Telangana State Council Higher Education

Notations:

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

Question Paper Name: Environmental Management 13th June 2024

Shift 1

Subject Name: Environmental Management

Creation Date : 2024-06-13 12:26:50

Duration: 120 120 **Total Marks: 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:

Group Id: 38382346

Group Maximum Duration:

Group Minimum Duration:

Show Attended Group?:

No
Edit Attended Group?:

No
Break time:

0

Group Marks:

Mathematics

Section Id: 383823122

Section Number:

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: 383823122

Question Shuffling Allowed: Yes

Question Number: 1 Question Id: 3838236361 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

If l > 0, K < 0 are roots of $x^2 + x - 20 = 0$, the system of linear equations 3x - y + 4z = 3,

x+2y-3z = -2 and 6x+5y+Pz = -3 has

Options:

- 1 * unique solution when P = K
- 2. * infinite number of solutions when P = I
- 3. * no solution when P = K + I
- 4. \checkmark unique solution when P = l

Question Number: 2 Question Id: 3838236362 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

The number of positive integral solutions of x + y + z = 12, $x \le y \le z$ is

Options:

- 1. * 55
- 2. * 36
- 3. 🗸 11
- 4. * 13

Question Number: 3 Question Id: 3838236363 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0



If the equations $x^2 + 2x + K = 0$ and $x^2 + Kx + 2 = 0$ have one root in common, then the product of the other two roots is

Options:

$$2. \times 12 + K$$

$$3. \times K + 1$$

Question Number : 4 Question Id : 3838236364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If for a progression, sum of the first n terms is $2n^2 + 5n + 6$ and T_n is the nth term of the

progression, then $\sum_{K=1}^{10} T_{3K} =$

Options:

Question Number : 5 Question Id : 3838236365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Display Question Number . res

Correct Marks: 1 Wrong Marks: 0

Let X be a discrete random variable with probability mass function P(X = x) where

$$x \in \{x_1, x_2, ... x_n\}$$
. If $\sum_{i=1}^{n} (x_i - 2)^2 P(X = x_i) = 28$ and $\sum_{i=1}^{n} (x_i + 2)^2 P(X = x_i) = 12$. Then

variance of X is

Options:

1. * 20



2. 🗸 12

3. * 8

4. * 40

 ${\bf Question\ Number: 6\ Question\ Id: 3838236366\ Question\ Type: MCQ\ Option\ Shuffling: Yes}$

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If b_{yx} and b_{xy} are regression coefficients and they are equal, then

Options:

1. * correlation coefficient is one

 $y \neq x$ variance of x and variance of y are equal

Mean of x and mean of y are equal

4 \times Standard deviation of x is greater than standard deviation of y

Question Number: 7 Question Id: 3838236367 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If the probability density function of a continuous random variable X is

$$f(X=x) = Ke^{-3x}$$
, $0 < x < \infty$, then a solution of $\frac{P^2 + 1}{P} = \frac{K}{\sqrt{2}}$ is

$$\frac{1}{\sqrt{2}}$$

$$\frac{1}{\sqrt{3}}$$

Question Number: 8 Question Id: 3838236368 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

For a bivariate data (x_i, y_i) (i = 1, 2, 3, ..., 10), $\sum x_i y_i = 6200$, $\sum x_i = 400$, $\sum y_i = 1220$,

 $\sum x_i^2 = 1800$, then equation of line of best fit is

Options:

$$y = 0.2x + 0.3$$

$$2. \times y = 3x + 1$$

$$y = 2x + 3$$

$$4. \checkmark y = 3x + 2$$

 ${\bf Question\ Number: 9\ Question\ Id: 3838236369\ Question\ Type: MCQ\ Option\ Shuffling: Yes}$

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

In large sample, the critical value for the single tailed test at 5% level of significance is

Options:

2.58

2. 1.96

3. * 1.642

4. * 1.28

Question Number: 10 Question Id: 3838236370 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

Mean of a binomial distribution 12 and variance is 8. The probability of having at least one success is

$$1 - \left(\frac{1}{3}\right)^{36}$$



$$1 - \left(\frac{2}{3}\right)^{36}$$

$$1 - \left(\frac{2}{3}\right)^{35} \left(\frac{1}{3}\right)$$

$$1 - \left(\frac{1}{3}\right)^{35} \left(\frac{2}{3}\right)$$

Environmental Management

Section Id: 383823123

Section Number: 2

Section type: Online

Mandatory or Optional: Mandatory

Number of Questions :110Number of Questions to be attempted :110Section Marks :110Maximum Instruction Time :0

Sub-Section Number: 1

Sub-Section Id: 383823123

Question Shuffling Allowed: Yes

Question Number: 11 Question Id: 3838236371 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which component of an ecosystem is responsible for the cycling of nutrients such as carbon, nitrogen and phosphorus?

- 2 Primary producers
- 2 * Consumers
- 4. * Abiotic factors



Question Number: 12 Question Id: 3838236372 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Energy flow is always unidirectional in an ecosystem because

Options:

the energy that is lost during energy flow cannot be reused in other stages of energy flow

2. Energy flows from tertiary consumers to secondary consumers and finally to producers

3. * the energy that is gained during energy flow can be reused in other stages of energy flow

Energy flows from tertiary consumers to producers and finally to primary consumers

Question Number: 13 Question Id: 3838236373 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Energy flow in an ecosystem is based on which laws?

Options:

Avogadro's law

2. # Gas law

3. Thermodynamics law

∠ W Henry's law

Question Number: 14 Question Id: 3838236374 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Photosynthesis converts solar energy into the chemical energy of a carbohydrate by

Options:

1 ✓ Reducing CO₂ and oxidizing H₂O

2. Reducing H2O and oxidizing CO2

3. * Reducing the carbohydrate



4. Reducing glucose and water

Question Number: 15 Question Id: 3838236375 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

In a food chain, energy is transferred from one trophic level to another. What happens to

the energy as it moves up the food chain?

Options:

1 x It increases

2 It decreases

3 * It remains constant

4. * It fluctuates randomly

Question Number: 16 Question Id: 3838236376 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the primary purpose of biogeochemical cycles in ecosystems?

Options:

1 * To regulate the temperature of the environment

2. To recycle nutrients and elements essential for life

3. * To control the population sizes of organisms

4. * To produce energy through photosynthesis

Question Number: 17 Question Id: 3838236377 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What are the four factors that affect population growth ecology?



- 1 × Predation, competition, resource availability and habitat destruction
- 2. * Environmental changes, disease outbreaks, natural disasters and genetic mutations
- 3. * Immigration, emigration, predation and competition
- 4. Birth rate, death rate, emigration and immigration

Question Number: 18 Question Id: 3838236378 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following Indian states is known for its significant population of the Bengal Tiger?

Options:

- 1. * Karnataka
- 2. * Tamil Nadu
- 3. Madhya Pradesh
- 4 Maharashtra

Question Number: 19 Question Id: 3838236379 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which part of India is rich in biodiversity?

Options:

- 1 * The Himalayas
- 2. * Indo-Burma Region
- 3 Western Ghats
- 4. Sundaland

Question Number : 20 Question Id : 3838236380 Question Type : MCQ Option Stories Largest Student Review Platform

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

The Sundarbans, located in India, are known for being the largest

ecosystem in the world

Options:

- 1. grass land
- 2. * pond
- 3 # forest
- 4. mangrove

Question Number: 21 Question Id: 3838236381 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which characteristic is common to both bacteria and yeast?

Options:

- 1 / Unicellular
- 2 * Eukaryotic
- 3. * Photosynthetic
- 4. * Prokaryotic

Question Number: 22 Question Id: 3838236382 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which type of medium allows for the differentiation of microorganisms based on their metabolic characteristics?

- 1 * Defined medium
- 2 * Complex medium
- 3. Selective medium



4. Differential medium

Question Number: 23 Question Id: 3838236383 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

What is the primary mechanism of action of ultraviolet (UV) radiation in controlling microorganisms?

Options:

- 1. * Protein denaturation
- 2 Disruption of DNA replication
- 3 * Inhibition of metabolic enzymes
- 4 * Cellular dehydration

Question Number: 24 Question Id: 3838236384 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which chemical agent is effective against enveloped viruses, such as influenza and herpes viruses?

Options:

- 1 * Ethylene oxide
- 2. * Benzalkonium chloride
- 3. * Chlorine dioxide

Question Number: 25 Question Id: 3838236385 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

In anaerobic wastewater treatment the microorganisms present are



- 1. ✓ methane formers and acid formers
- 2 * actobacillus
- 3. * Nocardia
- 4. * Ecoli

Question Number: 26 Question Id: 3838236386 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which process occurs during the acidogenesis stage of anaerobic digestion?

Options:

- 1 * Hydrolysis of complex organic compounds
- Production of organic acids and volatile fatty acids
- 3 * Conversion of organic acids to methane and carbon dioxide
- Formation of methane gas by methanogens

Question Number: 27 Question Id: 3838236387 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

In aerobic biological waste treatment, microorganisms utilize which compound as the primary electron acceptor during the degradation of organic matter?

Options:

- Oxygen
- Carbon dioxide
- 3 * Nitrate

Question Number : 28 Question Id : 3838236388 Question Type : MCQ Option Shuffling : Yes collegedunia

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is a major group of microbes involved in nitrogen fixation?

Options:

✓ Bacteria

2. * Fungi

3. * Protozoa

4. * Archaea

Question Number: 29 Question Id: 3838236389 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which group of microbes is known for its role in the production of antibiotics?

Options:

1.

✓ Actinomycetes

2. * Cyanobacteria

3. * Archaea

4. ¥ Yeasts

Question Number: 30 Question Id: 3838236390 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is not a common nitrogen source used in cultivation media for microorganisms?

Options:

1 * Ammonium sulfate

2. * Peptone

3. * Urea



4. Glucose

Question Number: 31 Question Id: 3838236391 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the scope of environmental chemistry in our daily life?

Options:

do not help in classify contaminated soils as hazardous waste, manage their disposal, and

- 1. * supervise on-site remediation
- 2. * do not help to assess the risks of contaminants in soil and ground water
- 3. do help to assess the long-term risks of contaminants in soil and groundwater
- △ * do not help to undertake corrective strategies

Question Number: 32 Question Id: 3838236392 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Environmental chemistry mainly deals with the study of

Options:

- ✓ unwanted substances and their effects
- 2. * flora and fauna
- 3 * biodiversity
- 4. * forest resources

Question Number: 33 Question Id: 3838236393 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Acid rain is primarily caused by the emission of which two gases into the atmosphere?

Options:

Nitrogen oxides and sulfur dioxide



- 2. * Carbon monoxide and methane
- 3. * Ozone and carbon monoxide
- 4 * Hydrogen sulfide and ammonia

Question Number: 34 Question Id: 3838236394 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is not a feature of the lithosphere?

Options:

- 1 Mountains
- 2. Walleys
- 3. * Ocean trenches
- 4. Ozone layer

Question Number: 35 Question Id: 3838236395 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Deep-ocean currents are driven by differences in the

Options:

- 1. water temperature
- 2. * water type
- 3. * water concentration
- 4. * water source

Question Number: 36 Question Id: 3838236396 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a major biome found in the biosphere?



Options:

- Rainforest
- 2. * Tundra
- 3. * Desert
- 4. Plateau

Question Number: 37 Question Id: 3838236397 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

The boundary between the troposphere and stratosphere is known as the

Options:

- 1. Tropopause
- 2. * Stratopause
- 3. * Mesopause
- 4. * Thermopause

Question Number: 38 Question Id: 3838236398 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which photochemical oxidants are formed by the action of sunlight on nitrogen oxides and reactive hydrocarbons

- 1. peroxyacetyl nitrate
- 2. * acid rain
- 3. * inorganic carbon
- 4. * particulate matter



Question Number: 39 Question Id: 3838236399 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Ozone is good

Options:

1 * in the troposphere

2 * in the mesosphere

3. in the stratosphere

4. * in the thermosphere

Question Number: 40 Question Id: 3838236400 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which global agreement protects the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances (ODS)

Options:

1 Kyoto protocol

2 Montreal protocol

3. * Paris agreement

4 * Stockholm agreement

Question Number: 41 Question Id: 3838236401 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is a key component of Cation Exchange capacity of the soils?

Options:

1 * Nitrate ions

2. * Anions

3. Exchangeable cations



4 * Soil water content

Question Number: 42 Question Id: 3838236402 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Why is Cation Exchange capacity of the soils important in agriculture?

Options:

1 * It influences soil color

2 * It affects soil pH

3. It indicates nutrient-holding capacity

4. * It determines soil structure

Question Number: 43 Question Id: 3838236403 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is a natural source of aerosols?

Options:

1.

✓ Volcanic eruptions

2. * Industrial emissions

3. * Deforestation

4. * Automobile exhaust

Question Number: 44 Question Id: 3838236404 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

How do aerosols contribute to air quality concerns?

Options:

By reducing respiratory diseases



- 2 * By acting as natural air purifiers
- 4. * By having no impact on human health

Question Number: 45 Question Id: 3838236405 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following human activities is a significant source of anthropogenic trace metal contamination in soils?

Options:

- 1 * Organic farming
- Mining and industrial activities
- Reforestation projects
- 4. * Environmental conservation efforts

Question Number: 46 Question Id: 3838236406 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

How does soil salinity affect plant growth?

Options:

- 1. * Promotes optimal growth
- 2 Inhibits germination and growth
- 3 * Has no impact on plants
- 4. * Increases resistance to diseases

Question Number: 47 Question Id: 3838236407 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0



What is the purpose of adding chlorine or ozone during water treatment?

Options:

- 1 * To remove suspended particles
- 2. * To neutralize pH levels
- ✓ To kill bacteria and viruses
- 4. * To enhance taste and odor

Question Number: 48 Question Id: 3838236408 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following method is not used in water purification systems?

Options:

1 * Filtration

2. * Chlorination

3. * Distillation

4. Fermentation

Question Number: 49 Question Id: 3838236409 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

What is the purpose of primary treatment in wastewater treatment plants?

Options:

1 ✓ To remove suspended solids

- 2 * To neutralize pH levels
- 3. * To kill harmful bacteria
- 4. * To remove dissolved minerals



Question Number: 50 Question Id: 3838236410 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which process is commonly used in secondary treatment to break down organic matter?

Options:

- 1 × Filtration
- > sedimentation
- 3 * Chlorination
- 4. Activated sludge process

Question Number: 51 Question Id: 3838236411 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the primary function of baghouse filters in air pollution control?

Options:

- 1 * To remove sulfur dioxide (SO₂)
- To remove nitrogen oxides (NOx)
- 3. To remove particulate matter
- 4. * To neutralize acidic gases

Question Number: 52 Question Id: 3838236412 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a method used to control sulfur dioxide (SO₂) emissions?

- 1 ✓ Wet scrubbing
- 2. * Catalytic converters
- 3. * Baghouse filters



4 * Electrostatic precipitators

Question Number: 53 Question Id: 3838236413 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The permissible noise level in industrial areas in India is

Options:

1 & 65 dB for day time and 55 dB at night

2 75 dB for daytime and 70 dB at night

3. * 55 dB for daytime and 45 dB at night

4 × 45 dB for daytime and 35 dB at night

Question Number: 54 Question Id: 3838236414 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which parameter is commonly measured to determine the biochemical oxygen demand (BOD) of wastewater?

Options:

1. * Nitrate concentration

2. * Ammonia level

3 / Dissolved oxygen

4 * Organic content

Question Number: 55 Question Id: 3838236415 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is an indicator of wastewater salinity?

Options:

1. ✓ Conductivity



- 2. * Total suspended solids (TSS)
- 3. * pH level
- 4. * BOD level

Question Number: 56 Question Id: 3838236416 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which regulatory authority establishes the noise limits in industrial areas?

Options:

- 1. Environmental Protection Agency (EPA)
- Food and Drug Administration (FDA)
- Federal Aviation Administration (FAA)
- 4. Occupational Safety and Health Administration (OSHA)

Question Number: 57 Question Id: 3838236417 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the purpose of a catalytic converter in vehicles

Options:

- 1. * Increase fuel efficiency
- 2. Reduce harmful emissions
- 3. * Improve engine performance
- 4. * Enhance vehicle sound

Question Number: 58 Question Id: 3838236418 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which parameter is commonly measured to assess the level of pathogens in wastewater?



Options:

- pH level
- 2. * Chlorine concentration
- 3. V Total coliform count
- 4 * Dissolved oxygen

Question Number: 59 Question Id: 3838236419 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the primary function of an Electrostatic Precipitator (ESP)

Options:

- To remove particulate matter from air or gas streams
- 7 * To neutralize acidic pollutants
- 3 * To reduce nitrogen oxide emissions
- △ * To remove volatile organic compounds (VOCs)

Question Number: 60 Question Id: 3838236420 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What are the primary pollutant responsible for formation of photochemical smog?

Options:

- 1 * Sulfur dioxide (SO₂)
- 2 * Particulate matter (PM)
- ✓ Ozone (O₃) and volatile organic compounds (VOCs)
- 4. * nitrogen oxides (NO_x)

Question Number: 61 Question Id: 3838236421 Question Type: MCQ Option Significant Review Platform

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

The radioactive isotope to find the Earth's age in radiometric dating of rocks is

Options:

Carbon-14

2. ✓ Uranium-238

3. * Potassium-40

4. * Lead-206

Question Number: 62 Question Id: 3838236422 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is foliated sedimentary rock?

Options:

1 - Shale

2. * Marble

3 * Quartz

4. Sandstone

Question Number: 63 Question Id: 3838236423 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If no crystallization takes place, then the rock is

Options:

1. * Holocrysatlline

2. * Plutonic

3. Glassy

4. * Hypabyssal



Question Number: 64 Question Id: 3838236424 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which type of crust is formed when the older rocks are pushed above the younger rocks in earth's crust?

Options:

- Normal fault
- 2. * Reverse fault
- 3. * Strike-slip fault
- 4. V Thrust fault

Question Number: 65 Question Id: 3838236425 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which landform is formed when the glacier cuts a U-shaped valley by abrasion?

Options:

- 1 / Fjords
- 2. Corris
- 3. * Aretes
- 4. * Butte

 ${\bf Question\ Number: 66\ Question\ Id: 3838236426\ Question\ Type: MCQ\ Option\ Shuffling: Yes}$

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

Which satellite series is operated by the French Space Agency (CNES)

- 1. * LANDSAT series
- 2. V SPOT
- 3. * RS



4. * IKONOS

Question Number: 67 Question Id: 3838236427 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which satellite sensor is used to monitor the environmental changes like urban growth

and deforestation?

Options:

- 2. * Radar sensor
- 3 * Magnetometer sensor
- 4 * Infrared sensors

Question Number: 68 Question Id: 3838236428 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the temporal resolution of MODIS?

Options:

- ₁ ✓1 day
- 2. * 5 days
- 3. × 10 days
- 4. * 14 days

Question Number: 69 Question Id: 3838236429 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

How many bands does LANDSAT 8 have?

Options:

1. * 10



- 2. * 5
- 3. </11
- 4. * 7

Question Number: 70 Question Id: 3838236430 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which colour of EM spectrum is used for LiDAR bathymetry studies?

Options:

- 1 × Yellow
- 2 * UV
- 3 * Red
- 4. Green

Question Number: 71 Question Id: 3838236431 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

If the precipitation (P) in a region is 450 mm/year, evapotranspiration (ET) is 200 mm/year, and the change in storage (Δ S) is 80 mm/year, what is the value of quick flow (Q)?

Options:

- 1 170 mm/year
- 2 × 450 mm/year
- 3. * 250 mm/year
- 4. * 280 mm/year

Question Number: 72 Question Id: 3838236432 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0



What is the occurrence of orographic precipitation?

Options:

- 1. When the warm air raises over a cold air mass
- 2 * By frontal lifting of air masses
- 3. When the moist air raises over a mountain barrier

Question Number: 73 Question Id: 3838236433 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

The portion of rain fall that hits the ground through canopy is called

Options:

- 1 x Interception loss
- 2. Throughfall
- 3 x Interception gain
- 4. Stem flow

 ${\bf Question\ Number: 74\ Question\ Id: 3838236434\ Question\ Type: MCQ\ Option\ Shuffling: Yes}$

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If the average solar radiation received by the earth is 500 W/m² and reflects 70 W/m², what is the available energy for absorption and heating the surface?

- 1. **×** 500 W/m²
- 2. × 70 W/m²
- 3. 430 W/m²
- 4. × 570 W/m²



Question Number: 75 Question Id: 3838236435 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Soil suction pressure and soil moisture pressure can be measured by

Options:

2 * Lysimeter

3 * Infiltrometer

4 * Piezometers

Question Number: 76 Question Id: 3838236436 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

When a portion of rainfall does not infiltrate into the soil and becomes surface runoff, it is called as

Options:

1. * Base flow

2. V Overland flow

3 * Cover flow

4. * Inter flow

Question Number: 77 Question Id: 3838236437 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

With regard to stream gauging, what for the stage-discharge curve is used?

- 1. * To measure the width of the stream
- 7 × To measure the depth of the stream and presence of debris in the stream
- 3 * To find out change in velocity of the stream



4. To relate the water level of a stream to its discharge

Question Number: 78 Question Id: 3838236438 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is a falling limb of a synthetic unit hydrograph?

Options:

A part of hydrograph where discharge decreases

- 2 * Peak discharge of hydrograph
- A part of hydrograph where discharge increases
- The total volume of water in the hydrograph

Question Number: 79 Question Id: 3838236439 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the size range of sleet pellets?

Options:

1 * Less than 1 mm in diameter

- 2. ✓ Between 1 mm and 5 mm in diameter
- 3 * Between 5 mm and 10 mm in diameter
- 4. * Greater than 10 mm in diameter

Question Number: 80 Question Id: 3838236440 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following have higher evaporation rates?

Options:

Wet soil



- 2. Dry soil
- 3 # Grassland
- 4. * Concrete pavement

Question Number: 81 Question Id: 3838236441 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the major factor affecting the rate of groundwater recharge?

Options:

- 1. Precipitation intensity
- 2. Soil permeability
- 3 * Groundwater depth
- 4. * Land use

Question Number: 82 Question Id: 3838236442 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which artificial groundwater recharge technique causes directing extra surface water to ponds or infiltration basins?

Options:

- Injection wells
- 2 Recharge pits
- 4. Recharge trenches

Question Number: 83 Question Id: 3838236443 Question Type: MCQ Option Shuffling: Yes

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Display Question Number: Yes

Correct Marks : 1 Wrong Marks : 0

Which aquifer property is associated with specific yield of the aquifer?

Options:

1. Porosity

2. * Permeability

3. * Storativity

4. Transmissivity

Question Number: 84 Question Id: 3838236444 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If the transmissivity of the aquifer is 650 m²/day and the thickness of the aquifer is 10 meters, then hydraulic conductivity of the aquifer is

Options:

1 × 650 m/day

2. * 65 m/day

3. 10 m/day

4. × 160 m/day

Question Number: 85 Question Id: 3838236445 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks : 1 Wrong Marks : 0

In a groundwater model, the hydraulic conductivity of the aquifer is 10 m/day and the cross-sectional area perpendicular to the flow is 20 m². The hydraulic gradient is 0.006. Calculate the flow rate (Q) using the Darcy's Law.

Options:

 $1. \times 1 \text{ m}^3/\text{day}$

2.

1.2 m³/day

 $3. \approx 2 \text{ m}^3/\text{day}$



 $4. \times 0.12 \text{ m}^3/\text{day}$

Question Number: 86 Question Id: 3838236446 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the recharge mechanism of the dug well?

Options:

Direct rain fall into the well openings

- 2 * By the lateral flow from nearby surface water bodies
- 3. * Through seepage from the surrounding areas after rain fall
- 4. * By artificial means such as recharge pits and collection from rooftops of houses

Question Number: 87 Question Id: 3838236447 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What material is commonly used for casing in well construction?

Options:

1 Steel

2. * Concrete

3. **V** PVC

4. Wood

Question Number: 88 Question Id: 3838236448 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

Which type of aquifer has an impervious layer above and below it?

Options:

✓ Confined aquifer



- 2. W Unconfined aquifer
- 3. Perched aquifer
- 4. * Alluvial Aquifer

Question Number: 89 Question Id: 3838236449 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the relationship between porosity and specific yield?

Options:

- 1. Porosity is greater than specific yield
- 2 * Specific yield is greater than porosity
- 3. * Porosity and specific yield are equal
- 4 Porosity and specific yield are independent of each other

Question Number: 90 Question Id: 3838236450 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

What is the example of an aquitard?

Options:

Zeolite

2. * Gravel

3. * Sand

Question Number: 91 Question Id: 3838236451 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the difference between an aquifuge and an aquitard?



Options:

- 1. * Aquifuge has higher permeability than aquitard
- 2 Aquifuge has lower permeability than aquitard
- 3. Aquitard cannot store and transmit groundwater and aquifuge can store
- 4. * Aquitard is less porous than aquifuge

Question Number: 92 Question Id: 3838236452 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the function of aquiclude in groundwater recharge systems?

Options:

1 * They facilitate the flow of groundwater

- They increase the recharge of the groundwater
- They act as a hindrance to ground water flow

Question Number: 93 Question Id: 3838236453 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What was the major challenge associated with Bhakra-Nangal project?

Options:

Soil erosion

- 2 Loss of biodiversity like flora and fauna
- 3. * Desertification
- 4. * Deforestation

Question Number: 94 Question Id: 3838236454 Question Type: MCQ Option Slight and a Largest Student Review Platform

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the example of unconsolidated formulation?

Options:

- 1 × Limestone
- 2. * Shale
- 3 # Granite
- ✓ Sandstone

Question Number: 95 Question Id: 3838236455 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

How will the degree of consolidation affect the porosity of the formation?

Options:

- 1. * Higher degree of consolidation leads to higher porosity
- 2. * Degree of consolidation does not affect porosity
- 3 * It is not possible to determine the porosity by degree of consolidation
- △ Wigher degree of consolidation leads to lower porosity

Question Number: 96 Question Id: 3838236456 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the benefit in construction of the Narmada Sagar project?

- 1 Enhanced flood control
- 2. * Decrease in potential of agriculture
- Reduced water availability downstream
- 4 * Increased sediment load in the river



Question Number: 97 Question Id: 3838236457 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which type of aquifer is more prone to contamination?

Options:

- 1 Unconfined Aquifer
- 2. Confined Aquifer
- 3 * Artesian Aquifer
- 4 * Perched Aquifer

Question Number: 98 Question Id: 3838236458 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

If a confined aquifer has a specific yield of 0.40, what does this value indicate about the aquifer's ability to release groundwater?

Options:

- 1 V It can release 40% of its water under pumping
- 2. * It can release 40% of its water without pumping
- 3. * It can release 60% of its water under pumping
- It can release 60% of its water without pumping

Question Number: 99 Question Id: 3838236459 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The storage coefficient of aquifer represents

Options:

1. * Ratio of specific yield to porosity



- Volume of water retained in storage per unit rise in head
- Wolume of water released from storage per unit decline in head
- A Ratio of specific retention to specific yield

Question Number: 100 Question Id: 3838236460 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Measurement of specific yield of an aquifer in field is done by

Options:

1 Slug tests

2. * Grain size analysis

3 * Drain tests

4. ✓ Pumping tests

Question Number: 101 Question Id: 3838236461 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which stage of EIA involves the identification of potential impacts and formulation of mitigation measures?

Options:

1 * Assessment of the impact

2. Scoping

3. Monitoring

4. Screening

 $Question\ Number: 102\ Question\ Id: 3838236462\ Question\ Type: MCQ\ Option\ Shuffling: Yes$

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Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

According to Montreal Protocol, which is not the key aspect of the international cooperation?

Options:

- Technology transfer
- Financial assistance
- 3. Emission trading
- Capacity building

Question Number: 103 Question Id: 3838236463 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is Green Climate Fund (GCF)?

Options:

A global carbon trading platform

- A fund to compensate countries for loss and damage due to climate change
- 3. * A technology transfer platform for climate-friendly technologies
- 4. A financial mechanism under the UNFCCC to support climate action in developing countries

Question Number: 104 Question Id: 3838236464 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

How is the effectiveness of Soil Quality Management Plan assessed?

- 1. * Through satellite imagery of land use practices
- 2 Regular sampling and analysis of soil samples
- 3. * Through interviews with local farmers
- 4 * Through laboratory experiments



Question Number: 105 Question Id: 3838236465 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following international treaty aims to address the climate change by limiting global warming below 2° Celsius above pre-industrial levels?

Options:

- 1 * Montreal Protocol
- 2. Paris agreement
- 3 * Kyoto protocol
- 4 * Copenhagen Accord

Question Number: 106 Question Id: 3838236466 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

The Stockholm Convention aims to protect human health and environment from which types of pollutants?

Options:

- Ozone-depleting substances
- Greenhouse gases
- 3. * Heavy metals

Question Number: 107 Question Id: 3838236467 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

Which international agreement aims to control the transboundary transit of hazardous wastes and their disposal?

Options:

1 * Rotterdam Convention



- 2. Basel Convention
- 3 Minamata Convention
- 4. * Stockholm Convention

Question Number: 108 Question Id: 3838236468 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is not included in the baseline studies conducted in EIA?

Options:

∠ Economic analysis

- 2 * Air quality monitoring
- Noise level assessments
- ▲ Ecological surveys

Question Number: 109 Question Id: 3838236469 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

How can public participation improve the assessment of social and economic impacts in an EIA?

Options:

- By excluding community perspectives and concerns
- 2. By promoting transparency and accountability
- 3. * By expediting the approval process without public input
- 4. * By ignoring the potential impacts on local economies

Question Number: 110 Question Id: 3838236470 Question Type: MCQ Option Shuffling: Yes

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Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

What is the role of Cumulative Impact Assessment (CIA) in EIA?

Options:

- 1. * CIA assesses the environmental impacts of individual projects
- 2. CIA is not a part of the EIA process
- 3. CIA assesses the combined impacts of multiple projects on the environment
- ∠ CIA is conducted after project completion

Question Number: 111 Question Id: 3838236471 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

What is the role of biogeochemistry in understanding Earth's systems?

Options:

- To study the behavior of elements in isolation
- 2. * To analyze only biological processes
- 3. To investigate the flow and transformations of elements
- △ * To study the behavior of elements in space

Question Number: 112 Question Id: 3838236472 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following is not a physical method for controlling microorganisms?

- 1 * Radiation
- 2. * Filtration
- ✓ Disinfection
- 4. * Desiccation



Question Number: 113 Question Id: 3838236473 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which of the following atmospheric pollutants is known to contribute to the formation of ozone in troposphere?

Options:

- 1 * Sulfur dioxide (SO₂)
- 2. Oxides of nitrogen & volatile organic compounds
- 3. * Carbon monoxide (CO)
- 4. Carbondioxide (CO2)

Question Number: 114 Question Id: 3838236474 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which technology utilizes electric charges to remove particulate matter from industrial flue gases?

Options:

- 1 * Flue Gas Desulfurization (FGD)
- 2. Selective Catalytic Reduction (SCR)
- 3 Electrostatic Precipitators (ESP)
- 4. * Thermal Oxidizers

Question Number: 115 Question Id: 3838236475 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks: 1 Wrong Marks: 0

Which technology combusts volatile organic compounds (VOCs) at high temperatures to convert them into carbon dioxide and water vapor?

Options:

1. * Vapor Recovery Systems



- 2 * Electrostatic Precipitators (ESP)

Question Number: 116 Question Id: 3838236476 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which landform is typically created by the erosional action of rivers over geological time scales?

Options:

- 1 * Moraine
- 2. V Delta
- 3 * Mesa
- 4 × Fjord

Question Number: 117 Question Id: 3838236477 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0

What distinguishes metamorphic rocks from igneous and sedimentary rocks?

Options:

- 1. * They are formed from the cooling of molten lava
- They are formed from the accumulation of sediments
- 3 They are formed from the alteration of pre-existing rocks
- They are formed from the compression of organic remains

Question Number: 118 Question Id: 3838236478 Question Type: MCQ Option Shuffling: Yes

Display Question Number: Yes

Correct Marks: 1 Wrong Marks: 0



Which type of satellite sensor captures data in various spectral bands, including visible, infrared and microwave?

Options:

⊥ Lidar sensor

SAR sensor

3. Multispectral sensor

4. * Hyperspectral sensor

Question Number: 119 Question Id: 3838236479 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes Correct Marks : 1 Wrong Marks : 0

Which of the following is a basic principle of surveying?

Options:

1 * Satellite imagery analysis

2 * Data interpolation

3 V Triangulation

4 × Spectral analysis

Question Number: 120 Question Id: 3838236480 Question Type: MCQ Option Shuffling: Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the process of measuring water discharge in rivers and streams?

Options:

1 Rain gauging

2. * Infiltration measurement

3. Stream gauging

4. * Transpiration monitoring

