

Telangana State Council Higher Education

Notations :

- Options shown in **green** color and with  icon are correct.
- Options shown in **red** color and with  icon are incorrect.

Question Paper Name :Environmental Management 31st May 2026
Shift 1**Subject Name :**

Environmental Management

Creation Date :

2026-05-31 12:31:23

Duration :

120

Total Marks :

120

Display Marks:

Yes

Share Answer Key With Delivery Engine :

Yes

Actual Answer Key :

Yes

Change Font Color :

No

Change Background Color :

No

Change Theme :

No

Help Button :

No

Show Reports :

No

Show Progress Bar :

No

Environmental Management

Group Number :

1

Group Id :

10513125

Group Maximum Duration :

0

Group Minimum Duration :

120

Show Attended Group? :

No

Edit Attended Group? :

No

Break time :

0

Group Marks :

120

Mathematics

Section Id :

10513162

Section Number :

1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	10513162
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1051313361 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If α, β are the roots of $ax^2 + bx + c = 0$ then $\left(\frac{\alpha}{\beta} - \frac{\beta}{\alpha}\right)^2 =$

Options :

1. ✓ $\frac{b^2(b^2 - 4ac)}{a^2c^2}$

2. ✗ $\frac{b^2(b^2 - 4ac)}{a^4}$

3. ✗ $\frac{b^2(b^2 - 4ac)}{ca^3}$

4. ✗ $\frac{b^2(b^2 - 4ac)}{c^4}$

Question Number : 2 Question Id : 1051313362 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

If the sum of the three numbers which are in A.P is 27 and the product of the first and last is 77, then the numbers are

Options :

1. ✗ 6, 9, 11

2. ✖ 9, 11, 14

3. ✔ 7, 9, 11

4. ✖ 9, 11, 15

Question Number : 3 Question Id : 1051313363 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If ${}^nC_r = {}^nC_{r-1}$ and ${}^nP_{r+1} = 9 {}^nP_r$ then $(n, r) =$

Options :

1. ✖ (19, 9)

2. ✔ (19, 10)

3. ✖ (10, 19)

4. ✖ (9, 19)

Question Number : 4 Question Id : 1051313364 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If $A = \begin{bmatrix} 2026 & 2025 & 2024 \\ 2025 & 2024 & 2023 \\ 2024 & 2023 & 2022 \end{bmatrix}$ then $|A^{2026} - A^{2025}| =$

Options :

1. ✖ 2026

2. ✖ 2025

3. ✖ 2024

4. ✔ 0

Question Number : 5 Question Id : 1051313365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A random variable X has the probability density function $f(x) = Kx$, $0 < x < 2$, then ratio between K and the mean of X is

Options :

1. ✖ 3 : 2

2. ✖ 2 : 3

3. ✖ 5 : 3

4. ✔ 3 : 8

Question Number : 6 Question Id : 1051313366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If A and B are independent random variables, then which of the following is correct?

Options :

1. ✔ $P(A^c / B) = P(A^c)$

2. ✖ $P(A / B) = P(B)$

3. ✖ $P(A \cup B) = P(A) \cdot P(B)$

4. ✖ $P(A^c \cup B^c) = P(A^c) + P(B^c)$

Question Number : 7 Question Id : 1051313367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the observed frequencies exactly match expected frequencies, then what is χ^2 (Chi-square) value?

Options :

1. ✖ $\chi^2 > 1$

2. ✖ $\chi^2 < 1$

3. ✔ $\chi^2 = 0$

4. ✖ $\chi^2 = 1$

Question Number : 8 Question Id : 1051313368 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Correlation coefficient is independent of

Options :

1. ✖ Sample size

2. ✖ Change of scale

3. ✖ Change of origin

4. ✔ Both change of scale & origin

Question Number : 9 Question Id : 1051313369 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If variance of X is 4, then the variance of $Y = 4X + 2$ is

Options :

1. ✔ 64

2. ✖ 16

3. ✖ 4

4. ✖ 0

Question Number : 10 Question Id : 1051313370 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

One of the normal equations for fitting a straight line $y = a + bx$ is

Options :

1. ✖ $\sum y = a \sum x + b \sum x^2$

2. ✔ $\sum y = na + b \sum x$

3. ✖ $\sum xy = na + b \sum x^2$

4. ✖ $\sum x = \sum y + b \sum x$

Environmental Management

Section Id :	10513163
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	10513163
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 1051313371 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which memory is volatile in nature?

Options :

1. ✖ HDD

2. ✖ SSD

3. ✓ RAM

4. ✗ USB Drive

Question Number : 12 Question Id : 1051313372 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The term nanosecond represents

Options :

1. ✗ One thousandth of a second

2. ✗ One millionth of a second

3. ✓ One billionth of a second

4. ✗ One hundredth of a second

Question Number : 13 Question Id : 1051313373 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The logic of a program is called

Options :

1. ✗ Compiler

2. ✓ Algorithm

3. ✗ Debugger

4. ✗ Memory

Question Number : 14 Question Id : 1051313374 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which characteristic ensures that an algorithm does not run forever?

Options :

1. ✖ Accuracy
2. ✔ Termination
3. ✖ Storage
4. ✖ Versatility

Question Number : 15 Question Id : 1051313375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Flowcharts are mainly used for

Options :

1. ✖ Storing data
2. ✔ Program planning
3. ✖ Compiling code
4. ✖ Printing output

Question Number : 16 Question Id : 1051313376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Flowcharts help in detecting errors during

Options :

1. ✖ Compilation
2. ✔ Debugging
3. ✖ Storage
4. ✖ Installation

Question Number : 17 Question Id : 1051313377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Visual Basic is an example of

Options :

1. ✖ 2GL
2. ✖ 3GL
3. ✖ 4GL
4. ✔ 5GL

Question Number : 18 Question Id : 1051313378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

C is classified as a

Options :

1. ✖ Object-oriented language
2. ✖ Markup language
3. ✔ Procedural language
4. ✖ Scripting language

Question Number : 19 Question Id : 1051313379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which operator has the lowest precedence among logical operators?

Options :

1. ✖ !
2. ✖ &&

3. ✓ ||

4. ✗ ==

Question Number : 20 Question Id : 1051313380 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following best represents structured programming?

Options :

1. ✗ Using goto statements

2. ✓ Using functions and blocks

3. ✗ Writing long code

4. ✗ Avoiding loops

Question Number : 21 Question Id : 1051313381 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The purification of water in nature is carried out by

Options :

1. ✗ Machines

2. ✗ Humans only

3. ✓ Ecosystem processes

4. ✗ Chemicals only

Question Number : 22 Question Id : 1051313382 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which statement best explains why ecosystems are considered “life-support systems” for the biosphere?

Options :

1. ✖ They provide recreational benefits
2. ✖ They generate only food resources
3. ✔ They maintain biogeochemical cycles and energy flow essential for life
4. ✖ They increase industrial production

Question Number : 23 Question Id : 1051313383 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If nutrient cycling is disrupted in a forest ecosystem, the most immediate ecological consequence would likely be

Options :

1. ✖ Increased rainfall
2. ✔ Reduced primary productivity
3. ✖ Increased temperature
4. ✖ Enhanced pollination

Question Number : 24 Question Id : 1051313384 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which ecological pyramid can never be inverted?

Options :

1. ✖ Biomass pyramid
2. ✖ Numbers pyramid
3. ✔

Energy pyramid

4. ✖ Productivity pyramid

Question Number : 25 Question Id : 1051313385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Plants show higher productivity in tropical regions because they

Options :

- 1. ✖ Have lower water-use efficiency
- 2. ✖ Fix nitrogen directly
- 3. ✔ Minimize photorespiration
- 4. ✖ Lack chlorophyll

Question Number : 26 Question Id : 1051313386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which factor primarily limits primary productivity in marine ecosystems?

Options :

- 1. ✖ Light
- 2. ✔ Nitrogen and phosphorus availability
- 3. ✖ Oxygen
- 4. ✖ Temperature

Question Number : 27 Question Id : 1051313387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Chemosynthetic autotrophs obtain energy from

Options :

1. ✖ Sunlight
2. ✖ Organic matter
3. ✔ Oxidation of inorganic compounds
4. ✖ Respiration

Question Number : 28 Question Id : 1051313388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

India is recognized as a megadiverse country primarily due to

Options :

1. ✖ Large population
2. ✖ High industrialization
3. ✔ Wide range of ecosystems and endemism
4. ✖ Uniform climate

Question Number : 29 Question Id : 1051313389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If nitrification is inhibited in soil, which change is expected?

Options :

1. ✖ Increased nitrate leaching
2. ✔ Accumulation of ammonium
3. ✖ Increased denitrification
4. ✖ Increased plant nitrate uptake

Question Number : 30 Question Id : 1051313390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ocean acidification reduces carbon sequestration mainly by affecting

Options :

1. ✖ Nitrogen fixation
2. ✖ Phytoplankton respiration
3. ✔ Calcifying organisms
4. ✖ Dissolved oxygen

Question Number : 31 Question Id : 1051313391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A microorganism that derives energy from Fe^{2+} oxidation, carbon from CO_2 , and electrons from inorganic compounds is classified as

Options :

1. ✖ Photoheterotroph
2. ✖ Chemoorganotroph
3. ✔ Chemolithoautotroph
4. ✖ Photoautotroph

Question Number : 32 Question Id : 1051313392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which structural component is directly responsible for Gram-positive resistance to osmotic lysis?

Options :

1. ✖ Lipopolysaccharide

2. ✓ Peptidoglycan thickness
3. ✗ Capsule
4. ✗ Teichoic acids only

Question Number : 33 Question Id : 1051313393 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which parameter most directly controls Oxygen Transfer Rate (OTR) in aerobic fermenters?

Options :

1. ✗ Medium pH
2. ✓ Agitation and aeration rate
3. ✗ Inoculum size
4. ✗ Temperature

Question Number : 34 Question Id : 1051313394 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Facultative anaerobes produce more ATP per mole of glucose under aerobic conditions because

Options :

1. ✗ Fermentation is faster
2. ✗ Glycolysis is inhibited
3. ✓ Oxidative phosphorylation operates
4. ✗ NADH is not formed

Question Number : 35 Question Id : 1051313395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Alcohols are ineffective against bacterial spores because they

Options :

1. ✖ Do not penetrate membranes
2. ✖ Require high pH
3. ✔ Act only on metabolically active cells
4. ✖ Cause DNA mutations only

Question Number : 36 Question Id : 1051313396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Nitrification is carried out sequentially by

Options :

1. ✔ Nitrosomonas and Nitrobacter
2. ✖ Bacillus and Clostridium
3. ✖ Methanosarcina and Methanobacterium
4. ✖ Pseudomonas only

Question Number : 37 Question Id : 1051313397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If pH drops below 6 in an anaerobic digester, then methane production decreases because

Options :

1. ✖ Hydrolysis stops

2. ✓ Methanogens are inhibited
3. ✗ Oxygen increases
4. ✗ Sulfates increase

Question Number : 38 Question Id : 1051313398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Denitrification reduces nitrate to nitrogen gas under

Options :

1. ✗ Aerobic conditions
2. ✗ Strictly aerobic only
3. ✓ Anoxic conditions with organic carbon
4. ✗ High oxygen only

Question Number : 39 Question Id : 1051313399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Protozoa in activated sludge primarily contribute to

Options :

1. ✗ Methane formation
2. ✗ Nitrogen fixation
3. ✓ Predation of dispersed bacteria and floc formation
4. ✗ Sulphur oxidation

Question Number : 40 Question Id : 1051313400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A sudden drop in methane content with increased H_2S in biogas suggests dominance of

Options :

1. ✖ Methanogens
2. ✖ Sulphur oxidizers
3. ✔ Sulphate reducers
4. ✖ Nitrifiers

Question Number : 41 Question Id : 1051313401 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Under which flow condition is Darcy's Law applicable?

Options :

1. ✔ Laminar flow
2. ✖ Unsteady flow
3. ✖ Turbulent flow
4. ✖ Compressible flow

Question Number : 42 Question Id : 1051313402 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Hydraulic conductivity (K) is effected directly by which factor?

Options :

1. ✔ Soil texture and fluid viscosity
2. ✖ Catchment area
3. ✖ Rainfall duration

4. ✖ Basin slope

Question Number : 43 Question Id : 1051313403 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A soil sample has $K = 2 \times 10^{-4}$ m/s, area = 0.5 m² and hydraulic gradient = 0.02.

Then discharge Q is

Options :

1. ✖ 2×10^{-6} m³/s

2. ✔ 2×10^{-5} m³/s

3. ✖ 2×10^{-3} m³/s

4. ✖ 2×10^{-4} m³/s

Question Number : 44 Question Id : 1051313404 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A unit hydrograph is defined as the direct runoff hydrograph produced by

Options :

1. ✖ 1 mm total rainfall

2. ✔ 1 cm effective rainfall

3. ✖ 10 mm annual rainfall

4. ✖ Maximum storm rainfall

Question Number : 45 Question Id : 1051313405 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which factor has the least influence on runoff coefficient?

Options :

1. ✖ Land use
2. ✖ Soil type
3. ✖ Basin slope
4. ✔ Air temperature

Question Number : 46 Question Id : 1051313406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If rainfall is 12 cm and runoff is 3 cm, the runoff coefficient is

Options :

1. ✖ 0.15
2. ✔ 0.25
3. ✖ 0.40
4. ✖ 0.60

Question Number : 47 Question Id : 1051313407 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The first part of a storm hydrograph is called

Options :

1. ✖ Recession limb
2. ✖ Base flow
3. ✔ Rising limb
4. ✖ Peak segment

Question Number : 48 Question Id : 1051313408 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is non-recording type rain gauge?

Options :

1. ✖ Tipping bucket rain gauge
2. ✖ Weighing bucket rain gauge
3. ✔ Symon's rain gauge
4. ✖ Natural Syphon rain gauge

Question Number : 49 Question Id : 1051313409 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The type of rainfall which occurs due to localized heating of air is called as

Options :

1. ✔ Cyclonic rainfall
2. ✖ Convectional rainfall
3. ✖ Orographic rainfall
4. ✖ Frontal rainfall

Question Number : 50 Question Id : 1051313410 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If water temperature increases, hydraulic conductivity will

Options :

1. ✖ Decrease
2. ✔ Increase

3. ✖ Remain constant

4. ✖ Become zero

Question Number : 51 Question Id : 1051313411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Aquifers composed primarily of loose sand and gravel materials are classified as

Options :

1. ✖ Consolidated formations

2. ✔ Unconsolidated formations

3. ✖ Igneous rocks

4. ✖ Metamorphic rocks

Question Number : 52 Question Id : 1051313412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Free moving Water table is characteristically present in which type of aquifer system?

Options :

1. ✖ Confined aquifer

2. ✖ Artesian aquifer

3. ✔ Unconfined aquifer

4. ✖ Aquiclude

Question Number : 53 Question Id : 1051313413 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Artificial recharge achieved by distributing water over a large surface area to increase infiltration is

Options :

1. ✓ Basin method
2. ✗ Injection method
3. ✗ Ditch method
4. ✗ Pit method

Question Number : 54 Question Id : 1051313414 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Due to which of the following action the artesian wells discharge water naturally?

Options :

1. ✗ Pumping
2. ✓ Pressure
3. ✗ Gravity
4. ✗ Capillarity

Question Number : 55 Question Id : 1051313415 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Unconsolidated geological formations usually exhibit

Options :

1. ✗ Low yield
2. ✗ Low porosity
3. ✓ High transmissivity

4. ✖ Zero storage

Question Number : 56 Question Id : 1051313416 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which layers is a leaky aquifer typically bounded by

Options :

- 1. ✖ Impermeable layers
- 2. ✔ Semi-permeable layers
- 3. ✖ Clay layers
- 4. ✖ Rock layers

Question Number : 57 Question Id : 1051313417 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The property of specific retention of water in an aquifer is mainly governed by

Options :

- 1. ✖ Gravity
- 2. ✔ Capillary forces
- 3. ✖ Pressure
- 4. ✖ Pumping

Question Number : 58 Question Id : 1051313418 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Seawater intrusion into costal aquifers generally occurs when

Options :

- 1. ✖ Recharge increases

- 2. ✓ Pumping exceeds recharge
- 3. ✗ Rainfall increases
- 4. ✗ Storage increases

Question Number : 59 Question Id : 1051313419 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is the limitation of recharge structures?

Options :

- 1. ✗ High evaporation
- 2. ✓ Clogging
- 3. ✗ Leakage
- 4. ✗ Corrosion

Question Number : 60 Question Id : 1051313420 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Groundwater contamination spreads faster in which of the following formations?

Options :

- 1. ✗ Clay aquifers
- 2. ✓ Fractured rocks
- 3. ✗ Shale formations
- 4. ✗ Peat soils

Question Number : 61 Question Id : 1051313421 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Waterlogging in irrigated areas reduces crop yield mainly due to

Options :

1. ✖ Salinity buildup
2. ✔ Oxygen deficiency in roots
3. ✖ Soil erosion
4. ✖ Low rainfall

Question Number : 62 Question Id : 1051313422 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The hydraulic conductivity in unsaturated soil is mainly controlled by

Options :

1. ✖ Porosity
2. ✔ Degree of saturation
3. ✖ Thickness
4. ✖ Pressure head

Question Number : 63 Question Id : 1051313423 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An aquifer with high Transmissivity and low Specific storage is most likely

Options :

1. ✖ Unconfined
2. ✔ Confined
3. ✖ Perched

4. ✖ Leaky

Question Number : 64 Question Id : 1051313424 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If hydraulic gradient becomes zero, then discharge will be

Options :

1. ✖ Maximum

2. ✖ Minimum

3. ✔ Zero

4. ✖ Infinite

Question Number : 65 Question Id : 1051313425 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a well does not extend through the full thickness of an aquifer, the resulting flow pattern includes

Options :

1. ✖ Uniform flow

2. ✔ Complex flow

3. ✖ Reduced recharge

4. ✖ Zero drawdown

Question Number : 66 Question Id : 1051313426 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Induced recharge from a nearby stream or river is effective under which of the following condition?

Options :

1. ✓ River level > Water table
2. ✗ River is dry
3. ✗ Aquifer is confined
4. ✗ Soil is clayey

Question Number : 67 Question Id : 1051313427 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Land subsidence is primarily associated with

Options :

1. ✗ Flooding
2. ✓ Overdraft in confined aquifers
3. ✗ Recharge
4. ✗ Rainfall

Question Number : 68 Question Id : 1051313428 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The characteristics of aquitards differ from aquifers mainly by

Options :

1. ✗ Zero porosity
2. ✓ Low permeability
3. ✗ No storage

4. ✖ High compressibility

Question Number : 69 Question Id : 1051313429 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A large-diameter shallow well constructed by manual excavation is commonly referred to as a/an

Options :

- 1. ✖ Tube well
- 2. ✖ Bore well
- 3. ✔ Open well
- 4. ✖ Artesian well

Question Number : 70 Question Id : 1051313430 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Public participation improves EIA by

Options :

- 1. ✖ Increasing cost
- 2. ✔ Improving transparency
- 3. ✖ Delaying projects
- 4. ✖ Reducing standards

Question Number : 71 Question Id : 1051313431 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Environmental Management Plan is prepared during

Options :

1. ✖ Screening
2. ✖ Scoping
3. ✔ Impact analysis
4. ✖ Implementation

Question Number : 72 Question Id : 1051313432 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

IPCC stands for

Options :

1. ✖ International Panel on Climate Change
2. ✔ Intergovernmental Panel on Climate Change
3. ✖ Indian Panel on Climate Change
4. ✖ Integrated Panel for Climate Change

Question Number : 73 Question Id : 1051313433 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ocean acidification is caused by which of the following?

Options :

1. ✖ SO₂
2. ✔ CO₂
3. ✖ NO_x
4. ✖ O₃

Question Number : 74 Question Id : 1051313434 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Albedo refers to

Options :

1. ✖ Absorption
2. ✔ Reflection
3. ✖ Emission
4. ✖ Conduction

Question Number : 75 Question Id : 1051313435 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which geological feature increases risk of foundation failure in Dams?

Options :

1. ✖ Massive unfractured rock
2. ✔ Fault lines and joints
3. ✖ Homogenous rock layers
4. ✖ Granite bedrock

Question Number : 76 Question Id : 1051313436 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

NDMA in India stands for

Options :

1. ✔ National Disaster Management Authority
2. ✖ Natural Disaster Management Agency

3. ✖ National Disaster Monitoring Agency

4. ✖ National Development Authority

Question Number : 77 Question Id : 1051313437 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Paris Agreement aims to limit global warming to

Options :

1. ✖ 3°C

2. ✖ 2°C

3. ✔ 1.5 - 2°C

4. ✖ 5°C

Question Number : 78 Question Id : 1051313438 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Basel Convention primarily governs the transboundary movement and management of

Options :

1. ✖ Air pollution

2. ✔ Hazardous waste

3. ✖ Noise

4. ✖ Radiation

Question Number : 79 Question Id : 1051313439 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which convention protects wetlands of international importance?

Options :

1. ✖ Bonn Convention
2. ✔ Ramsar Convention
3. ✖ Vienna Convention
4. ✖ Nagoya Protocol

Question Number : 80 Question Id : 1051313440 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Granite is classified as which type of rock?

Options :

1. ✖ Sedimentary rock
2. ✖ Metamorphic rock
3. ✔ Igneous rock
4. ✖ Volcanic ash

Question Number : 81 Question Id : 1051313441 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Weathering differs from erosion because weathering involves

Options :

1. ✖ Transportation
2. ✖ Deposition
3. ✖ Sedimentation
4. ✔ In-situ rock disintegration

Question Number : 82 Question Id : 1051313442 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Maps prepared with a larger scale are characterized by displaying

Options :

1. ✖ Less detail and a large area
2. ✔ More detail and a small area
3. ✖ Only political boundaries
4. ✖ Only elevations

Question Number : 83 Question Id : 1051313443 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The most dominant geomorphic process in deserts is

Options :

1. ✖ Fluvial erosion
2. ✖ Glacial erosion
3. ✔ Aeolian action
4. ✖ Marine erosion

Question Number : 84 Question Id : 1051313444 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The scale of an aerial photograph primarily depends on

Options :

1. ✔ Focal length and flying height
2. ✖ Sun elevation

- 3. ✖ Film sensitivity
- 4. ✖ Ground relief

Question Number : 85 Question Id : 1051313445 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Passive remote sensing systems depend on

Options :

- 1. ✖ Artificial energy sources
- 2. ✖ Radar signals
- 3. ✔ Solar radiation
- 4. ✖ Laser pulses

Question Number : 86 Question Id : 1051313446 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Indian Remote Sensing (IRS) satellites are primarily used for

Options :

- 1. ✖ Military surveillance only
- 2. ✔ Resource monitoring and management
- 3. ✖ Deep space exploration
- 4. ✖ Communication services

Question Number : 87 Question Id : 1051313447 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which surveying method is best suited for large-area, high-precision control networks?

Options :

1. ✖ Plane table surveying
2. ✖ Chain surveying
3. ✖ Compass surveying
4. ✔ Geodetic surveying

Question Number : 88 Question Id : 1051313448 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which resolution refers to the smallest object that a sensor can detect?

Options :

1. ✔ Spatial resolution
2. ✖ Temporal resolution
3. ✖ Radiometric resolution
4. ✖ Spectral resolution

Question Number : 89 Question Id : 1051313449 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The most important geological requirement for a dam foundation is

Options :

1. ✖ Thick soil cover
2. ✔ High strength and low permeability of rocks
3. ✖ High porosity
4. ✖ Steep slope

Question Number : 90 Question Id : 1051313450 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Photochemical smog formation requires

Options :

1. ✖ High humidity and rainfall
2. ✔ Sunlight, NO_x and hydrocarbons
3. ✖ SO_2 and particulate matter
4. ✖ CO and CO_2

Question Number : 91 Question Id : 1051313451 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The permissible noise level in residential areas during night is approximately

Options :

1. ✖ 75 dB
2. ✖ 65 dB
3. ✔ 45 dB
4. ✖ 90 dB

Question Number : 92 Question Id : 1051313452 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A sedimentation tank has a volume of 1500 m^3 and a flow of $3000 \text{ m}^3/\text{day}$.

Detention time is

Options :

1. ✖ 6 hours

- 2. ✓ 12 hours
- 3. ✗ 18 hours
- 4. ✗ 24 hours

Question Number : 93 Question Id : 1051313453 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the per capita water supply is 150 L/day and 80% becomes sewage, the sewage generated for 10,000 people is

Options :

- 1. ✗ 1.0 MLD
- 2. ✓ 1.2 MLD
- 3. ✗ 1.5 MLD
- 4. ✗ 2.0 MLD

Question Number : 94 Question Id : 1051313454 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A trickling filter receives an organic load of 300 kg BOD per day and has a filter volume of 150 m³. What is the organic loading rate of the filter?

Options :

- 1. ✗ 0.5 kg BOD/m³·day
- 2. ✓ 2 kg BOD/m³·day
- 3. ✗ 5 kg BOD/m³·day
- 4. ✗ 10 kg BOD/m³·day

Question Number : 95 Question Id : 1051313455 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The turbidity of raw water entering a sedimentation tank is 120 NTU. After sedimentation, the turbidity is reduced to 30 NTU. What is the turbidity removal efficiency of the sedimentation process?

Options :

1. ✖ 50%
2. ✖ 90%
3. ✖ 80%
4. ✔ 75%

Question Number : 96 Question Id : 1051313456 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

According to drinking water standards, the desirable residual chlorine at the consumer end is about

Options :

1. ✖ 0.05 mg/L
2. ✖ 1.5 mg/L
3. ✔ 0.2 - 0.5 mg/L
4. ✖ 5 mg/L

Question Number : 97 Question Id : 1051313457 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The unit of coefficient of permeability is

Options :

1. ✖ m^2
2. ✔ m/s

3. ✖ N/m^2

4. ✖ kg/m^3

Question Number : 98 Question Id : 1051313458 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The maximum permissible concentration of fluoride in drinking water is

Options :

1. ✖ 0.5 mg/L

2. ✖ 1.0 mg/L

3. ✔ 1.5 mg/L

4. ✖ 2.5 mg/L

Question Number : 99 Question Id : 1051313459 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

High concentration of nitrates ($> 45 \text{ mg/L}$) in drinking water causes

Options :

1. ✖ Rickets

2. ✖ Skeletal fluorosis

3. ✖ Minamata disease

4. ✔ Methemoglobinemia

Question Number : 100 Question Id : 1051313460 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For the removal of sub-micron particulate matter ($< 1 \mu\text{m}$) from flue gases, which of the following devices generally provides the highest collection efficiency?

Options :

1. ✓ Electrostatic precipitator
2. ✗ Cyclone separator
3. ✗ Gravity settling chamber
4. ✗ Wet scrubber

Question Number : 101 Question Id : 1051313461 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Arrange the following devices in increasing order of particulate collection efficiency for fine particles

- A. Gravity settling chamber
- B. Cyclone separator
- C. Electrostatic precipitator

Options :

1. ✗ $A < C < B$
2. ✓ $A < B < C$
3. ✗ $B < A < C$
4. ✗ $A > B > C$

Question Number : 102 Question Id : 1051313462 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In water and wastewater analysis, Kjeldahl nitrogen (TKN) represents the sum of

Options :

1. ✗ Organic nitrogen + nitrate nitrogen

2. ✖ Organic nitrogen + nitrite nitrogen
3. ✔ Organic nitrogen + ammonia nitrogen
4. ✖ Ammonia nitrogen + nitrate nitrogen

Question Number : 103 Question Id : 1051313463 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A high Sludge Volume Index (SVI) in ASP indicates

Options :

1. ✖ Good sludge settling
2. ✖ Compact floc formation
3. ✖ Excess oxygen transfer
4. ✔ Poor settling characteristics of sludge

Question Number : 104 Question Id : 1051313464 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Sloughing in trickling filters usually results in

Options :

1. ✖ Reduced suspended solids in effluent
2. ✔ Increased suspended solids load to the secondary clarifier
3. ✖ Improved BOD removal
4. ✖ Reduced hydraulic loading

Question Number : 105 Question Id : 1051313465 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Sludge bulking in an activated sludge process is mainly due to

Options :

1. ✖ High dissolved oxygen
2. ✖ Low sludge age
3. ✔ Excessive growth of filamentous microorganisms
4. ✖ High settling velocity

Question Number : 106 Question Id : 1051313466 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which greenhouse gas has very high heat-trapping ability per molecule, but is present in the smallest amount in the atmosphere?

Options :

1. ✖ Carbon dioxide
2. ✖ Methane
3. ✖ Nitrous oxide
4. ✔ Chlorofluorocarbons

Question Number : 107 Question Id : 1051313467 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The tropopause is characterized by

Options :

1. ✖ Increase in temperature with height
2. ✖ Decrease in temperature with height
3. ✔ Nearly constant temperature with height

4. ✖ Sudden increase in pressure

Question Number : 108 Question Id : 1051313468 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a secondary air pollutant?

Options :

1. ✖ Carbon monoxide

2. ✔ Ozone (tropospheric)

3. ✖ Sulphur dioxide

4. ✖ Lead

Question Number : 109 Question Id : 1051313469 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which gas contributes most to the natural greenhouse effect?

Options :

1. ✖ Carbon dioxide

2. ✖ Methane

3. ✔ Water vapour

4. ✖ Nitrous oxide

Question Number : 110 Question Id : 1051313470 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A water sample shows high COD but relatively low BOD. This indicates the presence of

Options :

1. ✖ Easily biodegradable organic matter

2. ✓ Non-biodegradable organic pollutants
3. ✗ Inorganic salts only
4. ✗ Pathogenic microorganisms

Question Number : 111 Question Id : 1051313471 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Temporary hardness of water is mainly caused by the presence of

Options :

1. ✓ Bicarbonates of Ca^{2+} and Mg^{2+}
2. ✗ Sulphates and chlorides of Ca^{2+} and Mg^{2+}
3. ✗ Sodium salts
4. ✗ Dissolved oxygen

Question Number : 112 Question Id : 1051313472 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which process in the hydrologic cycle directly contributes to groundwater recharge?

Options :

1. ✗ Surface runoff
2. ✗ Evapotranspiration
3. ✗ Precipitation interception
4. ✓ Infiltration and percolation

Question Number : 113 Question Id : 1051313473 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Excessive use of nitrogenous fertilizers in soil can directly lead to

Options :

1. ✖ Soil salinization
2. ✖ Soil compaction
3. ✔ Soil acidification
4. ✖ Soil erosion

Question Number : 114 Question Id : 1051313474 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Minamata disease is caused due to long-term exposure to

Options :

1. ✖ Inorganic mercury in soil
2. ✔ Methyl mercury through aquatic food chains
3. ✖ Lead in drinking water
4. ✖ Arsenic in groundwater

Question Number : 115 Question Id : 1051313475 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which pollutant reduces atmospheric visibility by light scattering, contributing to haze formation?

Options :

1. ✖ Ozone
2. ✖ Carbon monoxide
3. ✔ Fine particulate matter

4. ✖ Nitrous oxide

Question Number : 116 Question Id : 1051313476 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which gas is primarily responsible for the corrosion of metals and monuments in polluted urban environments?

Options :

1. ✔ Sulphur dioxide

2. ✖ Carbon monoxide

3. ✖ Methane

4. ✖ Nitrogen

Question Number : 117 Question Id : 1051313477 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which long-term environmental effect is most strongly linked to excessive phosphorus discharge into water bodies?

Options :

1. ✖ Acidification

2. ✖ Salinization

3. ✖ Thermal pollution

4. ✔ Eutrophication

Question Number : 118 Question Id : 1051313478 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which factor primarily controls the volatilization of organic pollutants from soil and water surfaces?

Options :

1. ✖ Soil texture
2. ✔ Vapor pressure of the compound
3. ✖ Soil moisture
4. ✖ Organic carbon content

Question Number : 119 Question Id : 1051313479 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which pollutant is mainly responsible for thermal inversion-related smog episodes in urban areas?

Options :

1. ✖ Carbon monoxide
2. ✖ Sulphur dioxide
3. ✔ Particulate matter
4. ✖ Methane

Question Number : 120 Question Id : 1051313480 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which waste management option is most effective for reducing greenhouse gas emissions from organic solid waste?

Options :

1. ✖ Open dumping
2. ✖ Sanitary landfilling without gas recovery
3. ✖

Composting

4. ✓ Anaerobic digestion with biogas recovery

