

UGC NET 2019

Test Time	9:30 AM - 12:30 PM
Test Date	05/12/2019
Subject	89 Environmental Sciences

Section : PART I General Paper

Comprehension:

The table below embodies data on the number of students admitted in three different colleges (A, B and C) during six different years from 2014 to 2019. Based on the data contained in the table, answer the questions 1-5 :

Year - Wise Number of Admitted students in different colleges :

College Year	A	B	C
2014	8000	14000	11000
2015	15000	17000	13000
2016	17000	23000	19000
2017	13000	27000	23000
2018	22000	26000	24000
2019	27000	18000	16000

SubQuestion No : 1

Q.1 What is the difference between the total number of students admitted in college A overall the years together and the total number of students admitted in college C in the year 2018 and 2019 together?

- (1) 6400 (2) 62000
(3) 64000 (4) 61000

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511674

Option 1 ID : 61547545509

Option 2 ID : 61547545510

Option 3 ID : 61547545511

Option 4 ID : 61547545512

Status : Answered

Chosen Option : 1

Comprehension:

The table below embodies data on the number of students admitted in three different colleges (A, B and C) during six different years from 2014 to 2019. Based on the data contained in the table, answer the questions 1-5 :

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2015	15000	17000	13000
2016	17000	23000	19000
2017	13000	27000	23000
2018	22000	26000	24000
2019	27000	18000	16000

SubQuestion No : 2

Q.2

What is the average number of students admitted in college A in the year 2015, in college B in the year 2016, and in college C in the year 2019 together?

- (1) 18000 (2) 24000
(3) 17000 (4) 28000

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511676

Option 1 ID : 61547545517

Option 2 ID : 61547545518

Option 3 ID : 61547545519

Option 4 ID : 61547545520

Status : Answered

Chosen Option : 1

Comprehension:

The table below embodies data on the number of students admitted in three different colleges (A, B and C) during six different years from 2014 to 2019. Based on the data contained in the table, answer the questions 1-5 :

Year - Wise Number of Admitted students in different colleges :

College Year	A	B	C
2014	8000	14000	11000
2015	15000	17000	13000
2016	17000	23000	19000
2017	13000	27000	23000
2018	22000	26000	24000
2019	27000	18000	16000

SubQuestion No : 3

Q.3 Total number of students admitted in college C over all the years was approximately what percent (%) of total number of students admitted in all the three colleges together in the year 2017?

- (1) 168% (2) 162%
(3) 158% (4) 175%

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511675

Option 1 ID : 61547545513

Option 2 ID : 61547545514

Option 3 ID : 61547545515

Option 4 ID : 61547545516

Status : Answered

Chosen Option : 1

Comprehension:

The table below embodies data on the number of students admitted in three different colleges (A, B and C) during six different years from 2014 to 2019. Based on the data contained in the table, answer the questions 1-5 :

Year - Wise Number of Admitted students in different colleges :

College Year	A	B	C
2014	8000	14000	11000
2015	15000	17000	13000
2016	17000	23000	19000
2017	13000	27000	23000
2018	22000	26000	24000
2019	27000	18000	16000

SubQuestion No : 4

Q.4 What is the approximate percent (%) increase in the number of students admitted in college A in the year 2016 as compared to previous year?

- (1) 23 % (2) 123 %
(3) 113 % (4) 13 %

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511673

Option 1 ID : 61547545505

Option 2 ID : 61547545506

Option 3 ID : 61547545507

Option 4 ID : 61547545508

Status : Answered

Chosen Option : 2

Comprehension:

The table below embodies data on the number of students admitted in three different colleges (A, B and C) during six different years from 2014 to 2019. Based on the data contained in the table, answer the questions 1-5 :

Year - Wise Number of Admitted students in different colleges :

College Year	A	B	C
2014	8000	14000	11000
2015	15000	17000	13000
2016	17000	23000	19000
2017	13000	27000	23000
2018	22000	26000	24000
2019	27000	18000	16000

SubQuestion No : 5

Q.5 In which college was the number of students admitted in the year 2016 second lowest and the number of students admitted in the year 2018 minimum respectively?

- (1) College C and College B (2) College B and College A
(3) College C and College A (4) College A and College B

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511672

Option 1 ID : 61547545501

Option 2 ID : 61547545502

Option 3 ID : 61547545503

Option 4 ID : 61547545504

Status : Answered

Chosen Option : 4

Q.6 Which of the following groups of electronic scientists has been given in an order chronologically?

- (1) Guglielmo (G.) Marconi, Lumiere Brothers, Lee forest, John Fleming and John Logie Baird
- (2) John Logie Baird, Lumiere Brothers, Guglielmo (G.) Marconi, Lee forest and John Fleming
- (3) Lee forest, John Fleming, Lumiere Brothers, Guglielmo (G.) Marconi and John Logie Baird
- (4) Lumiere Brothers, Guglielmo (G.) Marconi, Lee forest, John Fleming and John Logie Baird

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511683

Option 1 ID : 61547545545

Option 2 ID : 61547545546

Option 3 ID : 61547545547

Option 4 ID : 61547545548

Status : Answered

Chosen Option : 4

Q.7 Match List – I with List – II

List I

List II

- | | |
|------------------------------------|---------------------------------|
| (a) 50 in decimal | (i) 0110010 in binary |
| (b) 102 in decimal | (ii) 1100110 in binary |
| (c) Real – Time video conferencing | (iii) Synchronous communication |
| (d) SMS texting | (iv) Asynchronous communication |

Choose the correct option :

(1) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(3) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511709

Option 1 ID : 61547545649

Option 2 ID : 61547545650

Option 3 ID : 61547545651

Option 4 ID : 61547545652

Status : Answered

Chosen Option : 3

Q.8

In grounded theory, researchers collect data using theoretical sampling until theoretical saturation is achieved. This process can be summarized in the following sequence.

- (1) Sample theoretically decided → Collect data → Analyse data → Theoretical Saturation
- (2) General research question → Collect data → Sample theoretically decided → Analyse data → Theoretical Saturation
- (3) Sample theoretically decided → General research question → Collect data → Theoretical Saturation
- (4) General research question → Sample theoretically decided → Collect data → Analyse data → Theoretical Saturation

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511694

Option 1 ID : 61547545589

Option 2 ID : 61547545590

Option 3 ID : 61547545591

Option 4 ID : 61547545592

Status : Answered

Chosen Option : 1

Q.9 Which two among the following factors are responsible for transgression of ethical principle in research?

- (a) Harm to the participants
- (b) Lack of informed consent
- (c) Not greeting the participants after the experiment is over
- (d) Asking difficult questions

Choose the correct option :

- | | |
|----------------------|----------------------|
| (1) (a) and (c) only | (2) (b) and (c) only |
| (3) (a) and (d) only | (4) (a) and (b) only |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511704

Option 1 ID : 61547545629

Option 2 ID : 61547545630

Option 3 ID : 61547545631

Option 4 ID : 61547545632

Status : Answered

Chosen Option : 1

Q.10

Consider the following statements with reference to categorical propositions :

- (a) "Some birds are mammals" is a particular affirmative proposition and it distributes subject term alone.
- (b) "Some birds are mammals" is a particular affirmative proposition and it distributes predicate term alone.
- (c) "Some birds are mammals" is a particular affirmative proposition and it distributes both subject and predicate terms.
- (d) "Some birds are mammals" is a particular affirmative proposition and it distributes neither subject term nor predicate term.

Choose the correct option from below :

- (1) Only (a) and (d) are correct
- (2) Only (c) and (d) are correct
- (3) Only (b) is correct
- (4) Only (d) is correct

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511702

Option 1 ID : 61547545621

Option 2 ID : 61547545622

Option 3 ID : 61547545623

Option 4 ID : 61547545624

Status : Answered

Chosen Option : 4

Q.11 Identify the ways that would be followed by a public sector organization to communicate with public by organizing an open house :

- (a) Publicity
- (b) Lobbying
- (c) Public relations
- (d) Image building

Choose the correct option :

- (1) (a), (c) and (d)
- (2) (b), (c) and (d)
- (3) (a), (b) and (d)
- (4) (a), (b) and (c)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511695

Option 1 ID : 61547545593

Option 2 ID : 61547545594

Option 3 ID : 61547545595

Option 4 ID : 61547545596

Status : Answered

Chosen Option : 1

Q.12

Spread of forest fires is influenced by

- (a) Slope
- (b) Soil Moisture
- (c) Wind

Choose the correct answer from the options given below:

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511700

Option 1 ID : 61547545613

Option 2 ID : 61547545614

Option 3 ID : 61547545615

Option 4 ID : 61547545616

Status : Answered

Chosen Option : 4

Q.13 Choose the institutions which are not authorized to confer degree according to UGC Act 1956:

- (a) Institutions established under linguistic minority
- (b) Deemed to be Universities
- (c) Constituent Colleges
- (d) Affiliated Colleges

Choose the correct option :

- (1) (a), (b) and (d) only
- (2) (a), (b) and (c) only
- (3) (b), (c) and (d) only
- (4) (a), (c) and (d) only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511696

Option 1 ID : 61547545597

Option 2 ID : 61547545598

Option 3 ID : 61547545599

Option 4 ID : 61547545600

Status : Answered

Chosen Option : 4

Q.14 Noise levels at a traffic site are recorded for one hour at a sampling interval of 1 second and percentile indices of noise L_1 , L_{10} , L_{50} , L_{90} are computed from the data. The indices are then arranged in increasing order in terms of their values starting from minimum to maximum. Which of the following options represents their correct order?

- (1) L_1 , L_{10} , L_{50} , L_{90}
- (2) L_{10} , L_{50} , L_{90} , L_1
- (3) L_{50} , L_{90} , L_{10} , L_1
- (4) L_{90} , L_{50} , L_{10} , L_1

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511713

Option 1 ID : 61547545665

Option 2 ID : 61547545666

Option 3 ID : 61547545667

Option 4 ID : 61547545668

Status : Answered

Chosen Option : 1

Q.15

If the word TEACHER is coded as TCJACCV and the word SURGEON is coded as PMGETSU in a certain code language, then which of the following will represent the word CONCORD in that language?

(1) FTQEPQE

(2) EQPEQTF

(3) FPQAPME

(4) EMPAQPF

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511680

Option 1 ID : 61547545533

Option 2 ID : 61547545534

Option 3 ID : 61547545535

Option 4 ID : 61547545536

Status : Answered

Chosen Option : 3

Q.16

Which of the following activities are performed by the researcher in an ethnographic research?

(a) Conducts structured interview with the members of the community

(b) Gets immersed in a social setting for an extended period of time

(c) Listens to and engages in conversation

(d) Tries to educate people about the harms of some evil practices

Choose the correct answer :

(1) (a) and (b) only

(2) (a) and (c) only

(3) (b) and (d) only

(4) (b) and (c) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511705

Option 1 ID : 61547545633

Option 2 ID : 61547545634

Option 3 ID : 61547545635

Option 4 ID : 61547545636

Status : Answered

Chosen Option : 2

Q.17 Which one of the following is signified by the term 'hetu' in the process of anumāna (inference) in classical Indian School of Logic?

- (1) Example Provided (2) Statement of reason
(3) Proposition to be proved (4) Conclusion Proved

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511686

Option 1 ID : 61547545557

Option 2 ID : 61547545558

Option 3 ID : 61547545559

Option 4 ID : 61547545560

Status : Answered

Chosen Option : 2

Q.18 Pointing towards a man, a woman said, "His wife's father is the husband of my mother's only daughter". How is the woman related to the man?

- (1) Daughter (2) Sister - in - law
(3) Sister (4) Mother - in - law

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511679

Option 1 ID : 61547545529

Option 2 ID : 61547545530

Option 3 ID : 61547545531

Option 4 ID : 61547545532

Status : Answered

Chosen Option : 1

Q.19 A solid is in the form of a cylinder with hemispherical ends. The diameter of the cylinder is $\frac{1}{3}$ of its height (excluding the hemispherical ends). The total length of the solid including the hemispherical ends is 56 cm. What is the surface area of the solid?

- (1) 3080 cm² (2) 2464 cm²
(3) 2772 cm² (4) 2156 cm²

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511681

Option 1 ID : 61547545537

Option 2 ID : 61547545538

Option 3 ID : 61547545539

Option 4 ID : 61547545540

Status : Answered

Chosen Option : 3

Q.20 Which among the following is NOT an alternative to traditional assessments?

- (1) Multiple Choice Questions (2) Performance Test
(3) Portfolios (4) Exhibitions

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511691
Option 1 ID : 61547545577
Option 2 ID : 61547545578
Option 3 ID : 61547545579
Option 4 ID : 61547545580
Status : Answered
Chosen Option : 1

Q.21 Match correctly the contribution / concept of Column II with the names of the thinkers given in Column I

Column I	Column II
(a) Karl Popper	(i) Inductive method
(b) T.S. Kuhn	(ii) Against the method
(c) Paul Feyerabend	(iii) Paradigm
(d) Francis Bacon	(iv) Falsification

Select appropriate option:

- (1) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)
- (2) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
- (4) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511710
Option 1 ID : 61547545653
Option 2 ID : 61547545654
Option 3 ID : 61547545655
Option 4 ID : 61547545656
Status : Answered
Chosen Option : 1

Q.22 Which one of the following factors does not contribute to learning mathematical concepts

- (1) Real life events
- (2) Assessing the existing mathematical knowledge of the learner before deciding the syllabi
- (3) Teaching mathematics and history together
- (4) Narrating the life experiences of the mathematician who has given the concept

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511690
Option 1 ID : 61547545573
Option 2 ID : 61547545574
Option 3 ID : 61547545575
Option 4 ID : 61547545576
Status : Answered
Chosen Option : 2

Q.23 Academic performance of students is determined by :

- (a) Intelligence
 - (b) Motivation
 - (c) Physique
 - (d) Gender
- (1) (a) and (b) only (2) (a) and (d) only
- (3) (b) and (c) only (4) (c) and (d) only

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511699**

Option 1 ID : **61547545609**

Option 2 ID : **61547545610**

Option 3 ID : **61547545611**

Option 4 ID : **61547545612**

Status : **Answered**

Chosen Option : **1**

Q.24 A college teacher conducts a quiz session with a view to accelerate the tempo of motivational participation. This will form part of which type of evaluation?

- (1) Summative evaluation (2) Criterion based evaluation
- (3) Formative evaluation (4) Diagnostic evaluation

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511692**

Option 1 ID : **61547545581**

Option 2 ID : **61547545582**

Option 3 ID : **61547545583**

Option 4 ID : **61547545584**

Status : **Answered**

Chosen Option : **1**

Q.25 Which of the following statements is / are correct?

- (a) WWW is a network of networks that first started with four computer nodes.
- (b) WWW is a service that runs on the Internet.

Choose the correct option:

- (1) (a) only (2) (b) only
- (3) Both (a) and (b) (4) Neither (a) nor (b)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511698**

Option 1 ID : **61547545605**

Option 2 ID : **61547545606**

Option 3 ID : **61547545607**

Option 4 ID : **61547545608**

Status : **Answered**

Chosen Option : 2

Q.26 Identify the communication which is valid as documentary evidence from the following :

- (1) Written Communication (2) Verbal Communication
(3) Gestural Communication (4) Non - verbal Communication

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511682**

Option 1 ID : **61547545541**

Option 2 ID : **61547545542**

Option 3 ID : **61547545543**

Option 4 ID : **61547545544**

Status : **Answered**

Chosen Option : 1

Q.27 Given below are two statements – one is labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : The Governor has the power to ask for any information from the Chief Minister regarding the administration of the State.

Reasons (R) : The Governor is the real Head of the State administration.

In the context of the above two statements, choose the correct option :

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
(2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
(3) (A) is true, but (R) is false
(4) (A) is false, but (R) is true

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511716**

Option 1 ID : **61547545677**

Option 2 ID : **61547545678**

Option 3 ID : **61547545679**

Option 4 ID : **61547545680**

Status : **Answered**

Chosen Option : 1

Q.28 Select the option that contains only optical storage media

- (1) USB memory stick, Blu – Ray disk, CD – ROM, DVD
(2) DVD, CD – ROM, USB memory stick, CD – RW
(3) Hard disk, USB memory stick, CD – ROM, DVD
(4) DVD, CD – R, Blu – Ray Disk, CD – RW

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**Question ID : **61547511712**Option 1 ID : **61547545661**Option 2 ID : **61547545662**Option 3 ID : **61547545663**Option 4 ID : **61547545664**Status : **Answered**Chosen Option : **1**

Q.29 Which one of the following combination of propositions is considered to be contraries in the classical square of opposition?

- (1) Universal affirmative and universal negative
- (2) Universal affirmative and particular affirmative
- (3) Particular affirmative and universal negative
- (4) Particular affirmative and particular negative

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**Question ID : **61547511688**Option 1 ID : **61547545565**Option 2 ID : **61547545566**Option 3 ID : **61547545567**Option 4 ID : **61547545568**Status : **Answered**Chosen Option : **4**

Q.30 Which among the following is NOT the principle associated with Positivism?

- (1) Phenomenalism
- (2) Deductivism
- (3) Inductivism
- (4) Interpretivism

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**Question ID : **61547511693**Option 1 ID : **61547545585**Option 2 ID : **61547545586**Option 3 ID : **61547545587**Option 4 ID : **61547545588**Status : **Answered**Chosen Option : **4****Q.31**

Match correctly the items of column I with the items of column II

Column I

Column II

- | | |
|--|-------------------------------------|
| (a) Dyslexia | (i) Difficulty in doing mathematics |
| (b) Dysgraphia | (ii) Difficulty in reading |
| (c) Dyscalculia | (iii) Difficulty in writing |
| (d) ADHD | (iv) Difficulty in concentrating |
| (1) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii) | |
| (2) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv) | |
| (3) (a)-(iv), (b)-(i), (c)-(iii), (d)-(ii) | |
| (4) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii) | |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511706

Option 1 ID : 61547545637

Option 2 ID : 61547545638

Option 3 ID : 61547545639

Option 4 ID : 61547545640

Status : Answered

Chosen Option : 2

Q.32

Match the following classes of chemicals with their descriptions :

(Chemical Class)

(Description)

- | | |
|-----------------|--|
| (a) Allergens | (i) Chemicals that alter or damage the genetic material (DNA) cells |
| (b) Mutagens | (ii) Substances that activate the immune system |
| (c) Carcinogens | (iii) Chemicals that specifically cause abnormalities during embryonic growth and development. |
| (d) Teratogens | (iv) Substances that cause invasive out of control cell growth resulting in malignant tumors. |

Choose the most appropriate option from those given below :

- (1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (2) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
- (3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
- (4) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511708

Option 1 ID : 61547545645

Option 2 ID : 61547545646

Option 3 ID : 61547545647

Option 4 ID : 61547545648

Status : Answered

Chosen Option : 3

Q.33

Which of the following statements is/are correct in the context of 'Digital India' Initiative of Government of India?

- (a) National Digital Library of India (NDL India) is a 24 × 7 online store house of all academic awards duly digitized and lodged by academic institutions.
- (b) National Academic Depository (NAD) is an all – digital library that stores information (metadata) about different types of digital contents relevant to the citizens.

Choose the correct option :

- (1) (a) only
- (2) (b) only
- (3) Both (a) and (b)
- (4) Neither (a) nor (b)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511697

Option 1 ID : 61547545601

Option 2 ID : 61547545602

Option 3 ID : 61547545603

Option 4 ID : 61547545604

Status : Answered

Chosen Option : 3

Q.34 Given below are two statements – one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : Information Technology is fast becoming a very important field of activity in India.

Reasons (R) : Software is one of the major exports of India and further India has a very strong base in hardware.

In the light of the above two statements, choose the correct option :

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true, but (R) is false
- (4) (A) is false, but (R) is true

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511715

Option 1 ID : 61547545673

Option 2 ID : 61547545674

Option 3 ID : 61547545675

Option 4 ID : 61547545676

Status : Answered

Chosen Option : 2

Q.35 Which one of the following is not a part of immediate deductive inference?

- (1) Conversion
- (2) Obversion
- (3) Syllogism
- (4) Contraposition

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511689

Option 1 ID : 61547545569

Option 2 ID : 61547545570

Option 3 ID : 61547545571

Option 4 ID : 61547545572

Status : Answered

Chosen Option : 1

Q.36 In a group setting which of the following factors hinder creativity of its members?

- (a) Norm to maintain consensus at any cost
- (b) To think without any fear of being ridiculed
- (c) To respect one another's ideas
- (d) To criticize if somebody's idea is not correct

Choose the correct option :

- (1) (a) and (c) only
- (2) (b) and (d) only
- (3) (c) and (b) only
- (4) (d) and (a) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511703

Option 1 ID : 61547545625

Option 2 ID : 61547545626

Option 3 ID : 61547545627

Option 4 ID : 61547545628

Status : Answered

Chosen Option : 2

Q.37 Who among the following, first took the initiative for appointing a University Education Commission during pre-independence period?

- (1) Lord Curzon
- (2) Lord Ripon
- (3) Lord Wellesley
- (4) Lord Bentick

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511684

Option 1 ID : 61547545549

Option 2 ID : 61547545550

Option 3 ID : 61547545551

Option 4 ID : 61547545552

Status : Answered

Chosen Option : 4

Q.38

Given below is question (Q) followed by three statements. Identify the statements (a, b, c) that are necessary to answer the question.

Question : What is the average age of 30 students studying in a class?

- (a) Boys and girls in the class are in the ratio 7:8
- (b) The average age of boys and girls is 12.2 years and 11.4 years, respectively.
- (c) The number of boys in the class is two less than the number of the girls in the class.

Choose the correct option from those given below :

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (b) and either (a) or (c)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511701

Option 1 ID : 61547545617

Option 2 ID : 61547545618

Option 3 ID : 61547545619

Option 4 ID : 61547545620

Status : Answered

Chosen Option : 4

Q.39 Assumption of an unperceived fact in order to reconcile two apparently inconsistent perceived facts is known in Indian Logic as :

- (1) Anumāna (Inference)
- (2) Upamāna (Comparison)
- (3) Arthāpatti (Implication)
- (4) Anupalabdhi (Non-apprehension)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511687

Option 1 ID : 61547545561

Option 2 ID : 61547545562

Option 3 ID : 61547545563

Option 4 ID : 61547545564

Status : Answered

Chosen Option : 2

Q.40 Which of the following numbers would occur next in the series

2, 6, 30, 60, 130, 210 _____ ?

- (1) 330
- (2) 350
- (3) 370
- (4) 378

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511677

Option 1 ID : 61547545521

Option 2 ID : 61547545522

Option 3 ID : **61547545523**
Option 4 ID : **61547545524**
Status : **Answered**
Chosen Option : **1**

Q.41 Given below are two statements – one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : In the afternoon of a hot sunny day during the summer season, the tropospheric ozone levels in a city like Delhi are expected to be lower as compared to morning and evening.

Reasons (R) : In the afternoon period, atmosphere is unstable and its dilution potential is higher as compared to mornings and evenings.

In the light of the above two statements, choose the correct option :

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511714**
Option 1 ID : **61547545669**
Option 2 ID : **61547545670**
Option 3 ID : **61547545671**
Option 4 ID : **61547545672**
Status : **Answered**
Chosen Option : **1**

Q.42 The compound interest on a certain sum of money for 3 years at the rate of 10% per annum is Rs.993.00. The simple interest on the same sum at the rate of 8% per annum for 4 years would be equal to which of the following?

- (1) Rs. 900.00
- (2) Rs. 930.00
- (3) Rs. 960.00
- (4) Rs. 990.00

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511678**
Option 1 ID : **61547545525**
Option 2 ID : **61547545526**
Option 3 ID : **61547545527**
Option 4 ID : **61547545528**
Status : **Answered**
Chosen Option : **2**

Q.43

Match the following communication channels with their distinguishing type :

(Communication Channel)	(Distinguishing Type)
(a) Blogging	(i) Electronic Media
(b) Television	(ii) Print Media
(c) Periodicals	(iii) Social Media
(d) Collection sites	(iv) World wide web

Choose the correct option from those given below :

- (1) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
- (2) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
- (3) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
- (4) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **61547511707**

Option 1 ID : **61547545641**

Option 2 ID : **61547545642**

Option 3 ID : **61547545643**

Option 4 ID : **61547545644**

Status : **Answered**

Chosen Option : **4**

Q.44 Match the following types of communication with their distinguishing examples

(Types of Communication)	Distinguishing Example)
(a) Formal Communication	(i) Government agencies
(b) Informal Communication	(ii) Circular
(c) Outward Communication	(iii) Memos
(d) Inward Communication	(iv) Group chain

Choose the correct option from those given below :

- (1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (2) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
- (3) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
- (4) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**

Question ID : **61547511711**

Option 1 ID : **61547545657**

Option 2 ID : **61547545658**

Option 3 ID : **61547545659**

Option 4 ID : **61547545660**

Status : **Answered**

Chosen Option : **3**

Q.45 Which one of the following groups of commission on education has been given chronologically in an order of year in which they were constituted?

- (1) Kothari Commission, Mudaliar Commission, Radhakrishnan Commission
- (2) Radhakrishnan Commission, Mudaliar Commission, Kothari Commission
- (3) Mudaliar Commission, Kothari Commission, Radhakrishnan Commission
- (4) Radhakrishnan Commission, Kothari Commission, Mudaliar Commission

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511685**

Option 1 ID : **61547545553**

Option 2 ID : **61547545554**

Option 3 ID : **61547545555**

Option 4 ID : **61547545556**

Status : **Answered**

Chosen Option : **2**

Comprehension:

Read the following passage and answer questions which follow.

I do not wish to suggest that the humanistic elements in education are less important than the utilitarian elements. To know something of great literature, something of world history something of music and painting and architecture, is essential if the life of imagination is to be fully developed. And it is only through imagination that men become aware of what the world might be: without it, 'progress' would become mechanical and trivial. But science, also can stimulate the imagination.

Psychology was until fairly lately, a merely academic study, with very little application to practical affairs. This is all changed now. We have, for instance, industrial psychology, clinical psychology, educational psychology: all of which are of the great practical importance. We may hope and expect that the influence of psychology upon our institutions will rapidly increase in the near future. In education, at any rate, its effect has already been great and beneficent.

SubQuestion No : 46

Q.46 As per the passage, if the life of imagination is to be fully developed, some exposure to the following is required :

- (a) Literature
- (b) World history
- (c) Music
- (d) Politics.

Choose the correct options from these given below :

- (1) Only (a) and (b)
- (2) Only (a) and (c)
- (3) Only (a), (b) and (d)
- (4) Only (a), (b) and (c)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511722**

Option 1 ID : **61547545697**

Option 2 ID : **61547545698**

Option 3 ID : **61547545699**

Option 4 ID : **61547545700**

Status : **Answered**

Chosen Option : **4**

Comprehension:

Read the following passage and answer questions which follow.

I do not wish to suggest that the humanistic elements in education are less important than the utilitarian elements. To know something of great literature, something of world history something of music and painting and architecture, is essential if the life of imagination is to be fully developed. And it is only through imagination that men become aware of what the world might be; without it, 'progress' would become mechanical and trivial. But science, also can stimulate the imagination.

Psychology was until fairly lately, a merely academic study, with very little application to practical affairs. This is all changed now. We have, for instance, industrial psychology, clinical psychology, educational psychology; all of which are of the great practical importance. We may hope and expect that the influence of psychology upon our institutions will rapidly increase in the near future. In education, at any rate, its effect has already been great and beneficent.

SubQuestion No : 47

Q.47 As per the passage, without imagination the 'progress' would become

- | | |
|----------------|----------------|
| (1) Humanistic | (2) Mechanical |
| (3) Creative | (4) Realistic |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511719**

Option 1 ID : **61547545685**

Option 2 ID : **61547545686**

Option 3 ID : **61547545687**

Option 4 ID : **61547545688**

Status : **Answered**

Chosen Option : **2**

Comprehension:

Read the following passage and answer questions which follow.

I do not wish to suggest that the humanistic elements in education are less important than the utilitarian elements. To know something of great literature, something of world history something of music and painting and architecture, is essential if the life of imagination is to be fully developed. And it is only through imagination that men become aware of what the world might be; without it, 'progress' would become mechanical and trivial. But science, also can stimulate the imagination.

Psychology was until fairly lately, a merely academic study, with very little application to practical affairs. This is all changed now. We have, for instance, industrial psychology, clinical psychology, educational psychology; all of which are of the great practical importance. We may hope and expect that the influence of psychology upon our institutions will rapidly increase in the near future. In education, at any rate, its effect has already been great and beneficent.

SubQuestion No : 48

Q.48 In the passage, the author is optimistic about

- (1) The utilitarian elements in education
(2) Decrease in the role of imagination in education
(3) The role of psychology in laboratories
(4) Increase in the influence of psychology upon institutions.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511721**

Option 1 ID : **61547545693**

Option 2 ID : **61547545694**

Option 3 ID : **61547545695**

Option 4 ID : **61547545696**

Status : **Answered**

Chosen Option : **1**

Comprehension:

Read the following passage and answer questions which follow.

I do not wish to suggest that the humanistic elements in education are less important than the utilitarian elements. To know something of great literature, something of world history something of music and painting and architecture, is essential if the life of imagination is to be fully developed. And it is only through imagination that men become aware of what the world might be; without it, 'progress' would become mechanical and trivial. But science, also can stimulate the imagination.

Psychology was until fairly lately, a merely academic study, with very little application to practical affairs. This is all changed now. We have, for instance, industrial psychology, clinical psychology, educational psychology; all of which are of the great practical importance. We may hope and expect that the influence of psychology upon our institutions will rapidly increase in the near future. In education, at any rate, its effect has already been great and beneficent.

SubQuestion No : 49

Q.49 According to the passage psychology until recently was of very little

- | | |
|--------------------------------------|--------------------------------|
| (1) Academic orientation. | (2) Application in academics |
| (3) Application to practical affairs | (4) Application to imagination |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511720**

Option 1 ID : **61547545689**

Option 2 ID : **61547545690**

Option 3 ID : **61547545691**

Option 4 ID : **61547545692**

Status : **Answered**

Chosen Option : **1**

Comprehension:

Read the following passage and answer questions which follow.

I do not wish to suggest that the humanistic elements in education are less important than the utilitarian elements. To know something of great literature, something of world history something of music and painting and architecture, is essential if the life of imagination is to be fully developed. And it is only through imagination that men become aware of what the world might be; without it, 'progress' would become mechanical and trivial. But science, also can stimulate the imagination.

Psychology was until fairly lately, a merely academic study, with very little application to practical affairs. This is all changed now. We have, for instance, industrial psychology, clinical psychology, educational psychology; all of which are of the great practical importance. We may hope and expect that the influence of psychology upon our institutions will rapidly increase in the near future. In education, at any rate, its effect has already been great and beneficent.

SubQuestion No : 50

Q.50 As per the passage, people become aware of "What the world might be?" only through

- | | |
|-----------------|-------------|
| (1) Literature | (2) History |
| (3) Imagination | (4) Music |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511718**

Option 1 ID : **61547545681**

Option 2 ID : **61547545682**

Option 3 ID : **61547545683**

Option 4 ID : **61547545684**

Status : **Answered**

Chosen Option : **3**

Q.1

What is the theoretical maximum fraction of power in the wind that can be extracted by a horizontal axis wind turbine?

- (1) ~ 27 % (2) ~59 %
(3) ~16 % (4) ~75 %

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511751

Option 1 ID : 61547545813

Option 2 ID : 61547545814

Option 3 ID : 61547545815

Option 4 ID : 61547545816

Status : Answered

Chosen Option : 1

Q.2

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

Assertion (A) : There is a general pattern of increase in biodiversity from equator to poles.

Reasons (R) : Due to high level of energy received in tropics, higher is the net primary production, which in turn supports large number of individuals, leading to high biodiversity.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
(2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(3) (A) is true but (R) is false.
(4) (A) is false but (R) is true.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511806

Option 1 ID : 61547546033

Option 2 ID : 61547546034

Option 3 ID : 61547546035

Option 4 ID : 61547546036

Status : Answered

Chosen Option : 1

Q.3

In comparison to its adjoining ecosystems, the biodiversity in the ecotone is

- (1) lower (2) higher
(3) same (4) extremely low

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511740**
Option 1 ID : **61547545769**
Option 2 ID : **61547545770**
Option 3 ID : **61547545771**
Option 4 ID : **61547545772**
Status : **Answered**
Chosen Option : **2**

Q.4

The ethical view, which argues that any resource of nature is meant for human use/consumption is termed as:

- | | |
|-----------------|-----------------|
| (1) Stewardship | (2) Utilitarian |
| (3) Ecocentric | (4) Biocentric |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511728**
Option 1 ID : **61547545721**
Option 2 ID : **61547545722**
Option 3 ID : **61547545723**
Option 4 ID : **61547545724**
Status : **Answered**
Chosen Option : **2**

Q.5

Which among the following is the correct sequence of the elements in earth's crust in decreasing order?

- (1) Oxygen > Aluminium > Silicon > Iron
(2) Oxygen > Silicon > Iron > Aluminium
(3) Oxygen > Aluminium > Iron > Silicon
(4) Oxygen > Silicon > Aluminium > Iron

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511794**
Option 1 ID : **61547545985**
Option 2 ID : **61547545986**
Option 3 ID : **61547545987**
Option 4 ID : **61547545988**
Status : **Answered**
Chosen Option : **4**

Q.6

The ability of an ecosystem to recover when the system has been disturbed by any perturbation is known as

- | | |
|----------------|-----------------|
| (1) Resistance | (2) Homeostasis |
| (3) Climax | (4) Resilience |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**

Question ID : **61547511738**
Option 1 ID : **61547545761**
Option 2 ID : **61547545762**
Option 3 ID : **61547545763**
Option 4 ID : **61547545764**
Status : **Answered**
Chosen Option : **1**

Q.7

Match List-I and List-II containing microorganisms and processes associated with them:

List I (Microorganisms)	List II (Processes)
(a) Bacillus	(i) Denitrification
(b) Agrobacterium	(ii) Ammonification
(c) Rhizobium	(iii) Sulphur into Sulphate
(d) Thiobacillus	(iv) N-fixation

Choose the correct answer from the options given below :

- (1) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
- (2) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)
- (3) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511798**
Option 1 ID : **61547546001**
Option 2 ID : **61547546002**
Option 3 ID : **61547546003**
Option 4 ID : **61547546004**
Status : **Answered**
Chosen Option : **4**

Q.8Which of the following statements is incorrect?

- (1) Thermosphere and stratosphere are characterized by an increase in temperature with altitude.
- (2) Troposphere and mesosphere are characterized by a decrease in temperature with altitude in general.
- (3) Lowest temperature is found at tropopause.
- (4) Lapse rates determine the vertical stability of the atmosphere.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511725**
Option 1 ID : **61547545709**
Option 2 ID : **61547545710**
Option 3 ID : **61547545711**
Option 4 ID : **61547545712**
Status : **Answered**
Chosen Option : **3**

Q.9

Which one among the following is NOT a type of tidal power plant?

- (1) Single basin double-effect plant
- (2) Single basin with linked operation
- (3) Double basin with linked-basin operation
- (4) Double basin with paired-basin operation

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511749

Option 1 ID : 61547545805

Option 2 ID : 61547545806

Option 3 ID : 61547545807

Option 4 ID : 61547545808

Status : Answered

Chosen Option : 1

Q.10

The bioremediation technology which involves the addition of microbial culture is known as

- (1) Enhanced Bioremediation
- (2) Bioaugmentation
- (3) Bioventing
- (4) Intrinsic Bioremediation

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511737

Option 1 ID : 61547545757

Option 2 ID : 61547545758

Option 3 ID : 61547545759

Option 4 ID : 61547545760

Status : Answered

Chosen Option : 4

Q.11

Match the celebration of days related to environment with their corresponding dates:

List I	List II
Days	Dates
(a) Earth Day	(i) 2 nd February
(b) International Ozone Day	(ii) 16 th September
(c) International Biodiversity Day	(iii) 22 nd April
(d) Wetland Day	(iv) 22 nd May

Choose the correct option from those given below:

- (1) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)
- (2) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)
- (3) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
- (4) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511804

Option 1 ID : 61547546025

Option 2 ID : 61547546026

Option 3 ID : 61547546027

Option 4 ID : 61547546028

Status : Answered

Chosen Option : 4

Q.12

Match the following iron oxides with their chemical formulae:

Iron Oxides

Chemical Formulae

(a) Haematite

(i) $\text{FeO} \cdot \text{TiO}_2$

(b) Magnetite

(ii) Fe_3O_4

(c) Ilmenite

(iii) $\text{FeO} \cdot \text{H}_2\text{O}$

(d) Limonite

(iv) Fe_2O_3

Choose the correct option from those given below :

(1) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)

(2) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(3) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

(4) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511800

Option 1 ID : 61547546009

Option 2 ID : 61547546010

Option 3 ID : 61547546011

Option 4 ID : 61547546012

Status : Answered

Chosen Option : 1

Q.13

Mean marks of 200 students in statistics are 47. The mean marks of top 25% students are 72 and that of bottom 25% students are 25. Which of the following are the mean marks of the remaining students?

(1) 48.5

(2) 47.5

(3) 45.5

(4) 44.5

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511763

Option 1 ID : 61547545861

Option 2 ID : 61547545862

Option 3 ID : 61547545863

Option 4 ID : **61547545864**
Status : **Answered**
Chosen Option : **1**

Q.14 Assuming the incoming solar radiation to be 100 units, consider the following statements about the radiation budget of earth:

- (a) About 51 units of solar radiation are absorbed by earth's surface.
- (b) About 20 units of long-wave radiation emitted from earth's surface are lost to space directly without being absorbed by the atmosphere.
- (c) About 19 units of solar radiation are absorbed by the atmosphere.

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**
Question ID : **61547511780**
Option 1 ID : **61547545929**
Option 2 ID : **61547545930**
Option 3 ID : **61547545931**
Option 4 ID : **61547545932**
Status : **Answered**
Chosen Option : **3**

Q.15 Consider the following statements regarding sampling:

- (a) The sample mean is an unbiased estimate of the population mean.
- (b) For small samples, the sample variance is an unbiased estimate of the population variance.
- (c) If we reject the null hypothesis when it is actually true, we commit the type-I error in testing the hypothesis.

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (a) and (c) only
- (3) (b) and (c) only
- (4) (a), (b) and (c) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**
Question ID : **61547511788**
Option 1 ID : **61547545961**
Option 2 ID : **61547545962**
Option 3 ID : **61547545963**
Option 4 ID : **61547545964**
Status : **Answered**
Chosen Option : **4**

Q.16

Consider the following statements regarding Poisson Distribution:

- (a) It is a continuous probability distribution.
- (b) It is applicable when 'n' the number of trials is indefinitely large and 'p' the probability of success is indefinitely small.
- (c) Its mean is equal to its variance

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511787

Option 1 ID : 61547545957

Option 2 ID : 61547545958

Option 3 ID : 61547545959

Option 4 ID : 61547545960

Status : Answered

Chosen Option : 3

Q.17

Match the following discontinuities with the boundaries they are found at.

Discontinuities

Boundaries Between

- | | |
|-------------------------------|------------------------------------|
| (a) Mohorovicic discontinuity | (i) Lower mantle and outer core |
| (b) Conrad discontinuity | (ii) Hydrosphere and crust |
| (c) Lehman discontinuity | (iii) Lower crust and upper mantle |
| (d) Gutenberg discontinuity | (iv) Outer core and inner core |

Choose the correct option from those given below:

- (1) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)
- (2) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)
- (3) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
- (4) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511801

Option 1 ID : 61547546013

Option 2 ID : 61547546014

Option 3 ID : 61547546015

Option 4 ID : 61547546016

Status : Answered

Chosen Option : 3

Q.18

In an objective type examination, there are 100 questions. One mark is awarded for each correct answer and 0.125 marks are deducted for each incorrect answer. The number of marks scored by the students in this examination is an example of which of the following types of variables?

- | | |
|--------------|----------------|
| (1) Discrete | (2) Continuous |
| (3) Nominal | (4) Ordinal |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511765

Option 1 ID : 61547545869

Option 2 ID : 61547545870

Option 3 ID : 61547545871

Option 4 ID : 61547545872

Status : Answered

Chosen Option : 2

Q.19

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

Assertion (A) : Isostasy is the corresponding state of balance between extensive blocks of earth's crust which rise to different levels and appear at the surface as mountains, plateaus, plains or ocean floor.

Reasons (R) : There is a certain minimum depth below sea level where the pressure due to the weight of overlying material in each unit column is everywhere the same.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
(2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(3) (A) is true but (R) is false.
(4) (A) is false but (R) is true.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511807

Option 1 ID : 61547546037

Option 2 ID : 61547546038

Option 3 ID : 61547546039

Option 4 ID : 61547546040

Status : Answered

Chosen Option : 1

Q.20

Match the following commonly used separation equipments with their separates :

Equipment	Separate
(a) Electromagnetic Separator	(i) Heavy and light fraction
(b) Trommel Screen	(ii) Non-ferrous metals
(c) Air Classifier	(iii) Ferrous Metals
(d) Eddy Current Separator	(iv) Particulates

Choose the correct option from those given below :

- (1) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)
 (2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
 (3) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
 (4) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511802

Option 1 ID : 61547546017

Option 2 ID : 61547546018

Option 3 ID : 61547546019

Option 4 ID : 61547546020

Status : Answered

Chosen Option : 2

Q.21

The probability density function of a continuous random variable x is given by

$$f(x) = \begin{cases} 3e^{-x} & \text{for } x > 0 \\ 0 & \text{for } x \leq 0 \end{cases}$$

Which of the following would be the probability that x lies between 1 and 2?

- (1) $e^{-3} - e^{-6}$ (2) $e^{-6} - e^{-3}$
 (3) $9(e^{-6} - e^{-3})$ (4) $9(e^{-3} - e^{-6})$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511766

Option 1 ID : 61547545873

Option 2 ID : 61547545874

Option 3 ID : 61547545875

Option 4 ID : 61547545876

Status : Answered

Chosen Option : 4

Q.22

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

Assertion (A) : Himalyan states of India have greater hydropower potential.

Reasons (R) : Hills provide an altitudinal gradient for the construction of dams.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511809

Option 1 ID : 61547546045

Option 2 ID : 61547546046

Option 3 ID : 61547546047

Option 4 ID : 61547546048

Status : Answered

Chosen Option : 1

Q.23

Solar insolation on a rectangular module (1.5 m x 2.0 m) of photovoltaic cells is 550 W/m². If the efficiency of the cells is 12%, what is the power output of the module?

- | | |
|-----------|-----------|
| (1) 396 W | (2) 240 W |
| (3) 99 W | (4) 198 W |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511782

Option 1 ID : 61547545937

Option 2 ID : 61547545938

Option 3 ID : 61547545939

Option 4 ID : 61547545940

Status : Answered

Chosen Option : 2

Q.24

Polar Stratospheric Clouds facilitate which of the following reactions in the development of ozone hole?

- | | |
|--|---|
| (1) $\text{Cl}_2 + h\nu \rightarrow 2\text{Cl}$ | (2) $\text{ClNO}_3 + \text{HCl} \rightarrow \text{Cl}_2 + \text{HNO}_3$ |
| (3) $\text{ClO} + \text{NO}_2 + \text{M} \rightarrow \text{ClNO}_3 + \text{M}$ | (4) $\text{Cl} + \text{O}_3 \rightarrow \text{ClO} + \text{O}_2$ |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511732

Option 1 ID : 61547545737

Option 2 ID : 61547545738

Option 3 ID : 61547545739

Option 4 ID : 61547545740

Status : Answered

Chosen Option : 1

Q.25

Sound emitted from a line source attenuates at which of the following rates as a result of geometrical spreading?

- (1) ~ 3 dB per doubling of distance from source
- (2) ~ 4 dB per doubling of distance from source
- (3) ~ 5 dB per doubling of distance from source
- (4) ~ 6 dB per doubling of distance from source

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511755

Option 1 ID : 61547545829

Option 2 ID : 61547545830

Option 3 ID : 61547545831

Option 4 ID : 61547545832

Status : Answered

Chosen Option : 2

Q.26

Which of the following chemical organic species is/are insoluble in acid or alkali?

- (1) Fulvic acid
- (2) Humic acid
- (3) Humin
- (4) Both humic acid and humin

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511729

Option 1 ID : 61547545725

Option 2 ID : 61547545726

Option 3 ID : 61547545727

Option 4 ID : 61547545728

Status : Answered

Chosen Option : 4

Q.27

Which among the following are considered as ecosystem services provided by forest ecosystems?

- (a) Resins and gums
- (b) Pollination by insects
- (c) Climate regulation
- (d) Timber

Choose the correct option :

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (b) and (d) only
- (4) (c) and (d) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511779

Option 1 ID : 61547545925

Option 2 ID : 61547545926

Option 3 ID : 61547545927

Option 4 ID : 61547545928

Status : Answered

Chosen Option : 2

Q.28

Which one of the following is the important hotspot of biodiversity in India?

(1) Ganga Basin

(2) Vindhyachal

(3) Western Ghats

(4) Aravali Hills

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511791

Option 1 ID : 61547545973

Option 2 ID : 61547545974

Option 3 ID : 61547545975

Option 4 ID : 61547545976

Status : Answered

Chosen Option : 3

Q.29

Identify the correct sequence of the components of Producer Gas from biogasification of coal in decreasing order of their concentrations:

(1) $\text{CH}_4 > \text{H}_2 > \text{CO} > \text{N}_2$

(2) $\text{H}_2 > \text{CO} > \text{CH}_4 > \text{N}_2$

(3) $\text{N}_2 > \text{CO} > \text{H}_2 > \text{CH}_4$

(4) $\text{N}_2 > \text{CH}_4 > \text{CO} > \text{H}_2$

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511734

Option 1 ID : 61547545745

Option 2 ID : 61547545746

Option 3 ID : 61547545747

Option 4 ID : 61547545748

Status : Answered

Chosen Option : 3

Q.30

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

Assertion (A) : Most of the world's geothermal sites are located in the circum-pacific belt known as 'Rim of Fire'.

Reasons (R) : Geothermal fields require combination of three geological conditions-a natural underground source of water; an impermeable rock that traps water and allows formation of steam; and a large mass of hot rock in the vicinity of water system.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511808

Option 1 ID : 61547546041

Option 2 ID : 61547546042

Option 3 ID : 61547546043

Option 4 ID : 61547546044

Status : Answered

Chosen Option : 4

Q.31

Which one among the following is true in the context of enthalpy (H), internal energy (U), pressure (P) and volume (V) of a thermodynamic system?

- (1) $H = U - PV$
- (2) $H = U + PV$
- (3) $H = P + UV$
- (4) $H = P - UV$

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511726

Option 1 ID : 61547545713

Option 2 ID : 61547545714

Option 3 ID : 61547545715

Option 4 ID : 61547545716

Status : Answered

Chosen Option : 1

Q.32

In fast breeder nuclear reactor power plants, the ratio of fissile material produced to fissile material consumed is

- (1) Zero
- (2) 1
- (3) less than 1
- (4) greater than 1

Options 1. 1

- 2. 2

3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511747**
Option 1 ID : **61547545797**
Option 2 ID : **61547545798**
Option 3 ID : **61547545799**
Option 4 ID : **61547545800**
Status : **Answered**
Chosen Option : **3**

Q.33

Consider the following wavelengths :

- | | |
|------------------------|------------------------|
| (a) 0.94 μm | (b) 1.14 μm |
| (c) 1.40 μm | (d) 1.88 μm |

Water vapors absorb strongly at which of the above wavelengths?

- | | |
|---------------------------|---------------------------|
| (1) (a), (b) and (c) only | (2) (b), (c) and (d) only |
| (3) (a), (c) and (d) only | (4) (a), (b), (c) and (d) |

- Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511772**
Option 1 ID : **61547545897**
Option 2 ID : **61547545898**
Option 3 ID : **61547545899**
Option 4 ID : **61547545900**
Status : **Answered**
Chosen Option : **4**

Q.34

What is the total power per unit area available in a wind stream blowing at a speed of 5 m/s ? (Given density of air = 1.226 J/kg.K/m³)

- | | |
|----------------------------|---------------------------|
| (1) 76.6 W/m ² | (2) 15.3 W/m ² |
| (3) 153.3 W/m ² | (4) 30.6 W/m ² |

- Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511750**
Option 1 ID : **61547545809**
Option 2 ID : **61547545810**
Option 3 ID : **61547545811**
Option 4 ID : **61547545812**
Status : **Answered**
Chosen Option : **1**

Q.35

In case of which of the following fossil fuels, the difference between the Gross Calorific Value and Net Calorific Value is maximum?

- | | |
|-----------------|------------|
| (1) Natural Gas | (2) Petrol |
| (3) Diesel | (4) Coal |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511748

Option 1 ID : 61547545801

Option 2 ID : 61547545802

Option 3 ID : 61547545803

Option 4 ID : 61547545804

Status : Answered

Chosen Option : 4

Q.36

Which of the following is/are the characteristic(s) of direct band gap semi-conductor Ga-As?

- (a) less sharp absorption band
(b) large values of extinction coefficient

Choose the correct answer from options given below:

- (1) (a) only (2) (b) only
(3) (a) and (b) (4) Neither (a) nor (b)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511781

Option 1 ID : 61547545933

Option 2 ID : 61547545934

Option 3 ID : 61547545935

Option 4 ID : 61547545936

Status : Answered

Chosen Option : 3

Q.37

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

Assertion (A) : In soil, Chromium (III) predominates Chromium (VI).

Reasons (R) : Chromium (VI) is easily reduced to Chromium (III) by organic matter in soil.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
(2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(3) (A) is true but (R) is false.
(4) (A) is false but (R) is true.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511810

Option 1 ID : 61547546049

Option 2 ID : 61547546050

Option 3 ID : 61547546051

Option 4 ID : 61547546052

Status : Answered

Chosen Option : 1

Q.38

Consider the following statements regarding water treatment

- (a) Alum is added to water as a coagulating agent.
- (b) Residual chlorine is considered as a major disadvantage of using chlorination for disinfection of water.
- (c) Addition of ammonia to water treated with chlorine leads to the formation of chloramines.

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c) only

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511784

Option 1 ID : 61547545945

Option 2 ID : 61547545946

Option 3 ID : 61547545947

Option 4 ID : 61547545948

Status : Answered

Chosen Option : 1

Q.39

The night-time tropospheric chemistry is dominated by which of the following chemical species?

- (1) Hydroxyl radicals
- (2) Nitrate radicals
- (3) Nitrate ions
- (4) Ozone molecules

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511733

Option 1 ID : 61547545741

Option 2 ID : 61547545742

Option 3 ID : 61547545743

Option 4 ID : 61547545744

Status : Answered

Chosen Option : 3

Q.40

Which is the most significant fingerprint of climate change with respect to biotic invasion?

- (1) Protozoa
- (2) Mosquitoes
- (3) Bryophytes
- (4) Gymnosperms

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511768

Option 1 ID : 61547545881

Option 2 ID : **61547545882**
Option 3 ID : **61547545883**
Option 4 ID : **61547545884**
Status : **Answered**
Chosen Option : **3**

Q.41

Which is the first company in India whose project was approved under the Clean Development Mechanism (CDM) of Kyoto Protocol?

- (1) Gujrat Fluorochemicals Ltd. (2) Jindal Steel and Power Ltd.
(3) RSPL Ltd. (4) Inter-Ocean Shipping Private Ltd.

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511760**
Option 1 ID : **61547545849**
Option 2 ID : **61547545850**
Option 3 ID : **61547545851**
Option 4 ID : **61547545852**
Status : **Answered**
Chosen Option : **3**

Q.42

Which among the following is the correct order of stratification in lentic ecosystems from top to bottom?

- (1) Littoral zone, Limnetic zone, Profundal zone, Benthic zone
(2) Limnetic zone, Littoral zone, Benthic zone, Profundal zone
(3) Limnetic zone, Benthic zone, Profundal zone, Littoral zone
(4) Littoral zone, Limnetic zone, Benthic zone, Profundal zone

Options 1. 1

2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511793**
Option 1 ID : **61547545981**
Option 2 ID : **61547545982**
Option 3 ID : **61547545983**
Option 4 ID : **61547545984**
Status : **Answered**
Chosen Option : **1**

Q.43

In ecological sampling, Importance Value Index refers to sum of which of the following?

- (a) Relative density
(b) Relative frequency
(c) Relative abundance
(d) Relative dominance

Choose the correct answer from the options given below:

- (1) (a), (b) and (c) (2) (a), (c) and (d)
(3) (b), (c) and (d) (4) (a), (b) and (d)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511777
Option 1 ID : 61547545917
Option 2 ID : 61547545918
Option 3 ID : 61547545919
Option 4 ID : 61547545920
Status : Answered
Chosen Option : 3

Q.44

Which one among the following is NOT a form of precipitation?

- | | |
|----------|-----------|
| (1) Snow | (2) Sleet |
| (3) Hail | (4) Fog |

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511742
Option 1 ID : 61547545777
Option 2 ID : 61547545778
Option 3 ID : 61547545779
Option 4 ID : 61547545780
Status : Answered
Chosen Option : 2

Q.45

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

Assertion (A) : The increase in sea water acidity makes building and maintaining shells and other calcium carbonate structures difficult for calcifying organisms such as oyster and water corals.

Reasons (R) : Increase in sea water acidity causes a decrease in bicarbonate ion concentration.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511805
Option 1 ID : 61547546029
Option 2 ID : 61547546030
Option 3 ID : 61547546031
Option 4 ID : 61547546032

Status : **Answered**
Chosen Option : 1

Q.46 Which of the following surfaces exhibits maximum variation in albedo with respect to the angle of incidence of solar radiations?

- | | |
|-----------|----------------|
| (1) Water | (2) Bare Soil |
| (3) Sand | (4) Vegetation |

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511792**
Option 1 ID : **61547545977**
Option 2 ID : **61547545978**
Option 3 ID : **61547545979**
Option 4 ID : **61547545980**
Status : **Answered**
Chosen Option : 1

Q.47 Which of the following greenhouse gases has contributed the most to the global warming?

- | | |
|-------------------|-------------------|
| (1) Methane | (2) Carbondioxide |
| (3) Nitrous Oxide | (4) Ozone |

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511769**
Option 1 ID : **61547545885**
Option 2 ID : **61547545886**
Option 3 ID : **61547545887**
Option 4 ID : **61547545888**
Status : **Answered**
Chosen Option : 2

Q.48 If x and y are two variables that are not independent, then which of the following represents the variance $\text{Var}(ax+by)$ of their linear combination, where 'a' and 'b' are constants?

- | |
|---|
| (1) $a^2 \text{Var}(x) + b^2 \text{Var}(y)$ |
| (2) $a^2 \text{Var}(x) - b^2 \text{Var}(y)$ |
| (3) $a^2 \text{Var}(x) + b^2 \text{Var}(y) + 2ab \text{Cov}(x,y)$ |
| (4) $a^2 \text{Var}(x) + b^2 \text{Var}(y) - 2ab \text{Cov}(x,y)$ |

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511767**
Option 1 ID : **61547545877**
Option 2 ID : **61547545878**
Option 3 ID : **61547545879**
Option 4 ID : **61547545880**
Status : **Answered**

Chosen Option : 1

Q.49

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

Assertion (A) : Between organophosphorus pesticides malathion and parathion, the former is more toxic than latter.

Reasons (R) : Malathion is hydrolyzed by enzymes possessed by mammals to produce relatively non-toxic products.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511812

Option 1 ID : 61547546057

Option 2 ID : 61547546058

Option 3 ID : 61547546059

Option 4 ID : 61547546060

Status : Answered

Chosen Option : 1

Q.50

Consider the following statements :

Statement I – Objects at higher temperatures emit higher amount of electromagnetic radiations.

Statement II – Objects with higher temperatures reach their maximum emissive intensity at longer wavelengths.

Which of the above statements is/are correct?

- (1) I and II both
- (2) I only
- (3) II only
- (4) Neither I nor II

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511773

Option 1 ID : 61547545901

Option 2 ID : 61547545902

Option 3 ID : 61547545903

Option 4 ID : 61547545904

Status : Answered

Chosen Option : 1

Q.51

According to Biomedical Waste Management Rules 2016 of the Government of India, which colored non-chlorinated plastic bags should be used for the collection of human anatomical waste?

- (1) Yellow
- (2) Red
- (3) White
- (4) Blue

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511757
Option 1 ID : 61547545837
Option 2 ID : 61547545838
Option 3 ID : 61547545839
Option 4 ID : 61547545840
Status : Answered
Chosen Option : 2

Q.52

Consider the following statements :

- (a) Chromium (III) chemical species is more toxic than Chromium (VI)
- (b) Dimethylmercury chemical species is more toxic than methylmercury ion
- (c) Arsenic (III) is more toxic than Arsenic (V)

Which of the above statements is/are correct?

- (1) (b) only
- (2) (a), (b) and (c)
- (3) (c) only
- (4) (a) and (c) only

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511774
Option 1 ID : 61547545905
Option 2 ID : 61547545906
Option 3 ID : 61547545907
Option 4 ID : 61547545908
Status : Answered
Chosen Option : 4

Q.53

In the context of gaseous pollutants control using packed towers, consider the following statements:

- (a) The flow of the effluent gas through a packed tower is countercurrent
- (b) The packing material should have a small surface to volume ratio
- (c) The packing material is used to increase the contact time between the gaseous pollutant and liquid

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c) only

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ
Question ID : 61547511783
Option 1 ID : 61547545941
Option 2 ID : 61547545942
Option 3 ID : 61547545943

Option 4 ID : **61547545944**
Status : **Answered**
Chosen Option : **4**

Q.54

Consider the following characteristics of plant species:

- (a) small size
- (b) long life span
- (c) low rate of growth
- (d) production of large number of easily dispersed seeds

Which of the above characterize the early successional (pioneer) plant communities?

- (1) (a) and (b) only
- (2) (a) and (c) only
- (3) (b) and (c) only
- (4) (a) and (d) only

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511778**
Option 1 ID : **61547545921**
Option 2 ID : **61547545922**
Option 3 ID : **61547545923**
Option 4 ID : **61547545924**
Status : **Answered**
Chosen Option : **2**

Q.55

Above the earth's surface, 90% of the total atmospheric mass is confined within first:

- (1) 5 km
- (2) 10 km
- (3) 20 km
- (4) 30 km

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511727**
Option 1 ID : **61547545717**
Option 2 ID : **61547545718**
Option 3 ID : **61547545719**
Option 4 ID : **61547545720**
Status : **Answered**
Chosen Option : **3**

Q.56

Artesian Well is

- (1) Artificial well
- (2) Natural well in fault planes
- (3) Water underneath the surface having sufficient hydraulic pressure
- (4) Water underneath the surface having very low hydraulic pressure

Options

- 1. 1
- 2. 2

3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511744**
Option 1 ID : **61547545785**
Option 2 ID : **61547545786**
Option 3 ID : **61547545787**
Option 4 ID : **61547545788**
Status : **Answered**
Chosen Option : **1**

Q.57

Which group of microorganisms dominate in glacial ecosystems?

- (1) Psychrophiles (2) Thermophiles
(3) Mesophiles (4) Acidophiles

- Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511758**
Option 1 ID : **61547545841**
Option 2 ID : **61547545842**
Option 3 ID : **61547545843**
Option 4 ID : **61547545844**
Status : **Answered**
Chosen Option : **2**

Q.58

Identify the correct sequence of processes involved in chemical weathering of rocks:

- (1) Hydrolysis, Solution, Hydration, Oxidation, Carbonation
(2) Solution, Hydrolysis, Hydration, Carbonation, Oxidation
(3) Hydrolysis, Oxidation, Carbonation, Hydration, Solution
(4) Hydrolysis, Hydration, Carbonation, Oxidation, Solution,

- Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511795**
Option 1 ID : **61547545989**
Option 2 ID : **61547545990**
Option 3 ID : **61547545991**
Option 4 ID : **61547545992**
Status : **Answered**
Chosen Option : **1**

Q.59

Section 3B of the Forest (Conservation) Act, 1980 deals with the

- (1) penalty for contravention of the provisions
- (2) cases in which offences are made by authorities
- (3) restriction on the state government for conversion of forests for non-forestry purposes
- (4) provision for using the natural resources from the forest by the community

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511761

Option 1 ID : 61547545853

Option 2 ID : 61547545854

Option 3 ID : 61547545855

Option 4 ID : 61547545856

Status : Answered

Chosen Option : 3

Q.60

Match List-I and List-II containing Acts and their year of enactment:

List I	List II
Act	Year of Enactment
(a) The Environment Protection Act	(i) 1980
(b) The Forest Conservation Act	(ii) 1981
(c) Water (Prevention & Control) Act	(iii) 1986
(d) Air (Prevention & Control) Act	(iv) 1974

Choose the correct option from those given below:

- (1) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)
- (2) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (3) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
- (4) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511803

Option 1 ID : 61547546021

Option 2 ID : 61547546022

Option 3 ID : 61547546023

Option 4 ID : 61547546024

Status : Answered

Chosen Option : 2

Q.61

Identify the **INCORRECT** statement about organophosphate pesticides from the following statements:

- (1) They are generally non-persistent.
- (2) They do not accumulate in the food chain.
- (3) They are toxic to humans.
- (4) They decompose and metabolize slowly.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511753

Option 1 ID : 61547545821

Option 2 ID : 61547545822

Option 3 ID : 61547545823

Option 4 ID : 61547545824

Status : Answered

Chosen Option : 2

Q.62

Strike –slip faults are examples of plate movement which is

- (1) perpendicular to the strike of the fault plane
- (2) parallel to the strike of the fault plane
- (3) at 45° to the strike of the fault plane
- (4) not in the faultzone

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511743

Option 1 ID : 61547545781

Option 2 ID : 61547545782

Option 3 ID : 61547545783

Option 4 ID : 61547545784

Status : Answered

Chosen Option : 3

Q.63

Consider the following statements about the Lotka-Volterra Model:

- (a) Both the populations of prey and predator oscillate sinusoidically.
- (b) There is a phase difference of $\pi/2$ between the prey and predator populations.
- (c) Populations of prey and predator are directly proportional, to each other
- (d) Population of prey and predator are inversely proportional, to each other

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (a) and (c) only
- (3) (a) and (d) only
- (4) (b) and (d) only

Options 1. 1

2. 2

3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511790**
Option 1 ID : **61547545969**
Option 2 ID : **61547545970**
Option 3 ID : **61547545971**
Option 4 ID : **61547545972**
Status : **Answered**
Chosen Option : **4**

Q.64

The landscape used by wild animals for their movement between forest patches, is called:

- (1) Wildlife Corridor (2) Forest Edge
(3) Public Corridor (4) Resource Corridor

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511735**
Option 1 ID : **61547545749**
Option 2 ID : **61547545750**
Option 3 ID : **61547545751**
Option 4 ID : **61547545752**
Status : **Answered**
Chosen Option : **2**

Q.65

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

Assertion (A) : Aluminium Chloride is a good coagulant for treatment of raw water.
Reasons (R) : Both the colloidal particles and Aluminium ions are positively charged.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
(2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(3) (A) is true but (R) is false.
(4) (A) is false but (R) is true.

Options

1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **61547511811**
Option 1 ID : **61547546053**
Option 2 ID : **61547546054**
Option 3 ID : **61547546055**
Option 4 ID : **61547546056**
Status : **Answered**
Chosen Option : **1**

Q.66

Which one among the following is the correct order of steps taken during the process of Environmental Impact Assessment (EIA)?

- (1) Scoping, Screening, Public Hearing, EIA, Issue of Environmental Clearance
- (2) Screening, Public Hearing, Scoping, EIA, Issue of Environmental Clearance
- (3) Screening, Scoping, EIA, Public Hearing, Issue of Environmental Clearance
- (4) Screening, EIA, Scoping, Public Hearing, Issue of Environmental Clearance

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511797

Option 1 ID : 61547545997

Option 2 ID : 61547545998

Option 3 ID : 61547545999

Option 4 ID : 61547546000

Status : Answered

Chosen Option : 3

Q.67

Consider the following changes with regard to dissolution of ammonia in water:

- (a) increase in temperature
- (b) decrease in pH of the solution
- (c) increase in partial pressure of ammonia

The solubility of ammonia would increase by which of the above changes?

- (1) (a) and (b) only
- (2) (a), (b) and (c)
- (3) (b) and (c) only
- (4) (a) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511775

Option 1 ID : 61547545909

Option 2 ID : 61547545910

Option 3 ID : 61547545911

Option 4 ID : 61547545912

Status : Answered

Chosen Option : 1

Q.68

Consider the following gases :

- (a) CO
- (b) CH₄
- (c) HCFCs
- (d) CO₂
- (e) SO₃

Those gases removed from the atmosphere by the process of oxidation are:

- (1) (a), (b), (c) and (d) only
- (2) (a), (b) and (c) only
- (3) (a), (d) and (e) only
- (4) (a), (b), (c), (d) and (e)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511776**
Option 1 ID : **61547545913**
Option 2 ID : **61547545914**
Option 3 ID : **61547545915**
Option 4 ID : **61547545916**
Status : **Answered**
Chosen Option : **3**

Q.69

When a stable layer exists below the stack height and an unstable layer above, which of the following types of plume behaviour is expected to be observed?

- | | |
|----------------|-------------|
| (1) Looping | (2) Coning |
| (3) Fumigating | (4) Lofting |

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511754**
Option 1 ID : **61547545825**
Option 2 ID : **61547545826**
Option 3 ID : **61547545827**
Option 4 ID : **61547545828**
Status : **Answered**
Chosen Option : **2**

Q.70

Which of the following statements is NOT correct with regard to chemical analysis by flame photometer?

- (1) The intensity of the colour tells us the amount of the element present.
- (2) The wavelength of the colour identifies the element present.
- (3) The ions absorb the energy from the flame and get excited.
- (4) When ion returns from excited state to ground state, it absorbs the radiation of a characteristic frequency.

Options

- 1. 1
- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511730**
Option 1 ID : **61547545729**
Option 2 ID : **61547545730**
Option 3 ID : **61547545731**
Option 4 ID : **61547545732**
Status : **Answered**
Chosen Option : **1**

Q.71

Beaufort Scale is used to classify which of the following meteorological parameters?

- | | |
|--------------------|-------------------|
| (1) Pressure | (2) Precipitation |
| (3) Wind Direction | (4) Wind Velocity |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511723

Option 1 ID : 61547545701

Option 2 ID : 61547545702

Option 3 ID : 61547545703

Option 4 ID : 61547545704

Status : Answered

Chosen Option : 2

Q.72

How many years will it take for the population of a country to double, if it grows at the rate of 4 percent per year?

(1) ~ 17.3 years

(2) ~13.8 years

(3) ~ 15 years

(4) ~ 25 years

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511736

Option 1 ID : 61547545753

Option 2 ID : 61547545754

Option 3 ID : 61547545755

Option 4 ID : 61547545756

Status : Answered

Chosen Option : 4

Q.73

Which of the following particulate control devices has the poorest removal efficiency for particles in the sub-micron size range?

(1) Electrostatic Precipitator

(2) Fabric Filter

(3) Cyclone

(4) Venturi Scrubber

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511756

Option 1 ID : 61547545833

Option 2 ID : 61547545834

Option 3 ID : 61547545835

Option 4 ID : 61547545836

Status : Answered

Chosen Option : 2

Q.74

Which of the following measures of skewness is based on the distance of upper and lower quartiles from the median value in a dataset?

(1) Karl Pearson's Coefficient of Skewness

(2) Kelly's Measure of Skewness

(3) Bowley's Coefficient of Skewness

(4) Coefficient of Skewness based on moments

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511764**
Option 1 ID : **61547545865**
Option 2 ID : **61547545866**
Option 3 ID : **61547545867**
Option 4 ID : **61547545868**
Status : **Answered**
Chosen Option : **1**

Q.75

Which one of the following is NOT a constituent of photochemical smog?

- | | |
|--------------------------------------|---------------------------|
| (1) Peroxy Benzoyl Nitrate | (2) Ozone |
| (3) Polycyclic Aromatic Hydrocarbons | (4) Peroxy Acetyl Nitrate |

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511752**
Option 1 ID : **61547545817**
Option 2 ID : **61547545818**
Option 3 ID : **61547545819**
Option 4 ID : **61547545820**
Status : **Answered**
Chosen Option : **3**

Q.76

Phytoremediation is an important tool for

- (1) improving the health of diseased plants
- (2) removing dissolved oxygen from the aquatic ecosystem
- (3) eradicating the invasive species
- (4) removing toxic chemicals from the polluted ecosystem

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**
Question ID : **61547511739**
Option 1 ID : **61547545765**
Option 2 ID : **61547545766**
Option 3 ID : **61547545767**
Option 4 ID : **61547545768**
Status : **Answered**
Chosen Option : **4**

Q.77

Restoration of Doon Valley is an example of best practices of restoration of degraded ecosystem caused by

- (1) over exploitation by the high influx of tourists
- (2) construction and widening of roads
- (3) limestone quarrying
- (4) massive civil works of building constructions

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511796

Option 1 ID : 61547545993

Option 2 ID : 61547545994

Option 3 ID : 61547545995

Option 4 ID : 61547545996

Status : Answered

Chosen Option : 2

Q.78

Consider the following statements regarding Chi-Square test:

- (a) If X is a random variable following normal distribution with mean μ and standard deviation σ , then $\left(\frac{X - \mu}{\sigma}\right)^2$ is a Chi-Square variate with 1 degree of freedom
- (b) It is an appropriate test for testing the goodness of fit of a model/theory to experimental data
- (c) It involves computing the squares of the deviations of observed frequencies from the expected frequencies.

Which of the above statements are correct?

- (1) (a) and (b) only
- (2) (b) and (c) only
- (3) (a) and (c) only
- (4) (a), (b) and (c)

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511789

Option 1 ID : 61547545965

Option 2 ID : 61547545966

Option 3 ID : 61547545967

Option 4 ID : 61547545968

Status : Answered

Chosen Option : 4

Q.79

50 mm of rainfall was recorded during 30 min of rain in an area of 2.5 ha. The total volume of water that fell on that area during the rain would be

- (1) 625 m³
- (2) 1250 m³
- (3) 18,750 m³
- (4) 37,500 m³

Options 1. 1

2. 2
3. 3

4. 4

Question Type : MCQ

Question ID : 61547511746

Option 1 ID : 61547545793

Option 2 ID : 61547545794

Option 3 ID : 61547545795

Option 4 ID : 61547545796

Status : Answered

Chosen Option : 3

Q.80

Which among the following radioactive species have a half life of more than 10 years?

(a) ${}_{36}\text{Kr}^{91}$ (b) ${}_{38}\text{Sr}^{90}$ (c) ${}_{55}\text{Cs}^{137}$ (d) ${}_{40}\text{Zr}^{91}$

Choose the correct option from those given below :

(1) (a) and (c) only

(2) (b) and (c) only

(3) (a) and (d) only

(4) (c) and (d) only

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511785

Option 1 ID : 61547545949

Option 2 ID : 61547545950

Option 3 ID : 61547545951

Option 4 ID : 61547545952

Status : Answered

Chosen Option : 1

Q.81

Gender is an example of which of the following types of variables?

(1) Nominal

(2) Ordinal

(3) Interval

(4) Ratio

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511762

Option 1 ID : 61547545857

Option 2 ID : 61547545858

Option 3 ID : 61547545859

Option 4 ID : 61547545860

Status : Answered

Chosen Option : 1

Q.82

Which of the following R_f values is not possible?

- | | |
|---------|---------|
| (1) 0.0 | (2) 0.5 |
| (3) 1.0 | (4) 2.0 |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511731

Option 1 ID : 61547545733

Option 2 ID : 61547545734

Option 3 ID : 61547545735

Option 4 ID : 61547545736

Status : Answered

Chosen Option : 4

Q.83

La Nina is a Spanish word meaning

- | | |
|--------------------------|-------------------------------|
| (1) The little boy | (2) The little girl |
| (3) The son of the ocean | (4) The daughter of the ocean |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511745

Option 1 ID : 61547545789

Option 2 ID : 61547545790

Option 3 ID : 61547545791

Option 4 ID : 61547545792

Status : Answered

Chosen Option : 1

Q.84

Two streams A and B are flowing with flow rates of $20 \text{ m}^3/\text{s}$ and $5 \text{ m}^3/\text{s}$ respectively. The concentration of a pollutant X in the two streams are 15 mg/l (stream A) and 50 mg/l (stream B). The two streams join each other. Assume that complete mixing of the streams occurs after joining and the pollutant is a conservative substance. The downstream concentration of the pollutant after the joining of two streams would be :

- | | |
|-------------|-------------|
| (1) 30 mg/l | (2) 27 mg/l |
| (3) 25 mg/l | (4) 22 mg/l |

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511724

Option 1 ID : 61547545705

Option 2 ID : 61547545706

Option 3 ID : 61547545707

Option 4 ID : 61547545708

Status : Answered

Chosen Option : 1

Q.85

Influx of high nutrient load of nitrates and phosphates into an aquatic ecosystem contributes towards

- | | |
|-------------------------------|-----------------------------|
| (1) oligotrophication | (2) poor primary production |
| (3) extreme oligotrophication | (4) eutrophication |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511741

Option 1 ID : 61547545773

Option 2 ID : 61547545774

Option 3 ID : 61547545775

Option 4 ID : 61547545776

Status : Answered

Chosen Option : 4

Q.86

Who was the woman activist, who initiated the Chipko movement in Reni village of Chamoli district in 1973?

- | | |
|--------------------------|----------------------|
| (1) Smt. Vimala Bahuguna | (2) Smt. Gaura Devi |
| (3) Smt. Ila Bhatt | (4) Smt. Amrita Devi |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511770

Option 1 ID : 61547545889

Option 2 ID : 61547545890

Option 3 ID : 61547545891

Option 4 ID : 61547545892

Status : Answered

Chosen Option : 2

Q.87

As per the Coastal Regulation Zone (CRZ) Notification (1991), CRZ-I includes which of the following?

- (a) Ecosensitive Zones
(b) Fishing Zones
(c) Intertidal Zones
(d) Development Zones

Choose the correct answer from the options given below :

- | | |
|----------------------|----------------------|
| (1) (a) and (b) only | (2) (b) and (c) only |
| (3) (c) and (d) only | (4) (a) and (c) only |

Options 1. 1

2. 2
3. 3
4. 4

Question Type : MCQ

Question ID : 61547511786

Option 1 ID : 61547545953

Option 2 ID : 61547545954

Option 3 ID : 61547545955
 Option 4 ID : 61547545956
 Status : Answered
 Chosen Option : 4

Q.88

Suppose a remote sensor records brightness levels in terms of digital numbers (DN) ranging from 0 to 255. The histogram of a scene recorded by the remote sensor shows the brightness values ranging from 60 to 158. A researcher wants to apply Linear Contrast Stretch to all the pixels in the scene. If DN' represents the transformed brightness level of a pixel and DN represents its recorded brightness level, which of the following expressions would be the most appropriate?

- (1) $DN' = \left(\frac{DN-60}{DN-158} \right) * 255$ (2) $DN' = \left(\frac{DN-158}{DN-60} \right) * 255$
 (3) $DN' = \left(\frac{DN-158}{158-60} \right) * 255$ (4) $DN' = \left(\frac{DN-60}{158-60} \right) * 255$

Options 1. 1

2. 2
 3. 3
 4. 4

Question Type : MCQ
 Question ID : 61547511771
 Option 1 ID : 61547545893
 Option 2 ID : 61547545894
 Option 3 ID : 61547545895
 Option 4 ID : 61547545896
 Status : Answered
 Chosen Option : 3

Q.89

The Article 48A of the Indian Constitution (Directive Principles of State Policy for Environmental Protection) was inducted in 1976 after the

- (1) 42nd amendment (2) 40th amendment
 (3) 28th amendment (4) 14th amendment

Options 1. 1

2. 2
 3. 3
 4. 4

Question Type : MCQ
 Question ID : 61547511759
 Option 1 ID : 61547545845
 Option 2 ID : 61547545846
 Option 3 ID : 61547545847
 Option 4 ID : 61547545848
 Status : Answered
 Chosen Option : 1

Q.90

Match the following parameters characterizing humidity of the atmosphere with their definitions:

Humidity Parameters	Definitions
(a) Relative Humidity	(i) Weight of water vapour per unit volume of air at a given temperature
(b) Absolute Humidity	(ii) Weight of water vapour per unit weight of total air at a given temperature
(c) Specific Humidity	(iii) Ratio of vapour pressure to the saturation vapour pressure in percentage at a given temperature
(d) Mixing Ratio	(iv) Weight of water vapour per unit weight of dry air at a given temperature

Choose the correct option from those given below :

- (1) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)
- (2) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
- (3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (4) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

- Options
- 1. 1
 - 2. 2
 - 3. 3
 - 4. 4

Question Type : MCQ

Question ID : 61547511799

Option 1 ID : 61547546005

Option 2 ID : 61547546006

Option 3 ID : 61547546007

Option 4 ID : 61547546008

Status : Answered

Chosen Option : 4

Comprehension:

Based on the passage given below, answer the questions 91 to 95:

Among the most interesting techniques for analyzing the earth's climatic history on a scale of hundred's to thousands of years are the study of ocean floor sediments and oxygen isotope analysis. Both methods are used to reconstruct past temperatures and each in part is related to the other. The seafloor sediments contain the remains of organisms that once lived near the surface. When such near surface organisms die, their shell slowly settle to the floor of the ocean, where they become part of the sedimentary record. One reason why seafloor sediments are useful recorders of worldwide climatic change is that the numbers and types of organisms living near the sea surface change as the climate changes.

We would expect that in any area of the ocean/atmosphere interface the average annual temperature of the surface water of the ocean would approximate that of the contiguous atmosphere. The temperature equilibrium established between surface sea water and the air above it should mean that changes in climate should be reflected in changes in organisms living near the surface of the deep sea.

The second technique, oxygen isotope analysis, is based on precise measurement of the ratio between two isotopes of oxygen: ^{16}O , which is the most common, and the heavier ^{18}O . Because the lighter isotope, ^{16}O , evaporates more readily from the oceans, precipitation (and hence the glacial ice that it may form) is enriched in ^{16}O . Of course, this leaves a greater concentration of the heavier isotope, ^{18}O , in the ocean water.

Thus during periods when glaciers are extensive the concentration of ^{18}O in seawater increases; conversely, during warmer interglacial periods when the amount of glacial ice drops dramatically, the amount of ^{18}O relative to ^{16}O in ocean water also drops. Ascertain microorganisms secrete their shells of calcium carbonate (CaCO_3), the prevailing $^{18}\text{O}/^{16}\text{O}$ ratio is reflected in the composition of these hard parts. Consequently, periods of glacial activity can be determined from variations in the oxygen isotope ratio found in shells of certain microorganisms buried in deep-sea sediments.

A second use of the $^{18}\text{O}/^{16}\text{O}$ ratio technique is its application to the study of cores taken from ice sheets, such as the one that covers Greenland.

Here another cause for variation in the oxygen isotope ratio is used-namely, the ratio influenced by temperature. More ^{18}O is evaporated from the oceans when temperatures are high and less is evaporated when temperatures are low. Thus the heavy, isotope is more abundant in the precipitation of warm eras and less abundant during colder periods.

SubQuestion No : 91

Q.91

Which of the following is expected during the warmer periods?

- (1) Higher $\frac{^{18}\text{O}}{^{16}\text{O}}$ in ocean waters as compared to that in cold periods
- (2) Higher $\frac{^{18}\text{O}}{^{16}\text{O}}$ in the calcium carbonate shells of organisms as compared to that in cold periods
- (3) Higher $\frac{^{18}\text{O}}{^{16}\text{O}}$ in the glacial ice as compared to that in cold periods
- (4) Lower $\frac{^{18}\text{O}}{^{16}\text{O}}$ in the glacial ice as compared to that in cold periods

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511817

Option 1 ID : 61547546073

Option 2 ID : 61547546074

Option 3 ID : 61547546075

Option 4 ID : 61547546076

Comprehension:

Based on the passage given below, answer the questions 91 to 95:

Among the most interesting techniques for analyzing the earth's climatic history on a scale of hundred's to thousands of years are the study of ocean floor sediments and oxygen isotope analysis. Both methods are used to reconstruct past temperatures and each in part is related to the other. The seafloor sediments contain the remains of organisms that once lived near the surface. When such near surface organisms die, their shell slowly settle to the floor of the ocean, where they become part of the sedimentary record. One reason why seafloor sediments are useful recorders of worldwide climatic change is that the numbers and types of organisms living near the sea surface change as the climate changes.

We would expect that in any area of the ocean/atmosphere interface the average annual temperature of the surface water of the ocean would approximate that of the contiguous atmosphere. The temperature equilibrium established between surface sea water and the air above it should mean that changes in climate should be reflected in changes in organisms living near the surface of the deep sea.

The second technique, oxygen isotope analysis, is based on precise measurement of the ratio between two isotopes of oxygen: ^{16}O , which is the most common, and the heavier ^{18}O . Because the lighter isotope, ^{16}O , evaporates more readily from the oceans, precipitation (and hence the glacial ice that it may form) is enriched in ^{16}O . Of course, this leaves a greater concentration of the heavier isotope, ^{18}O , in the ocean water.

Thus during periods when glaciers are extensive the concentration of ^{18}O in seawater increases; conversely, during warmer interglacial periods when the amount of glacial ice drops dramatically, the amount of ^{18}O relative to ^{16}O in ocean water also drops. Ascertain microorganisms secrete their shells of calcium carbonate (CaCO_3), the prevailing $^{18}\text{O}/^{16}\text{O}$ ratio is reflected in the composition of these hard parts. Consequently, periods of glacial activity can be determined from variations in the oxygen isotope ratio found in shells of certain microorganisms buried in deep-sea sediments.

A second use of the $^{18}\text{O}/^{16}\text{O}$ ratio technique is its application to the study of cores taken from ice sheets, such as the one that covers Greenland.

Here another cause for variation in the oxygen isotope ratio is used—namely, the ratio influenced by temperature. More ^{18}O is evaporated from the oceans when temperatures are high and less is evaporated when temperatures are low. Thus the heavy, isotope is more abundant in the precipitation of warm eras and less abundant during colder periods.

SubQuestion No : 92**Q.92**

Consider the following statements regarding the ratio $\frac{^{18}\text{O}}{^{16}\text{O}}$:

- (a) It is greater than one in ocean waters.
- (b) It is less than one in glacial ice.

Which of the above statements are correct?

- (1) (a) only
- (2) (b) only
- (3) Both (a) and (b)
- (4) Neither (a) nor (b)

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511816

Option 1 ID : 61547546069

Option 2 ID : 61547546070

Option 3 ID : 61547546071

Option 4 ID : 61547546072

Status : Answered

Chosen Option : 3

Comprehension:

Based on the passage given below, answer the questions 91 to 95:

Among the most interesting techniques for analyzing the earth's climatic history on a scale of hundred's to thousands of years are the study of ocean floor sediments and oxygen isotope analysis. Both methods are used to reconstruct past temperatures and each in part is related to the other. The seafloor sediments contain the remains of organisms that once lived near the surface. When such near surface organisms die, their shell slowly settle to the floor of the ocean, where they become part of the sedimentary record. One reason why seafloor sediments are useful recorders of worldwide climatic change is that the numbers and types of organisms living near the sea surface change as the climate changes.

We would expect that in any area of the ocean/atmosphere interface the average annual temperature of the surface water of the ocean would approximate that of the contiguous atmosphere. The temperature equilibrium established between surface sea water and the air above it should mean that changes in climate should be reflected in changes in organisms living near the surface of the deep sea.

The second technique, oxygen isotope analysis, is based on precise measurement of the ratio between two isotopes of oxygen: ^{16}O , which is the most common, and the heavier ^{18}O . Because the lighter isotope, ^{16}O , evaporates more readily from the oceans, precipitation (and hence the glacial ice that it may form) is enriched in ^{16}O . Of course, this leaves a greater concentration of the heavier isotope, ^{18}O , in the ocean water.

Thus during periods when glaciers are extensive the concentration of ^{18}O in seawater increases; conversely, during warmer interglacial periods when the amount of glacial ice drops dramatically, the amount of ^{18}O relative to ^{16}O in ocean water also drops. Ascertain microorganisms secrete their shells of calcium carbonate (CaCO_3), the prevailing $^{18}\text{O}/^{16}\text{O}$ ratio is reflected in the composition of these hard parts. Consequently, periods of glacial activity can be determined from variations in the oxygen isotope ratio found in shells of certain microorganisms buried in deep-sea sediments.

A second use of the $^{18}\text{O}/^{16}\text{O}$ ratio technique is its application to the study of cores taken from ice sheets, such as the one that covers Greenland.

Here another cause for variation in the oxygen isotope ratio is used-namely, the ratio influenced by temperature. More ^{18}O is evaporated from the oceans when temperatures are high and less is evaporated when temperatures are low. Thus the heavy, isotope is more abundant in the precipitation of warm eras and less abundant during colder periods.

SubQuestion No : 93**Q.93**

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

Assertion (A) : Seafloor sediments are useful recorders of worldwide climate change.

Reasons (R) : Organisms living near the surface of deep sea are sensitive to variations in water temperature.

In the light of above two statements, choose the correct option:

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511814

Option 1 ID : 61547546061

Option 2 ID : 61547546062

Option 3 ID : 61547546063

Option 4 ID : 61547546064

Status : Answered

Chosen Option : 1

Comprehension:

Based on the passage given below, answer the questions 91 to 95:

Among the most interesting techniques for analyzing the earth's climatic history on a scale of hundred's to thousands of years are the study of ocean floor sediments and oxygen isotope analysis. Both methods are used to reconstruct past temperatures and each in part is related to the other. The seafloor sediments contain the remains of organisms that once lived near the surface. When such near surface organisms die, their shell slowly settle to the floor of the ocean, where they become part of the sedimentary record. One reason why seafloor sediments are useful recorders of worldwide climatic change is that the numbers and types of organisms living near the sea surface change as the climate changes.

We would expect that in any area of the ocean/atmosphere interface the average annual temperature of the surface water of the ocean would approximate that of the contiguous atmosphere. The temperature equilibrium established between surface sea water and the air above it should mean that changes in climate should be reflected in changes in organisms living near the surface of the deep sea.

The second technique, oxygen isotope analysis, is based on precise measurement of the ratio between two isotopes of oxygen: ^{16}O , which is the most common, and the heavier ^{18}O . Because the lighter isotope, ^{16}O , evaporates more readily from the oceans, precipitation (and hence the glacial ice that it may form) is enriched in ^{16}O . Of course, this leaves a greater concentration of the heavier isotope, ^{18}O , in the ocean water.

Thus during periods when glaciers are extensive the concentration of ^{18}O in seawater increases; conversely, during warmer interglacial periods when the amount of glacial ice drops dramatically, the amount of ^{18}O relative to ^{16}O in ocean water also drops. Ascertain microorganisms secrete their shells of calcium carbonate (CaCO_3), the prevailing $^{18}\text{O}/^{16}\text{O}$ ratio is reflected in the composition of these hard parts. Consequently, periods of glacial activity can be determined from variations in the oxygen isotope ratio found in shells of certain microorganisms buried in deep-sea sediments.

A second use of the $^{18}\text{O}/^{16}\text{O}$ ratio technique is its application to the study of cores taken from ice sheets, such as the one that covers Greenland.

Here another cause for variation in the oxygen isotope ratio is used-namely, the ratio influenced by temperature. More ^{18}O is evaporated from the oceans when temperatures are high and less is evaporated when temperatures are low. Thus the heavy, isotope is more abundant in the precipitation of warm eras and less abundant during colder periods.

SubQuestion No : 94

Q.94

Consider the following statements:

- (a) Water molecules with ^{16}O evaporate more readily from the oceans.
- (b) Water molecules with ^{18}O are found in greater concentration in glacial ice than in oceans.

Which of the above statements are correct?

- (1) (a) only
- (2) (b) only
- (3) Both (a) and (b)
- (4) Neither (a) nor (b)

Options 1. 1

2. 2

3. 3

4. 4

Question ID : 61547511815

Option 1 ID : 61547546065

Option 2 ID : 61547546066

Option 3 ID : 61547546067

Option 4 ID : 61547546068

Status : Answered

Chosen Option : 3

Comprehension:

Based on the passage given below, answer the questions 91 to 95:

Among the most interesting techniques for analyzing the earth's climatic history on a scale of hundred's to thousands of years are the study of ocean floor sediments and oxygen isotope analysis. Both methods are used to reconstruct past temperatures and each in part is related to the other. The seafloor sediments contain the remains of organisms that once lived near the surface. When such near surface organisms die, their shell slowly settle to the floor of the ocean, where they become part of the sedimentary record. One reason why seafloor sediments are useful recorders of worldwide climatic change is that the numbers and types of organisms living near the sea surface change as the climate changes.

We would expect that in any area of the ocean/atmosphere interface the average annual temperature of the surface water of the ocean would approximate that of the contiguous atmosphere. The temperature equilibrium established between surface sea water and the air above it should mean that changes in climate should be reflected in changes in organisms living near the surface of the deep sea.

The second technique, oxygen isotope analysis, is based on precise measurement of the ratio between two isotopes of oxygen: ^{16}O , which is the most common, and the heavier ^{18}O . Because the lighter isotope, ^{16}O , evaporates more readily from the oceans, precipitation (and hence the glacial ice that it may form) is enriched in ^{16}O . Of course, this leaves a greater concentration of the heavier isotope, ^{18}O , in the ocean water.

Thus during periods when glaciers are extensive the concentration of ^{18}O in seawater increases; conversely, during warmer interglacial periods when the amount of glacial ice drops dramatically, the amount of ^{18}O relative to ^{16}O in ocean water also drops. Ascertain microorganisms secrete their shells of calcium carbonate (CaCO_3), the prevailing $^{18}\text{O}/^{16}\text{O}$ ratio is reflected in the composition of these hard parts. Consequently, periods of glacial activity can be determined from variations in the oxygen isotope ratio found in shells of certain microorganisms buried in deep-sea sediments.

A second use of the $^{18}\text{O}/^{16}\text{O}$ ratio technique is its application to the study of cores taken from ice sheets, such as the one that covers Greenland.

Here another cause for variation in the oxygen isotope ratio is used-namely, the ratio influenced by temperature. More ^{18}O is evaporated from the oceans when temperatures are high and less is evaporated when temperatures are low. Thus the heavy, isotope is more abundant in the precipitation of warm eras and less abundant during colder periods.

SubQuestion No : 95**Q.95**

Which one of the following statement is NOT correct?

- (1) UV radiation forms as well as destroys ozone
- (2) UV radiation only destroys ozone
- (3) Ozone depletion causes ground level UV radiation
- (4) UV dissociates oxygen molecule to form oxygen radical

Options 1. 1

2. 2

3. 3

4. 4

Question Type : MCQ

Question ID : 61547511820

Option 1 ID : 61547546081

Option 2 ID : 61547546082

Option 3 ID : 61547546083

Option 4 ID : 61547546084

Status : Answered

Chosen Option : 2

Comprehension:

Based on the passage given below, answer the questions 96 to 100

Ozone and ultraviolet radiation are inseparable. It takes UV photons to form ozone from oxygen and UV photons to release the chlorine from CFCs to destroy ozone. Ozone depletion causes ground level UV radiation-an environmental hazard. The wavelength of the electromagnetic radiation that is visible to the human eye and photosynthetically active for plants lies between 400-700 nm. Wavelengths below 400 nm in the ultraviolet are invisible to the unaided human eye. The UV region is conventionally subdivided into UV-A (320-400 nm), UV-B (280-320 nm) and UV-C (200-280 nm). Natural UV is supplied exclusively by the sun, which radiates energy as a black body with an effective surface temperature of 6000 K. Outside the earth's atmosphere, the total solar radiation flux density of 1367 Wm^{-2} is the sum total of visible and IR (1254 Wm^{-2}), UV-A (85.7 Wm^{-2}), UV-B (21.1 Wm^{-2}) and UV-C (6.4 Wm^{-2}). Close to the top of the earth's atmosphere, the spectrum is essentially extra-terrestrial. By an altitude of 40 Km, O_3 absorption has already made a significant difference, reducing the flux most around 250 nm because that corresponds to the centre of the absorption band. At 20 km, above the surface, photon flux is almost same as the surface value, except for the residual peak at 200 nm. At this level, UV-C is effectively eliminated. Although UV-B is attenuated, the UV-C source flux increases towards the blue and Ozone absorption band weakens towards 300nm. Both these influences combine to give a significant UVB flux which is very sensitive to small shift in ozone absorption.

Based on the above mentioned passage answer the following questions

SubQuestion No : 97

Q.97

Which of the following UV radiation combinations occurs most on earth's surface in comparison to others?

- (1) UVA and UVB
- (2) UVB and UVC
- (3) UVC and UVA
- (4) UVA, UVB and UVC

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511822

Option 1 ID : 61547546089

Option 2 ID : 61547546090

Option 3 ID : 61547546091

Option 4 ID : 61547546092

Status : Answered

Chosen Option : 2

Comprehension:

Based on the passage given below, answer the questions 96 to 100

Ozone and ultraviolet radiation are inseparable. It takes UV photons to form ozone from oxygen and UV photons to release the chlorine from CFCs to destroy ozone. Ozone depletion causes ground level UV radiation-an environmental hazard. The wavelength of the electromagnetic radiation that is visible to the human eye and photosynthetically active for plants lies between 400-700 nm. Wavelengths below 400 nm in the ultraviolet are invisible to the unaided human eye. The UV region is conventionally subdivided into UV-A (320-400 nm), UV-B (280-320 nm) and UV-C (200-280 nm). Natural UV is supplied exclusively by the sun, which radiates energy as a black body with an effective surface temperature of 6000 K. Outside the earth's atmosphere, the total solar radiation flux density of 1367 Wm^{-2} is the sum total of visible and IR (1254 Wm^{-2}), UV-A (85.7 Wm^{-2}), UV-B (21.1 Wm^{-2}) and UV-C (6.4 Wm^{-2}). Close to the top of the earth's atmosphere, the spectrum is essentially extra-terrestrial. By an altitude of 40 Km, O_3 absorption has already made a significant difference, reducing the flux most around 250 nm because that corresponds to the centre of the absorption band. At 20 km, above the surface, photon flux is almost same as the surface value, except for the residual peak at 200 nm. At this level, UV-C is effectively eliminated. Although UV-B is attenuated, the UV-C source flux increases towards the blue and Ozone absorption band weakens towards 300nm. Both these influences combine to give a significant UVB flux which is very sensitive to small shift in ozone absorption.

Based on the above mentioned passage answer the following questions

SubQuestion No : 98

Q.98

The lowest contribution to solar constant at top of the atmosphere from electromagnetic radiation is in

- | | |
|----------------|----------------|
| (1) IR region | (2) UVA region |
| (3) UVB region | (4) UVC region |

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : MCQ

Question ID : 61547511823

Option 1 ID : 61547546093

Option 2 ID : 61547546094

Option 3 ID : 61547546095

Option 4 ID : 61547546096

Status : Answered

Chosen Option : 4

Comprehension:

Based on the passage given below, answer the questions 96 to 100

Ozone and ultraviolet radiation are inseparable. It takes UV photons to form ozone from oxygen and UV photons to release the chlorine from CFCs to destroy ozone. Ozone depletion causes ground level UV radiation-an environmental hazard. The wavelength of the electromagnetic radiation that is visible to the human eye and photosynthetically active for plants lies between 400-700 nm. Wavelengths below 400 nm in the ultraviolet are invisible to the unaided human eye. The UV region is conventionally subdivided into UV-A (320-400 nm), UV-B (280-320 nm) and UV-C (200-280 nm). Natural UV is supplied exclusively by the sun, which radiates energy as a black body with an effective surface temperature of 6000 K. Outside the earth's atmosphere, the total solar radiation flux density of 1367 Wm^{-2} is the sum total of visible and IR (1254 Wm^{-2}), UV-A (85.7 Wm^{-2}), UV-B (21.1 Wm^{-2}) and UV-C (6.4 Wm^{-2}). Close to the top of the earth's atmosphere, the spectrum is essentially extra-terrestrial. By an altitude of 40 Km, O_3 absorption has already made a significant difference, reducing the flux most around 250 nm because that corresponds to the centre of the absorption band. At 20 km, above the surface, photon flux is almost same as the surface value, except for the residual peak at 200 nm. At this level, UV-C is effectively eliminated. Although UV-B is attenuated, the UV-C source flux increases towards the blue and Ozone absorption band weakens towards 300nm. Both these influences combine to give a significant UVB flux which is very sensitive to small shift in ozone absorption.

Based on the above mentioned passage answer the following questions

SubQuestion No : 99**Q.99**

The solar radiation flux, irrespective of wavelength bands, is same from earth's surface upto

- | | |
|-----------|-----------|
| (1) 40 Km | (2) 30 Km |
| (3) 20 Km | (4) 10 Km |

Options

1. 1
2. 2
3. 3
4. 4

Question Type : MCQ**Question ID : 61547511821****Option 1 ID : 61547546085****Option 2 ID : 61547546086****Option 3 ID : 61547546087****Option 4 ID : 61547546088****Status : Answered****Chosen Option : 3****Comprehension:**

Based on the passage given below, answer the questions 96 to 100

Ozone and ultraviolet radiation are inseparable. It takes UV photons to form ozone from oxygen and UV photons to release the chlorine from CFCs to destroy ozone. Ozone depletion causes ground level UV radiation-an environmental hazard. The wavelength of the electromagnetic radiation that is visible to the human eye and photosynthetically active for plants lies between 400-700 nm. Wavelengths below 400 nm in the ultraviolet are invisible to the unaided human eye. The UV region is conventionally subdivided into UV-A (320-400 nm), UV-B (280-320 nm) and UV-C (200-280 nm). Natural UV is supplied exclusively by the sun, which radiates energy as a black body with an effective surface temperature of 6000 K. Outside the earth's atmosphere, the total solar radiation flux density of 1367 Wm^{-2} is the sum total of visible and IR (1254 Wm^{-2}), UV-A (85.7 Wm^{-2}), (UV-B (21.1 Wm^{-2}) and UV-C (6.4 Wm^{-2}). Close to the top of the earth's atmosphere, the spectrum is essentially extra-terrestrial. By an altitude of 40 Km, O_3 absorption has already made a significant difference, reducing the flux most around 250 nm because that corresponds to the centre of the absorption band. At 20 km, above the surface, photon flux is almost same as the surface value, except for the residual peak at 200 nm. At this level, UV-C is effectively eliminated. Although UV-B is attenuated, the UV-C source flux increases towards the blue and Ozone absorption band weakens towards 300nm. Both these influences combine to give a significant UVB flux which is very sensitive to small shift in ozone absorption.

Based on the above mentioned passage answer the following questions

SubQuestion No : 100

Q.100

Ozone's absorption of UV radiation in stratosphere is maximum at

- | | |
|------------|------------|
| (1) 200 nm | (2) 250 nm |
| (3) 300 nm | (4) 280 nm |

Options 1. 1

- 2. 2
- 3. 3
- 4. 4

Question Type : **MCQ**

Question ID : **61547511824**

Option 1 ID : **61547546097**

Option 2 ID : **61547546098**

Option 3 ID : **61547546099**

Option 4 ID : **61547546100**

Status : **Answered**

Chosen Option : **4**