

52 Aquatic Environmental Management 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:- Fishery Science 1_PHD

1) Which of the following is NOT a crustacean?

[Question ID = 5351][Question Description = 101_174_FSC_SEP22_Q01]

1. Hermit crab [Option ID = 21401]
2. Mole crab [Option ID = 21402]
3. Horseshoe crab [Option ID = 21403]
4. Spider crab [Option ID = 21404]

2) Indian snapper is scientifically known as[Question ID = 5352][Question Description = 102_174_FSC_SEP22_Q02]

1. *Lutjanus argentimaculatus* [Option ID = 21405]
2. *Lutjanus bengalensis* [Option ID = 21406]
3. *Lutjanus johnii* [Option ID = 21407]
4. *Lutjanus madras* [Option ID = 21408]

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

Assertion A : Freshwater teleosts have hyposmotic internal environment to their surroundings.

Reason R : Freshwater teleosts limit their water intake and excrete large quantities of dilute urine.

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

[Question ID = 5353][Question Description = 103_174_FSC_SEP22_Q03]

1. Both A and R are true and R is the correct explanation of A [Option ID = 21409]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 21410]
3. A is true but R is false [Option ID = 21411]
4. A is false but R is true [Option ID = 21412]

4) Internal glandular structure, found in the mantle cavity of some molluscs, involved in secretion of egg cases is[Question ID = 5354][Question Description = 104_174_FSC_SEP22_Q04]

1. Nidamental gland [Option ID = 21413]
2. Antennary gland [Option ID = 21414]
3. Rectal gland [Option ID = 21415]
4. Green gland [Option ID = 21416]

5) Gills attached to lateral wall of the segment bearing the limb in prawn are known as[Question ID = 5355][Question Description = 105_174_FSC_SEP22_Q05]

1. Podobranch [Option ID = 21417]
2. Pleurobranch [Option ID = 21418]
3. Elasmobranch [Option ID = 21419]
4. Arthrobranch [Option ID = 21420]

6) Right age composition of the fish catch function for a given level of effort can be achieved by[Question ID = 5356][Question Description = 106_174_FSC_SEP22_Q06]

1. Open access fishing [Option ID = 21421]
2. Eumetric fishing [Option ID = 21422]
3. Artisanal fishing [Option ID = 21423]
4. Underfishing [Option ID = 21424]

7) Which among the following is a measure of how the feeding interactions are distributed between trophic levels?

[Question ID = 5357][Question Description = 107_174_FSC_SEP22_Q07]

1. Fulton's index [Option ID = 21425]
2. Cycling index [Option ID = 21426]
3. Saprobic index [Option ID = 21427]
4. System omnivory index [Option ID = 21428]

8) Teesta River drains through the Indian states of [Question ID = 5358][Question Description = 108_174_FSC_SEP22_Q08]

1. Assam and West Bengal [Option ID = 21429]
2. Sikkim and West Bengal [Option ID = 21430]
3. Assam and Sikkim [Option ID = 21431]
4. Assam, Sikkim and West Bengal [Option ID = 21432]

9) Match List I with List II

List I	List II
A. Vembanad Lake	I. Short neck clam
B. Ashtamudi Lake	II. Black clam
C. Dal Lake	III. Mulletts
D. Chilika Lake	IV. Mirror carp

Choose the correct answer from the options given below:

[Question ID = 5359][Question Description = 109_174_FSC_SEP22_Q09]

1. A - III , B - IV , C - I , D - II [Option ID = 21433]
2. A - II , B - I , C - IV , D - III [Option ID = 21434]
3. A - IV , B - I , C - II , D - III [Option ID = 21435]
4. A - III , B - IV , C - II , D - I [Option ID = 21436]

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

Assertion A : Coralline algae helps build coral reef ecosystem.

Reason R : Coralline algae reinforce the skeletons of corals with calcium carbonate, the hard mineral that forms the algae's skeleton.

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

[Question ID = 5360][Question Description = 110_174_FSC_SEP22_Q10]

1. Both A and R are true and R is the correct explanation of A [Option ID = 21437]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 21438]
3. A is true but R is false [Option ID = 21439]
4. A is false but R is true [Option ID = 21440]

11) Major chank resources in India occur in [Question ID = 5361][Question Description = 111_174_FSC_SEP22_Q11]

1. Malabar coast [Option ID = 21441]
2. Gulf of Mannar [Option ID = 21442]
3. Lakshadweep Islands [Option ID = 21443]
4. West Bengal coast [Option ID = 21444]

12) Annual harvestable potential yield (as per 2018) from the Indian EEZ is revalidated at [Question ID = 5362][Question Description = 112_174_FSC_SEP22_Q12]

1. 3.96 million tonnes [Option ID = 21445]
2. 4.41 million tonnes [Option ID = 21446]
3. 5.31 million tonnes [Option ID = 21447]
4. 6.13 million tonnes [Option ID = 21448]

13) The right of coastal state to both prevent and punish infringement of fiscal, immigration, sanitary, and customs laws within its territory and territorial sea is the basis of [Question ID = 5363][Question Description = 113_174_FSC_SEP22_Q13]

1. Exclusive Economic Zone [Option ID = 21449]
2. Contiguous zone [Option ID = 21450]
3. High sea [Option ID = 21451]
4. Internal water [Option ID = 21452]

14) Which of the following fisheries management measure aimed chiefly at protection of spawners? [Question ID = 5364][Question Description = 114_174_FSC_SEP22_Q14]

1. Ranching [Option ID = 21453]
2. Minimum legal size limit [Option ID = 21454]
3. Closed season [Option ID = 21455]
4. Cryopreservation [Option ID = 21456]

15) As per the Biological Diversity Act of India, People's Biodiversity Register is prepared by[Question ID = 5365][Question Description = 115_174_FSC_SEP22_Q15]

1. Biodiversity Management Committee [Option ID = 21457]
2. Department of Biotechnology [Option ID = 21458]
3. State Biodiversity Boards [Option ID = 21459]
4. National Biodiversity Board [Option ID = 21460]

16) Vitamin B₁₂ is

[Question ID = 5366][Question Description = 116_174_FSC_SEP22_Q16]

1. Riboflavin [Option ID = 21461]
2. α-Tocopherol [Option ID = 21462]
3. Pyridoxin [Option ID = 21463]
4. Cyanocobalamine [Option ID = 21464]

17) 15 psi pressure gives a temperature of

[Question ID = 5367][Question Description = 117_174_FSC_SEP22_Q17]

1. 111.1 °C [Option ID = 21465]
2. 115.1 °C [Option ID = 21466]
3. 121.1 °C [Option ID = 21467]
4. 125.1 °C [Option ID = 21468]

18) The high Iodine value of Fish oil indicates

[Question ID = 5368][Question Description = 118_174_FSC_SEP22_Q18]

1. High boiling point [Option ID = 21469]
2. Low melting point [Option ID = 21470]
3. High content of iodine [Option ID = 21471]
4. High degree of unsaturation [Option ID = 21472]

19) Among the following the faecal indicator organism is

[Question ID = 5369][Question Description = 119_174_FSC_SEP22_Q19]

1. *Salmonella typhi* [Option ID = 21473]
2. *Shigella sp* [Option ID = 21474]
3. *Escherichia coli* [Option ID = 21475]
4. *Listeria monocytogens* [Option ID = 21476]

20) During rigor-mortis, the Glycogen in fish is converted to

[Question ID = 5370][Question Description = 120_174_FSC_SEP22_Q20]

1. Lactic acid [Option ID = 21477]
2. Citric acid [Option ID = 21478]
3. Acetic acid [Option ID = 21479]
4. Uric acid [Option ID = 21480]

21) The term "stick-water" is associated with

[Question ID = 5371][Question Description = 121_174_FSC_SEP22_Q21]

1. Fish meal [Option ID = 21481]
2. Salted fish [Option ID = 21482]
3. Fish silage [Option ID = 21483]
4. Iced fish [Option ID = 21484]

22) The dye carbolfuchsin is used in

[Question ID = 5372][Question Description = 122_174_FSC_SEP22_Q22]

1. Simple staining [Option ID = 21485]
2. Gram staining [Option ID = 21486]
3. Spore staining [Option ID = 21487]
4. Acid-fast staining [Option ID = 21488]

23) The causative agent for ciguatera poisoning is

[Question ID = 5373][Question Description = 123_174_FSC_SEP22_Q23]

1. *Gonyaulax catenella* [Option ID = 21489]
2. *Gambierdiscus toxicus* [Option ID = 21490]

3. *Dinophysis fortii* [Option ID = 21491]
4. *Ptychodiscus breve* [Option ID = 21492]

24) The type of botulinum that is more resistant to heat is

[Question ID = 5374][Question Description = 124_174_FSC_SEP22_Q24]

1. Type A [Option ID = 21493]
2. Type B [Option ID = 21494]
3. Type E [Option ID = 21495]
4. Type F [Option ID = 21496]

25) Green colour discoloration in Tuna is due to oxidation of

[Question ID = 5375][Question Description = 125_174_FSC_SEP22_Q25]

1. Myoglobin [Option ID = 21497]
2. Metmyoglobin [Option ID = 21498]
3. Haemochrome [Option ID = 21499]
4. Astaxanthin [Option ID = 21500]

26) Given below are two statements

Statement I: Pathogenic microorganisms can be part of initial microflora.

Statement II: Pathogenic microorganisms may present naturally on fish or due to contamination.

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

[Question ID = 5376][Question Description = 126_174_FSC_SEP22_Q26]

1. Both Statement I and Statement II are true [Option ID = 21501]
2. Both Statement I and Statement II are false [Option ID = 21502]
3. Statement I is true but Statement II is false [Option ID = 21503]
4. Statement I is false but Statement II is true [Option ID = 21504]

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

Assertion A: Depuration is a purification process.

Reason R: Depuration reduces bacterial load and grittiness.

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

[Question ID = 5377][Question Description = 127_174_FSC_SEP22_Q27]

1. Both A and R are true and R is the correct explanation of A [Option ID = 21505]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 21506]
3. A is true but R is false [Option ID = 21507]
4. A is false but R is true [Option ID = 21508]

28) Match List I with List II

List I	List II
A. Fat metabolism	I. PUFA
B. DHA	II. Soxhlet
C. Fat oxidation	III. Beta oxidation
D. Fat estimation	IV. Free radical

Choose the correct answer from the options given below:

[Question ID = 5378][Question Description = 128_174_FSC_SEP22_Q28]

1. A -IV, B -III, C -II, D -I [Option ID = 21509]
2. A -III, B -I, C -IV, D -II [Option ID = 21510]
3. A -II, B -III, C -IV, D -I [Option ID = 21511]
4. A -I, B -II, C -IV, D -III [Option ID = 21512]

29) Match List I with List II

List I	List II
A. Plasmid	I. Bacterial cell wall
B. Transposon	II. Extrachromosomal DNA
C. Bacteriophages	III. Jumping genes
D. Peptidoglycan	IV. Bacterial virus

Choose the correct answer from the options given below:

[Question ID = 5379][Question Description = 129_174_FSC_SEP22_Q29]

1. A - II, B - III, C - IV, D - I [Option ID = 21513]
2. A - IV, B - III, C - II, D - I [Option ID = 21514]
3. A - III, B - IV, C - I, D - II [Option ID = 21515]
4. A - I, B - II, C - IV, D - III [Option ID = 21516]

30) Match List I with List II

List I	List II
A. Acetic acid	I. Nucleotide degradation product
B. Ascorbic acid	II. Fish silage
C. Inosinic acid	III. Antioxidant
D. Formic acid	IV. Pickle

Choose the correct answer from the options given below:

[Question ID = 5380][Question Description = 130_174_FSC_SEP22_Q30]

1. A - IV, B - III, C - II, D - I [Option ID = 21517]
2. A - III, B - IV, C - II, D - I [Option ID = 21518]
3. A - IV, B - III, C - I, D - II [Option ID = 21519]
4. A - II, B - III, C - IV, D - I [Option ID = 21520]

31) Heat rejection factor VCRS will be[Question ID = 5381][Question Description = 131_174_FSC_SEP22_Q31]

1. Equal to one [Option ID = 21521]
2. More than one [Option ID = 21522]
3. Less than one [Option ID = 21523]
4. Depends on the cooling medium of the condenser [Option ID = 21524]

32) Russian type of Otter doors are[Question ID = 5382][Question Description = 132_174_FSC_SEP22_Q32]

1. Suberkrub otter boards [Option ID = 21525]
2. Oval flat slotted otter boards [Option ID = 21526]
3. Rectangular flat otter boards [Option ID = 21527]
4. Rectangular curved otter boards [Option ID = 21528]

33) The upper edges of the boat from stem to stern are called as[Question ID = 5383][Question Description = 133_174_FSC_SEP22_Q33]

1. Sheer line [Option ID = 21529]
2. Rabbit line [Option ID = 21530]
3. Gun Wale [Option ID = 21531]
4. Deck line [Option ID = 21532]

34) Match List I with List II

List I	List II
A. Levee pond	I. Flow-through system
B. Water shed pond	II. Stop-log closures with fish screens
C. Monk sluice	III. Embankment pond
D. Raceways	IV. Crawfish production

Choose the correct answer from the options given below:

[Question ID = 5384][Question Description = 134_174_FSC_SEP22_Q34]

1. A - IV, B - III, C - II, D - I [Option ID = 21533]
2. A - III, B - IV, C - II, D - I [Option ID = 21534]
3. A - IV, B - II, C - I, D - III [Option ID = 21535]
4. A - III, B - II, C - IV, D - I [Option ID = 21536]

35) The region in the purse seine net where the catch is accumulated before brailing[Question ID = 5385][Question Description = 135_174_FSC_SEP22_Q35]

1. Bosom [Option ID = 21537]
2. Bunt [Option ID = 21538]
3. Belly [Option ID = 21539]
4. Throat [Option ID = 21540]

36) A masthead light is[Question ID = 5386][Question Description = 136_174_FSC_SEP22_Q36]

1. White and visible over $112.5 \times 2 = 225$ degrees [Option ID = 21541]

2. Yellow and visible over $112.5 \times 2 = 225$ degrees [Option ID = 21542]
3. Green and visible over $112.5 \times 2 = 225$ degrees [Option ID = 21543]
4. White and visible over $112.5 \times 1 = 112.5$ degrees [Option ID = 21544]

37) The unit of resistivity is[Question ID = 5387][Question Description = 137_174_FSC_SEP22_Q37]

1. Ω . [Option ID = 21545]
2. Ω / metre. [Option ID = 21546]
3. Ω - metre. [Option ID = 21547]
4. Ω / m^2 . [Option ID = 21548]

38) The most common horizontal hanging coefficient on float line in purse seine is[Question ID = 5388][Question Description = 138_174_FSC_SEP22_Q38]

1. 0.4 [Option ID = 21549]
2. 0.5 [Option ID = 21550]
3. 0.6 [Option ID = 21551]
4. 0.7 [Option ID = 21552]

39) The recommended side slope for sandy loam dyke[Question ID = 5389][Question Description = 139_174_FSC_SEP22_Q39]

1. 1:1.5 [Option ID = 21553]
2. 1:2 [Option ID = 21554]
3. 1:2.5 [Option ID = 21555]
4. 1:3 [Option ID = 21556]

40) A floating body is said to be in stable equilibrium when[Question ID = 5390][Question Description = 140_174_FSC_SEP22_Q40]

1. Metacenter coincides with center of gravity of the body [Option ID = 21557]
2. Metacenter lies above center of gravity of the body [Option ID = 21558]
3. Metacenter lies below the centre of gravity of the body [Option ID = 21559]
4. Metacenter has no effect on stability [Option ID = 21560]

41) How does photochemical smog form?[Question ID = 5391][Question Description = 141_174_FSC_SEP22_Q41]

1. The release of primary air pollutants [Option ID = 21561]
2. Interaction occurs between chemicals such as CFCs and ozone [Option ID = 21562]
3. Reactions occur between secondary air pollutants and sunlight [Option ID = 21563]
4. The release of formaldehyde and radon inside buildings [Option ID = 21564]

42) Which organisms derive their energy from oxidation of complex organic compound?

[Question ID = 5392][Question Description = 142_174_FSC_SEP22_Q42]

1. Heterotrophs [Option ID = 21565]
2. Autotrophs [Option ID = 21566]
3. Chemotrophs [Option ID = 21567]
4. Lithotrophs [Option ID = 21568]

43) Ammonification is the formation of[Question ID = 5393][Question Description = 143_174_FSC_SEP22_Q43]

1. Ammonia from nitrates by decomposers [Option ID = 21569]
2. Ammonia from nitrogen [Option ID = 21570]
3. Ammonia from amino acids [Option ID = 21571]
4. Ammonia from nitrates by nitrogen fixers [Option ID = 21572]

44) Gulf current occurs in which of the following ocean?[Question ID = 5394][Question Description = 144_174_FSC_SEP22_Q44]

1. Indian Ocean [Option ID = 21573]
2. Atlantic Ocean [Option ID = 21574]
3. Arctic Ocean [Option ID = 21575]
4. Pacific Ocean [Option ID = 21576]

45) Which of the following is NOT a biofertilizer?

[Question ID = 5395][Question Description = 145_174_FSC_SEP22_Q45]

1. Salmonella [Option ID = 21577]
2. Rhizobium [Option ID = 21578]
3. Nostoc [Option ID = 21579]
4. Azolla [Option ID = 21580]

46) Percentage of Nitrogen content in Urea[Question ID = 5396][Question Description = 146_174_FSC_SEP22_Q46]

1. About 35% [Option ID = 21581]
2. About 45% [Option ID = 21582]
3. About 75% [Option ID = 21583]
4. About 16% [Option ID = 21584]

47) Intertidal zones are[Question ID = 5397][Question Description = 147_174_FSC_SEP22_Q47]

1. Zone between highest high tide and lowest high tide [Option ID = 21585]
2. Zone between lowest high tide and highest low tide [Option ID = 21586]
3. Zone between lowest high tide and lowest low tide [Option ID = 21587]
4. Zone between highest high tide and lowest low tide [Option ID = 21588]

48) A taxon facing an extremely high risk of extinction in the wild in the immediate future is called as[Question ID = 5398][Question Description = 148_174_FSC_SEP22_Q48]

1. Critically Endangered (CR) [Option ID = 21589]
2. Endangered (EN) [Option ID = 21590]
3. Vulnerable (VU) [Option ID = 21591]
4. Near Threatened (NR) [Option ID = 21592]

49) Sludge is best defined as[Question ID = 5399][Question Description = 149_174_FSC_SEP22_Q49]

1. Raw sewage [Option ID = 21593]
2. Semi-liquid material that results from sewage treatment [Option ID = 21594]
3. Industrial sewage [Option ID = 21595]
4. Water removed during sewage treatment [Option ID = 21596]

50) Which of the following describes the study of group of the population?

[Question ID = 5400][Question Description = 150_174_FSC_SEP22_Q50]

1. Synecology [Option ID = 21597]
2. Autecology [Option ID = 21598]
3. Biome [Option ID = 21599]
4. Community [Option ID = 21600]

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1) Aufwuchs is the related term for[Question ID = 5551][Question Description = 101_197_AEM_SEP22_Q01]

1. Periphyton [Option ID = 22201]
2. Plankton [Option ID = 22202]
3. Nekton [Option ID = 22203]
4. Biofloc [Option ID = 22204]

2) Which of the following dissemination tool was launched in India in 2014 to alert people about the air quality?[Question ID = 5552][Question Description = 102_197_AEM_SEP22_Q02]

1. Air Quality Management System [Option ID = 22205]
2. National Air Quality Index [Option ID = 22206]
3. Air Pollution Management and Modelling [Option ID = 22207]
4. National Ambient Air Quality Standard [Option ID = 22208]

3) The chemical responsible for blue baby syndrome that is caused by restricted supply of oxygen to the brain is[Question ID = 5553][Question Description = 103_197_AEM_SEP22_Q03]

1. Nitrate [Option ID = 22209]
2. Fluoride [Option ID = 22210]
3. Sulphate [Option ID = 22211]
4. Oxide [Option ID = 22212]

4) The radiation absorbed by Ozone is[Question ID = 5554][Question Description = 104_197_AEM_SEP22_Q04]

1. Gamma rays [Option ID = 22213]
2. Infra-red rays [Option ID = 22214]
3. Ultraviolet rays [Option ID = 22215]
4. X-rays [Option ID = 22216]

5) According to Ministry of Environment, Forest and Climate Change (MoEFCC), Industries with Pollution Index score 60 and above comes under[Question ID = 5555][Question Description = 105_197_AEM_SEP22_Q05]

1. Brown category [Option ID = 22217]
2. Yellow category [Option ID = 22218]

3. Black category [Option ID = 22219]
4. Red category [Option ID = 22220]

6) Peroxyacyl nitrate (PAN) is a by-product of[Question ID = 5556][Question Description = 106_197_AEM_SEP22_Q06]

1. Photochemical smog [Option ID = 22221]
2. Sulphurous smog [Option ID = 22222]
3. London smog [Option ID = 22223]
4. Chloride smog [Option ID = 22224]

7) According to IS 10500, the permissible limit of *E. coli* (in cfu) in drinking water is

[Question ID = 5557][Question Description = 107_197_AEM_SEP22_Q07]

1. 5 [Option ID = 22225]
2. 3 [Option ID = 22226]
3. 1 [Option ID = 22227]
4. 0 [Option ID = 22228]

8) What is the effect of organic matter inclusion on bulk density of soil?

[Question ID = 5558][Question Description = 108_197_AEM_SEP22_Q08]

1. Moderately Increased [Option ID = 22229]
2. No effect [Option ID = 22230]
3. Decreased [Option ID = 22231]
4. Highly Increased [Option ID = 22232]

9) Black colour of soil is due to[Question ID = 5559][Question Description = 109_197_AEM_SEP22_Q09]

1. Titaniferous magnetite [Option ID = 22233]
2. Geothite [Option ID = 22234]
3. Glauconite [Option ID = 22235]
4. Hematite [Option ID = 22236]

10) A species in small portion of total biomass of the community, but has a huge impact on the community's organisation and survival is termed as[Question ID = 5560][Question Description = 110_197_AEM_SEP22_Q10]

1. Pioneer Species [Option ID = 22237]
2. Link Species [Option ID = 22238]
3. Keystone Species [Option ID = 22239]
4. Edge Species [Option ID = 22240]

11) The diversity of habitats over the total geographical area is called[Question ID = 5561][Question Description = 111_197_AEM_SEP22_Q11]

1. Alpha Diversity [Option ID = 22241]
2. Gamma Diversity [Option ID = 22242]
3. Delta Diversity [Option ID = 22243]
4. Beta Diversity [Option ID = 22244]

12) Which one is not an *in-situ* mode of bioremediation?

[Question ID = 5562][Question Description = 112_197_AEM_SEP22_Q12]

1. Bioventing [Option ID = 22245]
2. Biostimulation [Option ID = 22246]
3. Landfarming [Option ID = 22247]
4. Biosparging [Option ID = 22248]

13) A measurement of 12 ppt concentration is equivalent to[Question ID = 5563][Question Description = 113_197_AEM_SEP22_Q13]

1. 12 g/mL [Option ID = 22249]
2. 12 mg/L [Option ID = 22250]
3. 12 g/L [Option ID = 22251]
4. 12 µg/L [Option ID = 22252]

14) Vikramshila Gangetic Dolphin Sanctuary is located in[Question ID = 5564][Question Description = 114_197_AEM_SEP22_Q14]

1. Uttarakhand [Option ID = 22253]
2. Uttar Pradesh [Option ID = 22254]
3. Bihar [Option ID = 22255]
4. West Bengal [Option ID = 22256]

15) Who is regarded as the Father of Marine Microbiology?

[Question ID = 5565][Question Description = 115_197_AEM_SEP22_Q15]

1. Albert J. Kluyver [Option ID = 22257]
2. Claude ZoBell [Option ID = 22258]
3. Selman A. Waksman [Option ID = 22259]
4. Richard Y. Morita [Option ID = 22260]

16) The halophilic archaea responsible for distinct purple colouration of salt ponds is[Question ID = 5566][Question Description = 116_197_AEM_SEP22_Q16]

1. *Dunaliella salina* [Option ID = 22261]
2. *Halobacterium salinarum* [Option ID = 22262]
3. *Wallemia ichthyophaga* [Option ID = 22263]
4. *Gymnodinium breve* [Option ID = 22264]

17) The highest diversity of seaweed is reported in which State/Union Territory ?

[Question ID = 5567][Question Description = 117_197_AEM_SEP22_Q17]

1. Tamil Nadu [Option ID = 22265]
2. Gujarat [Option ID = 22266]
3. Maharashtra [Option ID = 22267]
4. Andaman & Nicobar Islands [Option ID = 22268]

18) Environmentally more complex river zone is[Question ID = 5568][Question Description = 118_197_AEM_SEP22_Q18]

1. Rhithron [Option ID = 22269]
2. Potamon [Option ID = 22270]
3. Crenon [Option ID = 22271]
4. Eucrenon [Option ID = 22272]

19) In which year IUCN Red list/Red book was first published?

[Question ID = 5569][Question Description = 119_197_AEM_SEP22_Q19]

1. 1945 [Option ID = 22273]
2. 1964 [Option ID = 22274]
3. 1992 [Option ID = 22275]
4. 2004 [Option ID = 22276]

20) Which primarily physical factor drives the surface ocean currents?[Question ID = 5570][Question Description = 120_197_AEM_SEP22_Q20]

1. Tides [Option ID = 22277]
2. Upwelling [Option ID = 22278]
3. Winds [Option ID = 22279]
4. Density difference between water bodies [Option ID = 22280]

21) Which of the following decade were declared as the 'Decade of Biodiversity' by the *United Nations Convention on Biological Diversity*?[Question ID = 5571][Question Description = 121_197_AEM_SEP22_Q21]

1. 2000-2010 [Option ID = 22281]
2. 2011-2020 [Option ID = 22282]
3. 1992-2002 [Option ID = 22283]
4. 1990-2000 [Option ID = 22284]

22) Which is the smallest Marine National Park in India?

[Question ID = 5572][Question Description = 122_197_AEM_SEP22_Q22]

1. Gulf of Kutch [Option ID = 22285]
2. Gulf of Mannar [Option ID = 22286]
3. Wandoor Mahatma Gandhi National Park [Option ID = 22287]
4. Rani Jhansi National Park, Andaman [Option ID = 22288]

23) Head Quarters of Indian Institute of Tropical Meteorology is located at[Question ID = 5573][Question Description = 123_197_AEM_SEP22_Q23]

1. New Delhi [Option ID = 22289]
2. Mumbai [Option ID = 22290]
3. Pune [Option ID = 22291]
4. Chennai [Option ID = 22292]

24) Which of the following is the correct sequence in Water cycle?

[Question ID = 5574][Question Description = 124_197_AEM_SEP22_Q24]

1. Precipitation, Evaporation and Condensation [Option ID = 22293]
2. Condensation, Precipitation and Evaporation [Option ID = 22294]
3. Condensation, Evaporation, and Precipitation [Option ID = 22295]
4. Evaporation, Condensation and Precipitation [Option ID = 22296]

25) What is the Global Warming Potential (GWP) of CO₂?[Question ID = 5575][Question Description = 125_197_AEM_SEP22_Q25]

1. 100 [Option ID = 22297]
2. 36 [Option ID = 22298]
3. 1 [Option ID = 22299]
4. 4 [Option ID = 22300]

26) The most abundant photosynthetic organism in the marine environment is[Question ID = 5576][Question Description = 126_197_AEM_SEP22_Q26]

1. Prochlorococcus [Option ID = 22301]
2. Corallina [Option ID = 22302]
3. Nereocystis [Option ID = 22303]
4. Gelidium [Option ID = 22304]

27) Which type of shore is most biologically diverse?[Question ID = 5577][Question Description = 127_197_AEM_SEP22_Q27]

1. Sandy beach [Option ID = 22305]
2. Mud flat [Option ID = 22306]
3. Salt marsh [Option ID = 22307]
4. Rocky shore [Option ID = 22308]

28) What is the state of long food chains in the ecosystem when compared with shorter food chains?

[Question ID = 5578][Question Description = 128_197_AEM_SEP22_Q28]

1. More stable [Option ID = 22309]
2. Less stable [Option ID = 22310]
3. Equilibrium [Option ID = 22311]
4. Highly equilibrium [Option ID = 22312]

29) How many biodiversity hotspots present in India?[Question ID = 5579][Question Description = 129_197_AEM_SEP22_Q29]

1. 2 [Option ID = 22313]
2. 4 [Option ID = 22314]
3. 6 [Option ID = 22315]
4. 10 [Option ID = 22316]

30) World Water Day is celebrated on[Question ID = 5580][Question Description = 130_197_AEM_SEP22_Q30]

1. March 22nd [Option ID = 22317]
2. May 22nd [Option ID = 22318]
3. June 5th [Option ID = 22319]
4. July 25th [Option ID = 22320]

31) Which of the following species possess relatively stable populations fluctuating near the carrying capacity of the environment?[Question ID = 5581][Question Description = 131_197_AEM_SEP22_Q31]

1. r-selected species [Option ID = 22321]
2. k-selected species [Option ID = 22322]
3. Keystone species [Option ID = 22323]
4. Threatened and endangered species [Option ID = 22324]

32) Phytorid, a self-sustainable technology for wastewater treatment that works on the principle of natural wetland, is developed by[Question ID = 5582][Question Description = 132_197_AEM_SEP22_Q32]

1. CPCB, New Delhi [Option ID = 22325]
2. IIT, Bombay [Option ID = 22326]
3. NEERI, Nagpur [Option ID = 22327]
4. CSE, New Delhi [Option ID = 22328]

33) The most abundant greenhouse gases in Earth's atmosphere is[Question ID = 5583][Question Description = 133_197_AEM_SEP22_Q33]

1. Water vapour [Option ID = 22329]
2. Ozone [Option ID = 22330]
3. Carbon dioxide [Option ID = 22331]
4. Methane [Option ID = 22332]

34) As per OECD Guidelines for the Testing of Chemicals for Fish Acute Toxicity (Test Guideline No. 203), a minimum of how many fish must be used at each treatment?

[Question ID = 5584][Question Description = 134_197_AEM_SEP22_Q34]

1. 5 [Option ID = 22333]
2. 7 [Option ID = 22334]
3. 9 [Option ID = 22335]
4. 11 [Option ID = 22336]

35) Given below are two statements

Statement I: Denitrification is the chemical reduction of soil nitrates or nitrites by denitrifying bacteria.

Statement II: Soil with higher organic matter will have higher bulk density.

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

[Question ID = 5585][Question Description = 135_197_AEM_SEP22_Q35]

1. Both Statement I and Statement II are correct [Option ID = 22337]
2. Both Statement I and Statement II are incorrect [Option ID = 22338]
3. Statement I is correct but Statement II is incorrect [Option ID = 22339]
4. Statement I is incorrect but Statement II is correct [Option ID = 22340]

36) Given below are two statements

Statement I: The severity of toxic exposure on individual depends on Dose and Susceptibility.

Statement II: The aim of exposure assessment is to estimate the risk caused by exposure of chemical contaminants to an individuals and ecosystem.

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

[Question ID = 5586][Question Description = 136_197_AEM_SEP22_Q36]

1. Both Statement I and Statement II are correct [Option ID = 22341]
2. Both Statement I and Statement II are incorrect [Option ID = 22342]
3. Statement I is correct but Statement II is incorrect [Option ID = 22343]
4. Statement I is incorrect but Statement II is correct [Option ID = 22344]

37) The One Ocean Summit 2022 was organised with cooperation of United Nations and the World Bank, held at [Question ID = 5587][Question Description = 137_197_AEM_SEP22_Q37]

1. India [Option ID = 22345]
2. China [Option ID = 22346]
3. Germany [Option ID = 22347]
4. France [Option ID = 22348]

38) Which of the following is a theoretical greenhouse gas removal strategy in ocean that tries to transport nutrient-rich deep ocean water to the surface in order to enhance phytoplankton growth? [Question ID = 5588][Question Description = 138_197_AEM_SEP22_Q38]

1. Artificial upwelling [Option ID = 22349]
2. Natural upwelling [Option ID = 22350]
3. Ocean fertilization [Option ID = 22351]
4. Artificial eutrophication [Option ID = 22352]

39) Which of the following is a characteristic feature of Mud Banks of Kerala? [Question ID = 5589][Question Description = 139_197_AEM_SEP22_Q39]

1. Embody extremely rough littoral waters [Option ID = 22353]
2. Occur during South-west monsoon [Option ID = 22354]
3. Clay particles in the mud dominated by mica [Option ID = 22355]
4. Mud banks, once formed never shifts from one place to another [Option ID = 22356]

40) Which of the following statement is NOT correct regarding coliform bacteria?

[Question ID = 5590][Question Description = 140_197_AEM_SEP22_Q40]

1. It is gram-negative [Option ID = 22357]

2. It possess B-galactosidase to produce acids and gases [Option ID = 22358]
3. It is considered as indicator organisms for contaminated water [Option ID = 22359]
4. It is cultured on Rimler-Shotts agar [Option ID = 22360]

41) Quorum sensing is[Question ID = 5591][Question Description = 141_197_AEM_SEP22_Q41]

1. Bacteria-fungus communication process in biofilm [Option ID = 22361]
2. Bacteria-algae communication process in biofilm [Option ID = 22362]
3. Bacteria-bacteriophage communication process [Option ID = 22363]
4. Bacteria-bacteria communication process [Option ID = 22364]

42) Which of the following is used for commercial production of phycocyanins?

[Question ID = 5592][Question Description = 142_197_AEM_SEP22_Q42]

1. Eubacteria [Option ID = 22365]
2. Archaeobacteria [Option ID = 22366]
3. Filamentous cyanobacteria [Option ID = 22367]
4. Bacillariophyceae [Option ID = 22368]

43) The correct sequential steps involved in toxicokinetics is[Question ID = 5593][Question Description = 143_197_AEM_SEP22_Q43]

1. Absorption— Metabolism—Distribution—Elimination [Option ID = 22369]
2. Absorption—Distribution—Metabolism—Excretion [Option ID = 22370]
3. Absorption—Distribution— Excretion [Option ID = 22371]
4. Absorption—Metabolism— Excretion [Option ID = 22372]

44) Inhibition of acetylcholinesterase (AChE) is the mode of toxicity of which pesticide?[Question ID = 5594][Question Description = 144_197_AEM_SEP22_Q44]

1. Organochlorines [Option ID = 22373]
2. Pyrethrins [Option ID = 22374]
3. Organophosphates [Option ID = 22375]
4. Rotenone [Option ID = 22376]

45) The waste hierarchy strategy refers to the “3Rs” are[Question ID = 5595][Question Description = 145_197_AEM_SEP22_Q45]

1. Reduce, retain, recycle [Option ID = 22377]
2. Reduce, recycle, retain [Option ID = 22378]
3. Reduce, reuse, recycle [Option ID = 22379]
4. Reduce, reproduce, retain [Option ID = 22380]

46) The water foot print of 1 kg of fish production is[Question ID = 5596][Question Description = 146_197_AEM_SEP22_Q46]

1. 100 L [Option ID = 22381]
2. 400 L [Option ID = 22382]
3. 1000 L [Option ID = 22383]
4. 4000 L [Option ID = 22384]

47) In the followings, which group lacks 23S rRNA?

[Question ID = 5597][Question Description = 147_197_AEM_SEP22_Q47]

1. Eubacteria [Option ID = 22385]
2. Archaeobacteria [Option ID = 22386]
3. Fungi [Option ID = 22387]
4. Blue-green algae [Option ID = 22388]

48) Given below are two statements

Statement I: Lipids of cell memberane of thermophile bacteria possess ether linkage- with more branched.

Statement II: Lipids of cell memberane of thermophile bacteria possess ester linkage-with less branched.

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

[Question ID = 5598][Question Description = 148_197_AEM_SEP22_Q48]

1. Both Statement I and Statement II are correct [Option ID = 22389]
2. Both Statement I and Statement II are incorrect [Option ID = 22390]
3. Statement I is correct but Statement II is incorrect [Option ID = 22391]
4. Statement I is incorrect but Statement II is correct [Option ID = 22392]

49) The agency disseminates weekly PFZ advisories[Question ID = 5599][Question Description = 149_197_AEM_SEP22_Q49]

1. Indian National Centre for Ocean Information Services [Option ID = 22393]
2. Indian Space Research Organisation [Option ID = 22394]
3. Fishery Survey of India [Option ID = 22395]
4. National Institute of Oceanography [Option ID = 22396]

50) Match List I with List II

List I	List II
Characteristic	Substrate
A. Epizootic	I. Rock
B. Epilithic	II. Sand
C. Epipsammic	III. Macrophyte
D. Epiphytic	IV. Animals

Choose the correct answer from the options given below:

[Question ID = 5600][Question Description = 150_197_AEM_SEP22_Q50]

1. A -IV , B -III , C -I , D -II [Option ID = 22397]
2. A -IV , B -II , C -III , D -I [Option ID = 22398]
3. A - III, B -IV , C -II , D -I [Option ID = 22399]
4. A -IV , B - I, C - II , D - III [Option ID = 22400]