpene [Option ID = 35525]
2. Diterpene [Option ID = 35526]
3. Triterpene [Option ID = 35527]
4. Polyterpene [Option ID = 35528]

31) Number of carbon present in monoterpene[Question ID = 16383][Question Description = 131_152_NRM2_SEP22_Q31]

1. 5 [Option ID = 35529]
2. 10 [Option ID = 35530]
3. 15 [Option ID = 35531]
4. 20 [Option ID = 35532]

32) Which crop can tolerate the exchangable sodium percentage of 70 better than crops?

[Question ID = 16384][Question Description = 132_152_NRM2_SEP22_Q32]

1. Rice

   [Option ID = 35533]
2. Barley

   [Option ID = 35534]
3. Beets

   [Option ID = 35535]
4. Mustard

   [Option ID = 35536]

33) A 10 mg propiconazole in 1 L solvent makes solution concentration of

[Question ID = 16385][Question Description = 133_152_NRM2_SEP22_Q33]

1. 0.01 ppm [Option ID = 35537]
2. 0.001 ppm [Option ID = 35538]
3. 0.1 ppm [Option ID = 35539]
4. 1 ppm [Option ID = 35540]

34) Calculate the concentration of the solution (0.1gm/ml) when it is diluted 100 times

[Question ID = 16386][Question Description = 134_152_NRM2_SEP22_Q34]

1. 0.1 ppm [Option ID = 35541]
2. 1.0 ppm [Option ID = 35542]
3. 10.0 ppm [Option ID = 35543]
4. 0.01 ppm [Option ID = 35544]

35) Piperonyl butoxide is a[Question ID = 16387][Question Description = 135_152_NRM2_SEP22_Q35]

1. Fungicide [Option ID = 35545]
2. Insecticide [Option ID = 35546]
3. Herbicide safener [Option ID = 35547]
4. Isecticide synergist [Option ID = 35548]

36) Total number of pesticides registered in India till date range between

[Question ID = 16388][Question Description = 136_152_NRM2_SEP22_Q36]

1. 280-290 [Option ID = 35549]
2. 290-300 [Option ID = 35550]
3. 300-310 [Option ID = 35551]
4. 310-320 [Option ID = 35552]

37) According to recent data, which of the following groups of pesticides is being used maximum by farmers worldwide?

[Question ID = 16389][Question Description = 137_152_NRM2_SEP22_Q37]

1. Rodenticide [Option ID = 35553]
2. Herbicide [Option ID = 35554]
3. Fungicide [Option ID = 35555]
4. Insecticide [Option ID = 35556]

38) Jasmolin is linked to[Question ID = 16390][Question Description = 138_152_NRM2_SEP22_Q38]

1. *Tanacetum* sp [Option ID = 35557]
2. *Eucalyptus* sp [Option ID = 35558]
3. *Cynodon* sp [Option ID = 35559]
4. *Phalaris* sp [Option ID = 35560]

39) Kakrapara project was implemented on the river

[Question ID = 16391][Question Description = 139_152_NRM2_SEP22_Q39]

1. Chenab

   [Option ID = 35561]
2. Tapti

   [Option ID = 35562]
3. Godavari

   [Option ID = 35563]
4. Koyana

   [Option ID = 35564]

40) The founding Chairman of Central Water Commission

[Question ID = 16392][Question Description = 140_152_NRM2_SEP22_Q40]

1. Dr. B.R. Ambedkar [Option ID = 35565]
2. Dr. R. K. Gupta [Option ID = 35566]
3. Dr. A. N. Khosla [Option ID = 35567]
4. Dr. Rajendra Prasad [Option ID = 35568]

41) The ICAR was bestowed with 'the King Baudouin Development Prize International' in 1989 and 2004. The King Baudouin Foundation (KBF) was set up on the occasion of the 25th anniversary of King Baudouin's reign to sponser the award is based in which country?

[Question ID = 16393][Question Description = 141_152_NRM2_SEP22_Q41]

1. Philippines

   [Option ID = 35569]
2. Indonesia

   [Option ID = 35570]
3. South Africa

   [Option ID = 35571]
4. Belgium

   [Option ID = 35572]

42) AMRUT 2.0 programme was launched on

[Question ID = 16394][Question Description = 142_152_NRM2_SEP22_Q42]

1. March 22, 2021 [Option ID = 35573]
2. March 12, 2021 [Option ID = 35574]
3. October 1, 2021 [Option ID = 35575]
4. April 24, 2022 [Option ID = 35576]

43) The foundation day of ICAR-Indian Institue of Water Management is[Question ID = 16395][Question Description = 143_152_NRM2_SEP22_Q43]

1. July 16 [Option ID = 35577]
2. February 22 [Option ID = 35578]
3. April 23 [Option ID = 35579]
4. May 12 [Option ID = 35580]

44) Publisher of 'Water Resources Management' journal[Question ID = 16396][Question Description = 144_152_NRM2_SEP22_Q44]

1. John Willey and Sons [Option ID = 35581]
2. Elsevier [Option ID = 35582]
3. Springer [Option ID = 35583]
4. Taylor and Francis [Option ID = 35584]

45) The Brahmaputra river enters at which place of Arunachal Pradesh in India?[Question ID = 16397][Question Description = 145_152_NRM2_SEP22_Q45]

1. Tawang [Option ID = 35585]
2. Bhalukpong [Option ID = 35586]
3. Changlang [Option ID = 35587]
4. Dihang [Option ID = 35588]

46) 'AMRUT' scheme is implmented by which ministry

[Question ID = 16398][Question Description = 146_152_NRM2_SEP22_Q46]

1. Ministry of Jal Shakti [Option ID = 35589]
2. Ministry of Environment, Forest and Climate Change [Option ID = 35590]
3. Ministry of Housing and Urban Affairs [Option ID = 35591]
4. Ministry of Agriculture and Farmers' Welfare [Option ID = 35592]

47) Soil moisture deficiency level for scheduling irrigation in jute[Question ID = 16399][Question Description = 147_152_NRM2_SEP22_Q47]

1. 40 - 50 % [Option ID = 35593]
2. 50 - 60 % [Option ID = 35594]
3. 60 - 70 % [Option ID = 35595]
4. 30 - 40 % [Option ID = 35596]

48) Water man of India[Question ID = 16400][Question Description = 148_152_NRM2_SEP22_Q48]

1. Pavan Sukhdev [Option ID = 35597]
2. Rattan Lal [Option ID = 35598]
3. Anna Hazare [Option ID = 35599]
4. Rajendra Singh [Option ID = 35600]

49) 'Bunga' watershed is located in

[Question ID = 16401][Question Description = 149_152_NRM2_SEP22_Q49]

1. Uttarakhand [Option ID = 35601]
2. Chandigarh [Option ID = 35602]

3. Madhya Pradesh [Option ID = 35603]
4. Chhatisgarh [Option ID = 35604]

50) The state having highest water resources

[Question ID = 16402][Question Description = 150_152_NRM2_SEP22_Q50]

1. Odisha [Option ID = 35605]
2. Punjab [Option ID = 35606]
3. Tamilnadu [Option ID = 35607]
4. Uttar Pradesh [Option ID = 35608]

Topic:- 71 Water Science and Technology_PHD

1) Which of the following BIS codes is used for installtion of Symon's raingaue ?

[Question ID = 16858][Question Description = 101_155_WST_SEP22_Q01]

1. IS: 5973 [Option ID = 37429]
2. IS: 4986 [Option ID = 37430]
3. IS: 5235 [Option ID = 37431]
4. IS: 4987 [Option ID = 37432]

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

Assertion A : The shape of hydrograph is affected by basin shape

Reason R : The shape of the basin influences the time of concentration

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

[Question ID = 16859][Question Description = 102_155_WST_SEP22_Q02]

1. Both **A** and **R** are true and **R** is the correct explanation of **A.** [Option ID = 37433]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A.** [Option ID = 37434]
3. **A** is true but **R** is false. [Option ID = 37435]
4. **A** is false but **R** is true. [Option ID = 37436]

3) NRCS curve number method in Indian conditions is used for which of the following situations?

[Question ID = 16860][Question Description = 103_155_WST_SEP22_Q03]

1. Area < 800 ha, average land slope < 0.5%

   [Option ID = 37437]
2. Area < 800 ha, average land slope >0.5%

   [Option ID = 37438]
3. Area > 800 ha, average land slope < 0.5%

   [Option ID = 37439]
4. Area > 800 ha, average land slope > 0.5%

   [Option ID = 37440]

4) Which of the following drainage pattern in watersheds does not appear in medium textured soil?[Question ID = 16861]
[Question Description = 104_155_WST_SEP22_Q04]

1. Radial [Option ID = 37441]
2. Braided [Option ID = 37442]
3. Pinnate [Option ID = 37443]
4. Dendritic [Option ID = 37444]

5) Colour used to depict the Land Capability Class 'III' in watersheds

[Question ID = 16862][Question Description = 105_155_WST_SEP22_Q05]

1. Dark green [Option ID = 37445]
2. Blue [Option ID = 37446]
3. Red [Option ID = 37447]
4. Yellow [Option ID = 37448]

6) Read the following statements regarding ponds

A. Seepage losses in ponds depend on soil properties and independent of construction technique

B. Evaporation in ponds can be reduced by selecting a site having a small surface area and deep depth

C. Channel slopes in dams above the fill should range from 4 to 8 per cent

D. In case of spring pond the dam may be placed across a depression

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

[Question ID = 16863][Question Description = 106_155_WST_SEP22_Q06]

1. A, B and D only [Option ID = 37449]
2. B and C only [Option ID = 37450]
3. A, B and C only [Option ID = 37451]
4. B, C and D only [Option ID = 37452]

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

Assertion A : Blankets should be applied to the upstream face of a dam where frequent total, or rapid drawdown is anticipated

Reason R : There is a danger of slumping due to the internal hydrostatic pressure in the saturated portion of the dam in upstream face

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

[Question ID = 16864][Question Description = 107_155_WST_SEP22_Q07]

1. Both **A** and **R** are true and **R** is the correct explanation of **A.** [Option ID = 37453]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A.** [Option ID = 37454]
3. **A** is true but **R** is false. [Option ID = 37455]
4. **A** is false but **R** is true. [Option ID = 37456]

8) Match List I with List II

List I	List II
Equation/Formula	Use for
A. Franci's formula	I. Infiltration
B. Glover-Dumm Meyer's formula	II. Wave height in a dam
C. Geiger Counters	III. Evaporation
D. Lewis and Milne equation	IV. Discharge in weirs
E. Hawksley's formula	V. Rate of flow

Choose the correct answer from the options given below:

[Question ID = 16865][Question Description = 108_155_WST_SEP22_Q08]

1. A - IV, B - V, C - I, D - III, E - II [Option ID = 37457]
2. A -V, B - IV, C - III, D - II, E - I [Option ID = 37458]
3. A - II, B - IV, C - V, D - I, E - III [Option ID = 37459]
4. A - IV, B - III, C - V, D - I, E - II [Option ID = 37460]

9) Which of the following is the function of toe wall in a drop spillway?[Question ID = 16866][Question Description = 109_155_WST_SEP22_Q09]

1. Reduces uplift pressure [Option ID = 37461]
2. Prevents piping under the structure [Option ID = 37462]
3. Assists in holding a stable fill [Option ID = 37463]
4. Resists sliding of the structure [Option ID = 37464]

10) In a straight inlet type of drop structure if the height of weir is 50 cm, free board 15 cm, and depth of critical flow 25 cm, then the depth of toe wall will be[Question ID = 16867][Question Description = 110_155_WST_SEP22_Q10]

1. 0.125 m [Option ID = 37465]
2. 0.45 m [Option ID = 37466]
3. 1.125 m [Option ID = 37467]
4. 0.6 m [Option ID = 37468]

11) The quantity of soil moved in wind erosion varies with

A. Cube of excess wind velocity over and above the constant threshold velocity

B. Square of excess wind velocity over and above the constant threshold velocity

C. Directly as square- root of particle diameter

D. Directly as cube- root of particle diameter

E. Increases with the gradation of soil

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

[Question ID = 16868][Question Description = 111_155_WST_SEP22_Q11]

1. A, D and E only

   [Option ID = 37469]
2. B and D only

   [Option ID = 37470]
3. A and C only

   [Option ID = 37471]
4. A, C and E only

   [Option ID = 37472]

12) Match List I with List II

List I	List II
Properties of soil	Soil texture
A. Coarse textured soil	I. Sandy loam
B. Moderately coarse textured soil	II. Clay loam
C. Medium textured soil	III. Silty clay
D. Moderately fine textured soil	IV. Loamy sand
E. Fine textured soil	V. Silt loam

Choose the correct answer from the options given below:

[Question ID = 16869][Question Description = 112_155_WST_SEP22_Q12]

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

   [Option ID = 37473]
2. A -IV , B - I, C -V , D - II, E-III

   [Option ID = 37474]
3. A -I, B - V, C - IV, D - III, E - II

   [Option ID = 37475]
4. A -IV , B -I , C - II, D - V, E-III

   [Option ID = 37476]

13) In order to express the property of a medium alone independent of the property of fluid, which of the following term is used?

[Question ID = 16870][Question Description = 113_155_WST_SEP22_Q13]

1. Fludity [Option ID = 37477]
2. Permeability [Option ID = 37478]
3. Intrinsic permeability [Option ID = 37479]
4. Coefficient of permeability [Option ID = 37480]

14) Which of the followings is not the main area of water-plant relationship?[Question ID = 16871][Question Description = 114_155_WST_SEP22_Q14]

1. Water absorption [Option ID = 37481]
2. Water adsorption [Option ID = 37482]
3. Water conduction [Option ID = 37483]
4. Water loss [Option ID = 37484]

15) Write correct sequence of the effective root zone depth of crops grown on a very deep and well drained soil[Question ID = 16872][Question Description = 115_155_WST_SEP22_Q15]

1. Groundnut > Cauliflower > Lucerne > Soybean [Option ID = 37485]
2. Soybean > Lucerne > Cauliflower > Groundnut [Option ID = 37486]
3. Lucerne > Soybean > Groundnut > Cauliflower [Option ID = 37487]
4. Soybean > Groundnut > Lucerne > Cauliflower [Option ID = 37488]

16) Following are the statements about diffusion pressure deficit (DPD)

A. A fully turged tissue has zero DPD.

B. DPD in a cell is always negative.

C. Normally, DPD increases as water deficit increases until it equals the osmotic pressure except when a negative wall pressure developes

D. DPD = Osmotic pressure of cell content + turger pressure within the cell

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

[Question ID = 16873][Question Description = 116_155_WST_SEP22_Q16]

1. A and B only [Option ID = 37489]
2. A and C only [Option ID = 37490]
3. B and D only [Option ID = 37491]
4. A, B and D only [Option ID = 37492]

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

Assertion A: Dark coloured soils have more evaporative loss of water

Reason R: Colour of soil has no influence on evaporative loss of water, thus all soils show nearly same evaporative loss of water

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

[Question ID = 16874][Question Description = 117_155_WST_SEP22_Q17]

1. Both **A** and **R** are correct and **R** is the correct explanation of **A.** [Option ID = 37493]
2. Both **A** and **R** are correct and **R** is the correct explanation of **A.** [Option ID = 37494]
3. **A** is correct but **R** is not correct. [Option ID = 37495]
4. **A** is not correct but **R** is correct. [Option ID = 37496]

18) The neutron probe moisture meter emits which of the followings

[Question ID = 16875][Question Description = 118_155_WST_SEP22_Q18]

1. ß-radiation and slow neutrons

   [Option ID = 37497]
2. ß-radiation and fast neutrons

   [Option ID = 37498]
3. γ-radiation and slow neutrons

   [Option ID = 37499]
4. γ-radiation and fast neutrons

   [Option ID = 37500]

19) In a medium textured soil, if feel or appearance of soil is somewhat crumby but holds together from pressure, the available soil moisture remaining is

[Question ID = 16876][Question Description = 119_155_WST_SEP22_Q19]

1. 0-25 % [Option ID = 37501]
2. 25- 50 % [Option ID = 37502]
3. 50- 75 % [Option ID = 37503]
4. 75- 100 % [Option ID = 37504]

20) The drum culture technique meant for determining water requirement in rice normally uses how many metallic drums?

[Question ID = 16877][Question Description = 120_155_WST_SEP22_Q20]

1. Two [Option ID = 37505]
2. Three [Option ID = 37506]
3. Four [Option ID = 37507]
4. Six [Option ID = 37508]

21) Read the following statements about evaporation and transpiration.

A. The potential evapotranspiration rate decreases when soil moisture suction decreases

B. The relative evapotranspiration is dependent upon soil moisture retention capacity of soil and the extent of root system

C. The value of relative evapotranspiration is zero when the available soil moisture storage is zero

D. Both evaporation and transpiration decrease rapidly within a day or two after irrigation

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

[Question ID = 16878][Question Description = 121_155_WST_SEP22_Q21]

1. A, B and C only [Option ID = 37509]
2. B and C only [Option ID = 37510]
3. A, C and D only [Option ID = 37511]

4. A and D only [Option ID = 37512]

22) The first river interlinking project in India is[Question ID = 16879][Question Description = 122_155_WST_SEP22_Q22]

1. Damanganga - Pinjal [Option ID = 37513]
2. Narmada- Kshipra [Option ID = 37514]
3. Krishna - Pennar [Option ID = 37515]
4. Bedti - Varda [Option ID = 37516]

23) Match List I with List II

List I	List II
River Basin	Country
A. Syr Darya	I. Tazikistan
B. Chu	II. Cambodia
C. Amu Darya	III. Kazakhstan
D. Me Kong	IV. Kyrgyztan
e. Karnali	V. Nepal

Choose the correct answer from the options given below:

[Question ID = 16880][Question Description = 123_155_WST_SEP22_Q23]

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

   [Option ID = 37517]
2. A -V , B - III, C - IV, D - II, E-I

   [Option ID = 37518]
3. A -III , B - IV, C -I , D - II, E-V

   [Option ID = 37519]
4. A - IV, B -I , C -V , D - III, E-II

   [Option ID = 37520]

24) River that does not feed to Ganga[Question ID = 16881][Question Description = 124_155_WST_SEP22_Q24]

1. Yammuna [Option ID = 37521]
2. Ghaghara [Option ID = 37522]
3. Kosi [Option ID = 37523]
4. Ravi [Option ID = 37524]

25) Correct sequence of the major irrigation projects completed during 1820- 1930[Question ID = 16882][Question Description = 125_155_WST_SEP22_Q25]

1. Lower Ganga Canal > Sarda Canal > Sirhind Canal > Cauvery Delta system [Option ID = 37525]
2. Sirhind Canal > Sarda Canal > Cauvery Delta system > Lower Ganga Canal [Option ID = 37526]
3. Sarda Canal > Sirhind Canal > Lower Ganga Canal > Cauvery Delta system [Option ID = 37527]
4. Lower Ganga Canal > Sirhind Canal > Cauvery Delta system > Sarda Canal [Option ID = 37528]

26) A frame Ridger is used for[Question ID = 16883][Question Description = 126_155_WST_SEP22_Q26]

1. Drip irrigation system design [Option ID = 37529]
2. Surface irrigation system design [Option ID = 37530]
3. Drainage line [Option ID = 37531]
4. Subsurface irrigation system design [Option ID = 37532]

27) Match List I with List II

List I	List II
A. Conductivity	I. Wheatstone Bridges
B. Sub surface drain	II. Hazen-Williams equation
C. Friction loss for main and submain pipes	III. Kirkham formula
D. EC of water sample	IV. Hooghout's equation

Choose the correct answer from the options given below:

[Question ID = 16884][Question Description = 127_155_WST_SEP22_Q27]

1. A -II, B -III, C -IV, D - I [Option ID = 37533]
2. A -III, B - IV, C -I, D - II [Option ID = 37534]
3. A - IV, B -III, C - I, D - II [Option ID = 37535]
4. A - III, B -I, C - II, D - IV [Option ID = 37536]

28) On a 3% land slope, what is the horzontal spacing of bunds in medium rainfall zone and length of bunds per hectare?

[Question ID = 16885][Question Description = 128_155_WST_SEP22_Q28]

1. 23 m and 300 m, respectively

   [Option ID = 37537]
2. 20 m and 320 m, respectively

   [Option ID = 37538]
3. 25 m and 333 m, respectively

   [Option ID = 37539]
4. 30 m and 333 m, respectively

   [Option ID = 37540]

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

Assertion A : Surplus weirs are used with contour bunds

Reason R : Surplus weirs do not require any land to be taken away from cultivation and can be located at desired location.

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

[Question ID = 16886][Question Description = 129_155_WST_SEP22_Q29]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 37541]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 37542]
3. **A** is true but **R** is false [Option ID = 37543]
4. **A** is false but **R** is true [Option ID = 37544]

30) Match List I with List II

List I	List II
A. Agri silviculture system	I. Food crop with trees or shrubs
B. Alley cropping	II. Horticultural crops with food crops
C. Silvi pastoral system	III. Trees with crops
D. Agri horticulture system	IV. Grasses and legumes with trees and shrubs
	V. Field crops

Choose the correct answer from the options given below:

[Question ID = 16887][Question Description = 130_155_WST_SEP22_Q30]

1. A -IV, B -III, C -II, D - I [Option ID = 37545]
2. A -III, B -I, C -IV, D -II [Option ID = 37546]
3. A -II, B - III, C -IV, D - I [Option ID = 37547]
4. A - III, B -IV, C -II, D - I [Option ID = 37548]

31) Given below are two statements

Statement I: Conservation tillage refers to general seed bed preparation consitsting of ploughing, harrowing and planting

Statement II: Zone tillage is a method of tillage where the seedbed is prepared by cultivating the soil in a narrow strip in adjacent area to the proposed planting row.

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

[Question ID = 16888][Question Description = 131_155_WST_SEP22_Q31]

1. Both Statement I and Statement II are correct [Option ID = 37549]
2. Both Statement I and Statement II are incorrect [Option ID = 37550]
3. Statement I is correct but Statement II is incorrect [Option ID = 37551]
4. Statement I is incorrect but Statement II is correct [Option ID = 37552]

32) Followings are the part of canal network systems

A. Minor

B. Branch canal

C. Distributary

D. Head works

E. Main canal

Choose the *correct* sequence of the part of a canal system from course

[Question ID = 16889][Question Description = 132_155_WST_SEP22_Q32]

1. D, C, B, A, E [Option ID = 37553]
2. D, E, B, C, A [Option ID = 37554]
3. E, C, A, B, D [Option ID = 37555]
4. A, C, E, B, D [Option ID = 37556]

33) For a standing crop, the consumptive use of water is equal to the[Question ID = 16890][Question Description = 133_155_WST_SEP22_Q33]

1. Depth of water evaporated by the crop [Option ID = 37557]
2. Depth of water transpired and evaporated by the crop [Option ID = 37558]
3. Depth of water transpired by the crop [Option ID = 37559]
4. Depth of water used by the crop in transpiration, evaporation and also the quantity of water evaporated from adjacent soil [Option ID = 37560]

34) The difference in level between the top of a bank and supply level in a canal, is called[Question ID = 16891][Question Description = 134_155_WST_SEP22_Q34]

1. Berm [Option ID = 37561]
2. Free board [Option ID = 37562]
3. Height of bank [Option ID = 37563]
4. Wave height [Option ID = 37564]

35) Given below are two statements

Statement I: Environmental Impact Assessment (EIA) refers to the study to identify a plan for environmental protection and enhancement on a project-by project basis

Statement II: EIA indicates only the positive impacts to the environment resulting from a proposed project.

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

[Question ID = 16892][Question Description = 135_155_WST_SEP22_Q35]

1. Both Statement I and Statement II are correct [Option ID = 37565]
2. Both Statement I and Statement II are incorrect [Option ID = 37566]
3. Statement I is correct but Statement II is incorrect [Option ID = 37567]
4. Statement I is incorrect but Statement II is correct [Option ID = 37568]

36) A soil sample is collected just before irrigation, and another soil sample is collected two days after irrigation. The soil sample collected before irrigation weighs 1.73 kg, and the soil collected after irrigation weights 1.94 kg. Both soils are placed in an oven and dried at 100^0 C for 24 hours. After drying, the soil collected just before irrigation weighs 1.49 kg and the soil collected after irrigation weighs 1.52 kg. What are the volumetric water contents just before and after irrigation assuming Bulk density of soil as 1.5gm/cc

[Question ID = 16893][Question Description = 136_155_WST_SEP22_Q36]

1. 24.1% and 41.4% resepctively [Option ID = 37569]
2. 16.1% and 27.6% respectively [Option ID = 37570]
3. 0.7% and 18.4%respectively [Option ID = 37571]
4. 13.9% and 21.6% respectively [Option ID = 37572]

37) A 10 ha area is to be irrigated through sprinkler irrigation system, depth of application of irrigation water is 7cm with irrigation interval of 10 days. Pump is to be operated for 4 hour per day with application efficiency of 0.8. What should be the capacity of pump?

[Question ID = 16894][Question Description = 137_155_WST_SEP22_Q37]

1. 15 l/sec [Option ID = 37573]
2. 35.6 l/sec [Option ID = 37574]
3. 60.81l/sec [Option ID = 37575]
4. 100.6 l/sec [Option ID = 37576]

38) Given below are two statements

Statement I: Full irrigation involves providing the entire irrigation requirement and results in maximum production.

Statement II: Full irrigation is economically justified when water is not aboundantly available and irrigation cost are low

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

[Question ID = 16895][Question Description = 138_155_WST_SEP22_Q38]

1. Both Statement I and Statement II are correct

   [Option ID = 37577]
2. Both Statement I and Statement II are incorrect

[Option ID = 37578]

3. Statement I is incorrect but Statement II is correct

[Option ID = 37579]

4. Statement I is correct but Statement II is incorrect

[Option ID = 37580]

39) Read the following statements

A. Turbulent fluid flow is characterised by the rapid fluctuation of instantaneous pressure and velocity at a point.

B. Hydrometer used for the determination of specific gravities of liquids works on the principle of buoyant forces.

C. In case of unsteady fluid flow, the velocity at any given point does not change with time.

D. Surface tension of a liquid is because of the difference in magnitude of adhesive and cohesive forces.

Choose the *incorrect* statement

[Question ID = 16896][Question Description = 139_155_WST_SEP22_Q39]

1. A, B and D only [Option ID = 37581]
2. B only [Option ID = 37582]
3. C only [Option ID = 37583]
4. C and D only [Option ID = 37584]

40) The relationship between the efficiency of the pump and the discharge at a particular speed is represented by[Question ID = 16897][Question Description = 140_155_WST_SEP22_Q40]

1. Efficiency curve [Option ID = 37585]
2. Head capacity curve [Option ID = 37586]
3. Brake Horse Power Curve [Option ID = 37587]
4. Power curve [Option ID = 37588]

41) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Yield of a well is inversely proportional to the depth of a well

Reason R : Attempts should be made to get greater depth of aquifers instead of decreasing the diameter of the well

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

[Question ID = 16898][Question Description = 141_155_WST_SEP22_Q41]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 37589]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 37590]
3. **A** is true but **R** is false [Option ID = 37591]
4. Both **A** and **R** are not True [Option ID = 37592]

42) Match List I with List II

List I	List II
A. Climate	I. Does NOT contribute to global warming
B. Solar radiation management	II. Ability of certain atmospheric gases to trap heat
C. Acetylene	III. Geo engineering
D. Greenhouse effect	IV. The long-term average weather

Choose the correct answer from the options given below:

[Question ID = 16899][Question Description = 142_155_WST_SEP22_Q42]

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

[Option ID = 37593]

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

[Option ID = 37594]

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

[Option ID = 37595]

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

[Option ID = 37596]

43) A. Himalayan Watershed Management Project in Uttar Pradesh

B. Desert Development Programme (DDP)

C. Integrated Wasteland Development Programme (IWDP)

D. National Watershed Development Project for Rainfed Areas (NWDPRA)

Choose the *correct* sequence of watershed management programme implemented in India

[Question ID = 16900][Question Description = 143_155_WST_SEP22_Q43]

1. B, A, C, D [Option ID = 37597]
2. B, A, D, C [Option ID = 37598]
3. C, D, A, B [Option ID = 37599]
4. C, A, B, D [Option ID = 37600]

44) According to Thornthwaite and Mather classification, the moisture index value for dry sub humid climate is[Question ID = 16901][Question Description = 144_155_WST_SEP22_Q44]

1. 0-20 [Option ID = 37601]
2. 66.67 - -33.3 [Option ID = 37602]
3. -33.3 - 0 [Option ID = 37603]
4. >100 [Option ID = 37604]

45) Read following statements about legumes

A. Legumes fix nitrogen independent of bacteria.

B. Legumes fix nitrogen through bacteria in their roots.

C. Legumes fix nitrogen through bacteria in their leaves.

D. Legumes do NOT fix nitrogen.

E. Some legumes are stem nodulating

Choose the *correct* statement

[Question ID = 16902][Question Description = 145_155_WST_SEP22_Q45]

1. A, C and E only [Option ID = 37605]
2. B and E only [Option ID = 37606]
3. B only [Option ID = 37607]
4. C and D only [Option ID = 37608]

46) Salt tolerant plants are called as[Question ID = 16903][Question Description = 146_155_WST_SEP22_Q46]

1. Halophytes [Option ID = 37609]
2. Glycophytes [Option ID = 37610]
3. Xerophytes [Option ID = 37611]
4. Monophytes [Option ID = 37612]

47) If the depths of water in the field are 1.2 cm and mean deviation from the mean is 0.1 cm, what is the distribution efficiency in the field?

[Question ID = 16904][Question Description = 147_155_WST_SEP22_Q47]

1. 66.6% [Option ID = 37613]
2. 93% [Option ID = 37614]
3. 85% [Option ID = 37615]
4. 15% [Option ID = 37616]

48) Total depth of water required for complete growth cycle of the crop is called as

[Question ID = 16905][Question Description = 148_155_WST_SEP22_Q48]

1. Delta [Option ID = 37617]
2. Duty [Option ID = 37618]
3. Rotation period [Option ID = 37619]
4. Irrigation water requirement [Option ID = 37620]

49) For a particular irrigation field has culturable command area of 200 ha, out of which 150 ha is cultivated in rabi season and 100 ha is cultivated in *kharif* season, what is the intensity of irrigation for *kharif* and *rabi* season, respectively

[Question ID = 16906][Question Description = 149_155_WST_SEP22_Q49]

1. 55% and 75% [Option ID = 37621]
2. 50% and 70% [Option ID = 37622]
3. 50% and 60% [Option ID = 37623]
4. 50% and 75% [Option ID = 37624]

50) Isopiestic lines are the contours[Question ID = 16907][Question Description = 150_155_WST_SEP22_Q50]

1. Drawn to represent suction heads [Option ID = 37625]
2. Drawn to piezometric surface [Option ID = 37626]
3. Drawn to represent water table [Option ID = 37627]
4. Drawn to represent rainfall [Option ID = 37628]