UGC Net Memory Based Question Paper 25 June 2025 Shift 2

Q1. An informal fallacy in which one moves carelessly from individual cases of a given class of persons or things to all the members of that class is called:
A. Fallacy of Division
B. Fallacy of Converse accident
C. Fallacy of Slippery Slope
D. Fallacy of Accident
E. Hasty generalisation
Choose the correct answer from the options given below:
(a) B and E only
(b) C only
(c) E only
(d) C and E only
Ans.(a)
Sol. Two fallacies fit the given description:
Fallacy of Converse Accident (B): This fallacy arises when one improperly generalises from a specific, exceptional case to the broader population. Example: "A politician was corrupt; therefore, all politicians are corrupt."
Hasty Generalisation (E): This is the act of drawing a general conclusion based on insufficient or non-representative evidence. Example: "Three students failed the test; the entire class must have failed."
Information Booster 1. Hasty Generalisation is broader, while Converse Accident refers to exceptional cases.
2. Both are forms of informal fallacies arising from flawed reasoning.
3. Critical thinking requires assessing evidence size, representativeness, and exceptions before making generalisations.
4. These fallacies often lead to stereotypes, biases, and faulty conclusions.
5. Logical reasoning frameworks help avoid such errors by requiring thorough evidence evaluation.
Additional Knowledge A (Fallacy of Division): Involves assuming that what is true of a group must be true for all its members. Example: "The company is profitable, so every department is profitable."
C (Fallacy of Slippery Slope): Incorrect. Assumes a small action will lead to extreme consequences through a chain reaction.
D (Fallacy of Accident): Incorrect. It involves wrongly applying a general rule to a specific case that should be an exception.

Q2. Identify the correct Director of the Hollywood Film Inception.
(a) Steven Spielberg
(b) Charlie Chaplin
(c) Christopher Nolan
(d) James Cameron
Ans.(c)
Sol. Christopher Nolan directed Inception (2010), a science-fiction thriller that explores dreams within dreams. The film is widely acclaimed for its innovative narrative structure, visual effects, and philosophical depth. Inception won 4 Academy Awards, including Best Cinematography and Best Visual Effects.

Information Booster:
1. Charlie Chaplin was a legendary silent film actor and director known for The Kid (1921), Modern Times (1936), and The Great Dictator (1940), but he was not associated with modern science-fiction films like Inception.
2. Steven Spielberg is known for directing E.T., Jurassic Park, Schindler's List, and others.
3. James Cameron directed major blockbusters like Titanic, Avatar, and Terminator 2: Judgment Day.

Q3. What is the correct chronological order, from older to newer, of the following Acts according to their year of enactment?
A. Environment Protection Act
B. Wildlife Protection Act
C. Air (Prevention and Control of Pollution) Act
D. Water (Prevention and Control of Pollution) Act
Choose the *correct* answer from the options given below:
(a) B, D, C, A
(b) B, D, A, C
(c) A, B, C, D
(d) A, B, D, C
Ans.(a)
Sol. The correct chronological order from older to newer is:
1. Wildlife Protection Act (1972) – First among these, this act was enacted to provide for the protection of wild animals, birds, and plants.
2. Water (Prevention and Control of Pollution) Act (1974) – This Act was enacted to prevent and control water pollution and maintain or restore water quality.
3. Air (Prevention and Control of Pollution) Act (1981) – Enacted to control and prevent air pollution in India.
4. Environment Protection Act (1986) – The broadest and most comprehensive environmental legislation providing for the protection and improvement of the environment.

Hence , Option A is the correct answer .
Information Booster:
1. The Wildlife Protection Act, 1972, was a pioneering legislation for conserving biodiversity.
2. The Water Act, 1974, was India's first law to specifically address pollution control.
3. The Air Act, 1981, complemented the Water Act by targeting air pollution issues.
4. The Environment Protection Act, 1986, was enacted in response to the Bhopal Gas Tragedy, empowering the central government to take comprehensive measures for environmental protection.
5. These acts collectively form the backbone of India's environmental legal framework.
6. Subsequent rules and amendments have expanded their scope and enforcement mechanisms.
7. Effective implementation requires coordination among multiple government agencies.

Q4. Which of the following are true about breeder reactors?
A. They produce more fissile material than they consume.
B. There are no breeder reactors in India.
C. There are two types (Fast and Slow) of breeder reactors.
D. For breeding operation the conversion ratio (fissile material produced/fissile material consumed) should be more than one.
E. Breeder reactors produce more nuclear waste than the conventional one.

Choose the correct answer from the options given below:
(a) A, C and D only
(b) A, B and D only
(c) B, C and E only
(d) A, C, D and E only
Ans.(d)
Sol. The correct statements about breeder reactors are:

- A. They produce more fissile material than they consume. Breeder reactors generate more fissile material than they consume, making them highly efficient.
- C. There are two types (Fast and Slow) of breeder reactors. Fast Breeder Reactors (FBRs) and Thermal Breeder Reactors are the two main types.
- D. For breeding operation, the conversion ratio (fissile material produced/fissile material consumed) should be more than one. A conversion ratio greater than one is essential for breeder reactors to function efficiently.
- E. Breeder reactors produce more nuclear waste than conventional reactors. While breeder reactors aim to maximize fuel use, they can generate more nuclear waste due to the extended use of fuel cycles and the complexity of waste management.

Information Booster:
1. Fast Breeder Reactors (FBRs) are the most common type, using fast neutrons to breed more fuel.
2. Breeder reactors help reduce dependency on fresh uranium by using recycled fuel.
3. Breeder reactors are highly efficient but have challenges regarding nuclear waste and safety.
4. India's Prototype Fast Breeder Reactor (PFBR) is a prominent example, showing that India does have breeder reactors, thus contradicting statement B.
Additional Information:
There are no breeder reactors in India: This is incorrect. India has made significant advancements in breeder reactor technology, with the Prototype Fast Breeder Reactor (PFBR) under construction at Kalpakkam. India also operates the Fast Breeder Test Reactor (FBTR), which has been functional for several years. These reactors are part of India's long-term nuclear energy program aimed at utilizing its thorium reserves for sustainable energy production.

Q5. Identity the correct of the term A-E given below that complete the paragraph describing system of operation of the keyboard.
A computer keyboard has a key matrix underneath the keys when a key is pressed, it presses a switch that completes a_____.
This allow_____ to flow. The location of the key pressed is_____. The location of the key pressed is compared to a _____ map to find the _____ value for the key that has been pressed
A. Binary
B. Calculated
C. Character
D. Circuit
E. Current
Choose the correct answer from the options given below:
(a) E, D, B, C, A
(b) D, E, B, C, A
(c) C, D, B, E, A
(d) A, E, B, C, D

Ans.(b)

Sol. A computer keyboard has a key matrix underneath the keys when a key is pressed, it presses a switch that completes a Circuit. This allows Current to flow. The location of the key pressed is Calculated. The location of the key pressed is compared to a Character map to find the Binary value for the key that has been pressed.

Q6. Pressing F8 key for three times selects _____.

(a) A paragraph

(b) A sentence

(c) A word

(d) Entire document

Ans.(b)

Sol. F8 once → Enters selection mode

F8 twice → Selects a word

F8 three times → Selects a sentence

F8 four times → Selects a paragraph

F8 five times → Selects the entire document

Q7. Where do the important aspects of learning, including analysis, application, creativity, and evaluation, take place as per the traditional model of classroom teaching?

(a) Outside class

(b) Inside Class

(c) During summative assessment

(d) On rote learning

Ans.(b)

Sol. In the traditional model of classroom teaching, the important aspects of learning, including analysis, application, creativity, and evaluation, primarily take place inside the class. The traditional model emphasizes direct instruction where these cognitive processes are guided by the teacher during classroom activities.

Information Booster:

- Outside class: Often associated with homework and independent study, but traditionally less emphasis on higher-order cognitive processes.
- During summative assessment: Typically focuses on evaluation rather than the development of cognitive skills.
- Rote learning: Involves memorization without necessarily engaging in higher-order cognitive processes like analysis or application, and is often considered a lower level of learning.

Q8. When you try to predict the value of an outcome variable from one or more variables, you are likely to be using:

A. The Pearson product-moment correlation

B. Bivariate regression

C. Multivariate regression

D. Analysis of variance

Choose the correct answer from the options given below:
(a) A, B and C only
(b) B and C only
(c) B, C and D only
(d) A and D only
Ans.(b)
Sol. When predicting the value of an outcome variable from one or more predictor variables, the most appropriate techniques are bivariate regression (B) and multivariate regression (C):

- Bivariate regression (B): This method is used when there is one predictor variable and one outcome variable. It predicts the outcome by analyzing the linear relationship between the two variables.
- Multivariate regression (C): This technique is employed when there are multiple predictor variables. It helps in understanding how multiple factors contribute to the prediction of the outcome variable.

Information Booster:

- Bivariate regression is used for predicting a dependent variable from a single independent variable.
- Multivariate regression allows predictions based on multiple independent variables, offering a more comprehensive analysis.
- These regression techniques are key tools in statistical modeling and prediction.
- Regression analysis is widely used in various fields, including economics, psychology, and business.

Additional Information:

- Pearson product-moment correlation (A): Measures the linear relationship between two continuous variables but does not involve prediction.
- Analysis of variance (ANOVA) (D): Compares the means of two or more groups to assess if they are significantly different, primarily used in hypothesis testing, not prediction.

Q9. Consider the following statements regarding Mercenary Spyware:
1. Apple has issued warnings to users in India and other countries of potential "mercenary spyware" attacks.
2. Pegasus and FinSpy are not a type of mercenary spyware.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Ans.(a)
Sol. Statement 1: correct
Apple has cautioned users in India and elsewhere about the looming threat of "mercenary spyware" attacks, which clandestinely infiltrate devices to monitor activities and steal sensitive data without user consent, highlighting the seriousness of cybersecurity risks.
Statement 2: incorrect
Pegasus and FinSpy are among the notorious types of mercenary spyware, known for their ability to surreptitiously compromise smartphones and other devices, allowing attackers to track movements, intercept communications, and pilfer confidential information.
NEWS:
"Apple Alerts Users in India and Abroad of Impending 'Mercenary Spyware' Threats"

Q10. Which of the following is the correct molecular formula for chloroform?
(a) CCl4CCl4
(b) CHCl3CHCl3
(c) C2H4Cl2C2H4Cl2
(d) C3H6Cl3C3H6Cl3
Ans.(b)
Sol. Chloroform is an organic compound with the molecular formula $CHCl_3$. It is commonly used as a solvent in laboratories and was historically used as an anesthetic. The structure consists of a single carbon atom bonded to one hydrogen atom and three chlorine atoms.
Information Booster:
Option (a) CCl_4: This is the molecular formula for carbon tetrachloride, not chloroform.
Option (c) $C_2H_4Cl_2$: This represents 1,2-dichloroethane, a different compound.
Option (d) $C_3H_6Cl_3$: This is a more complex structure and does not correspond to chloroform.

Q11. Which of the following statements A-C are correct about a Hard-Disk Drive (HDD) used as a storage device in computer?
A. It has no moving parts
B. It is non-volatile
C. It uses magnetic properties to store data
Choose the correct answer from the options given below:
(a) A and B only
(b) A and C only
(c) B and C only
(d) A, B and C
Ans.(c)
Sol. The correct answer is (c) B and C only. A Hard-Disk Drive (HDD) has the following characteristics:
- B. It is non-volatile: This statement is correct. HDDs retain data even when the power is turned off.
- C. It uses magnetic properties to store data: This statement is correct. HDDs store data using magnetic properties on the disk platters.

Information booster: A. It has no moving parts: This statement is incorrect. HDDs have moving parts, including spinning disks (platters) and read/write heads that move across the disk surface.
Therefore, the correct answer is: (c) B and C only

Q12. Match the List I with List II

LIST-I (Environment laws)		**LIST-II (Year)**	
A.	Air (Prevention and Control of Pollution) Act	I.	1974
B.	Forest Conservation Act	II.	1981
C.	Environmental Protection Act	III.	1980
D.	Water (Prevention and Control of Pollution) Act	IV.	1986

(a) A-I, B-III, C-II, D-IV
(b) A-II, B-IV, C-III, D-I
(c) A-III, B-II, C-I, D-IV
(d) A-II, B-III, C-IV, D-I

Ans.(d)

Sol. Let's delve into the details of each of these significant Indian environmental laws:

A. Air (Prevention and Control of Pollution) Act - 1981

Objective: This act was enacted to provide for the prevention, control, and abatement of air pollution in India. It aims to maintain the quality of air, control emissions from industries and vehicles, and establish boards for the prevention and control of air pollution.

Key Provisions:

Empowers the Central and State Pollution Control Boards to lay down standards for the quality of air and emissions from various sources.

Requires industries to obtain consent from the respective State Pollution Control Boards before establishing or operating.

Provides for penalties for non-compliance.

It was amended in 1987 to bring noise pollution within its ambit.

B. Forest Conservation Act - 1980

Objective: The primary goal of this act is to prevent deforestation and ensure that forest land is not diverted for non-forest purposes without the prior approval of the Central Government. It aims to conserve forests and their biodiversity.

Key Provisions:

Mandates that any proposal to de-reserve a forest, use forest land for non-forest purposes, or assign forest land to any private person or authority requires the prior permission of the Central Government.

Defines "non-forest purpose" broadly to include clearing of forest land for cultivation, mining, construction of roads, etc.

Has been instrumental in slowing down the rate of deforestation and promoting afforestation efforts.

C. Environmental Protection Act - 1986

Objective: Enacted in the wake of the Bhopal Gas Tragedy, this act is a comprehensive umbrella legislation designed to provide for the protection and improvement of the environment and for matters connected therewith. It is a powerful tool for the Central Government to take all necessary measures to prevent and control environmental pollution.

Key Provisions:

Empowers the Central Government to take all necessary measures for protecting and improving environmental quality, and preventing, controlling, and abating environmental pollution.

Allows the Central Government to set standards for emission or discharge of environmental pollutants from various sources.

Provides for the power to issue directions, including the power to direct closure, prohibition, or regulation of any industry, operation, or process.

Introduces the concept of environmental impact assessment (EIA) for various projects.

Covers a wide range of environmental issues, including water, air, land, and noise pollution.

D. Water (Prevention and Control of Pollution) Act - 1974

Objective: This was the first major environmental legislation in India after independence. Its purpose is to prevent and control water pollution, and to maintain or restore the wholesomeness of water in the country.

Key Provisions:
Establishes the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) to prevent and control water pollution.
Empowers these boards to lay down standards for effluent discharge into water bodies.
Requires industries to obtain consent from the respective State Pollution Control Boards for discharging effluents.
Provides for penalties for pollution and non-compliance with the act's provisions.
It also addresses the issue of sewage and trade effluents.
Hence, Option d
A-II, B-III, C-IV, D-I is the correct answer .

Q13. Main cause of earthquakes can be considered as:
Read the passage and answer question that follow.
The 2004 earthquake and tsunami in Banda Aceh, Indonesia, stunned the world. It killed over 230,000 people, and caused damage as far away as Africa. Less than a year later, an earthquake in Pakistan killed 80,000 people. Earthquakes are sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another one. When movement along faults occurs gradually and relatively smoothly, it is called creep or seismic slip and may be undetectable to the casual observer. When friction prevents rocks from slipping easily, stress builds up until it is finally released with a sudden jerk. The point on a fault at which the first movement occurs during an earthquake is called the epicenter.
Earthquakes have always seemed mysterious, sudden, and violent, coming without warning and leaving ruined cities and dislocated landscapes in their wake. Cities such as Kobe, Japan or Mexico City, parts of which are built on soft landfill or poorly consolidated soil, usually suffer the greatest damage from earthquakes. Water-saturated soil can liquefy when shaken. Buildings sometimes sink out of sight or fall down like a row of dominoes under these conditions.
(a) Volcanic eruptions
(b) Sudden movements in the earth's crust along faults
(c) Flood
(d) Extreme weather conditions
Ans.(b)
Sol. According to the passage, earthquakes are described as sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another. This is the primary cause of earthquakes.

Q14. Parts of which of these are built on soft landfill or poorly consolidated soil?
Read the passage and answer question that follow.
The 2004 earthquake and tsunami in Banda Aceh, Indonesia, stunned the world. It killed over 230,000 people, and caused damage as far away as Africa. Less than a year later, an earthquake in Pakistan killed 80,000 people. Earthquakes are sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another one. When movement along faults occurs gradually and relatively smoothly, it is called creep or seismic slip and may be undetectable to the casual observer. When friction prevents rocks from slipping easily, stress builds up until it is finally released with a sudden jerk. The point on a fault at which the first movement occurs during an earthquake is called the epicenter.

Earthquakes have always seemed mysterious, sudden, and violent, coming without warning and leaving ruined cities and dislocated landscapes in their wake. Cities such as Kobe, Japan or Mexico City, parts of which are built on soft landfill or poorly consolidated soil, usually suffer the greatest damage from earthquakes. Water-saturated soil can liquefy when shaken. Buildings sometimes sink out of sight or fall down like a row of dominoes under these conditions.

(a) Kobe Japan and Mexico City

(b) Indonesia and Pakistan

(c) Pakistan

(d) Indonesia

Ans.(a)

Sol. According to the passage, cities like Kobe, Japan, and Mexico City are mentioned as examples of places built on soft landfill or poorly consolidated soil, which are more vulnerable to earthquake damage.

Q15. What is the epicenter in an earthquake?

Read the passage and answer question that follow.

The 2004 earthquake and tsunami in Banda Aceh, Indonesia, stunned the world. It killed over 230,000 people, and caused damage as far away as Africa. Less than a year later, an earthquake in Pakistan killed 80,000 people. Earthquakes are sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another one. When movement along faults occurs gradually and relatively smoothly, it is called creep or seismic slip and may be undetectable to the casual observer. When friction prevents rocks from slipping easily, stress builds up until it is finally released with a sudden jerk. The point on a fault at which the first movement occurs during an earthquake is called the epicenter.

Earthquakes have always seemed mysterious, sudden, and violent, coming without warning and leaving ruined cities and dislocated landscapes in their wake. Cities such as Kobe, Japan or Mexico City, parts of which are built on soft landfill or poorly consolidated soil, usually suffer the greatest damage from earthquakes. Water-saturated soil can liquefy when shaken. Buildings sometimes sink out of sight or fall down like a row of dominoes under these conditions.

(a) The point where the most damage occurs

(b) The area with the highest population

(c) The point on a fault where the first movement occurs

(d) The center of a tsunami

Ans.(c)

Sol. The epicenter is defined as the point on a fault where the first movement occurs during an earthquake. It is the location directly above the earthquake's origin or focus on the Earth's surface. This point is where the initial seismic waves begin and is crucial in understanding the spread of seismic energy.

Q16. According to the passage, which of the following can cause buildings to "sink out of sight" during an earthquake?
Read the passage and answer question that follow.
The 2004 earthquake and tsunami in Banda Aceh, Indonesia, stunned the world. It killed over 230,000 people, and caused damage as far away as Africa. Less than a year later, an earthquake in Pakistan killed 80,000 people. Earthquakes are sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another one. When movement along faults occurs gradually and relatively smoothly, it is called creep or seismic slip and may be undetectable to the casual observer. When friction prevents rocks from slipping easily, stress builds up until it is finally released with a sudden jerk. The point on a fault at which the first movement occurs during an earthquake is called the epicenter.
Earthquakes have always seemed mysterious, sudden, and violent, coming without warning and leaving ruined cities and dislocated landscapes in their wake. Cities such as Kobe, Japan or Mexico City, parts of which are built on soft landfill or poorly consolidated soil, usually suffer the greatest damage from earthquakes. Water-saturated soil can liquefy when shaken. Buildings sometimes sink out of sight or fall down like a row of dominoes under these conditions.
(a) Tsunamis
(b) Creep
(c) Shaking of water-saturated soil
(d) Soil expansion
Ans.(c)
Sol. The passage specifically mentions that "water-saturated soil can liquefy when shaken" during an earthquake. This can cause buildings to "sink out of sight" or fall down like a row of dominoes.

Q17. Gradual and smooth movement along fault is considered as:
Read the passage and answer question that follow.
The 2004 earthquake and tsunami in Banda Aceh, Indonesia, stunned the world. It killed over 230,000 people, and caused damage as far away as Africa. Less than a year later, an earthquake in Pakistan killed 80,000 people. Earthquakes are sudden movements in the earth's crust that occur along faults (planes of weakness), where one rock mass slides past another one. When movement along faults occurs gradually and relatively smoothly, it is called creep or seismic slip and may be undetectable to the casual observer. When friction prevents rocks from slipping easily, stress builds up until it is finally released with a sudden jerk. The point on a fault at which the first movement occurs during an earthquake is called the epicenter.
Earthquakes have always seemed mysterious, sudden, and violent, coming without warning and leaving ruined cities and dislocated landscapes in their wake. Cities such as Kobe, Japan or Mexico City, parts of which are built on soft landfill or poorly consolidated soil, usually suffer the greatest damage from earthquakes. Water-saturated soil can liquefy when shaken. Buildings sometimes sink out of sight or fall down like a row of dominoes under these conditions.
(a) Seismic jerk
(b) Epicenter
(c) Seismic slip
(d) Fault rupture
Ans.(c)
Sol. The passage explains that when movement along faults occurs gradually and relatively smoothly, it is called seismic slip. This movement may be undetectable to the casual observer and involves a slow sliding of one rock mass past another along a fault.

Q18. Arrange the following components of a lesson plan chronologically:
A. Select the Content
B. Design Evaluation
C. Design Learning Outcomes
D. Design diagnostic methods
E. Select the pedagogy
Choose the correct answer from the options given below:
(a) C-A-E-B-D
(b) C-A-E-D-B
(c) B-E-A-C-D
(d) A-B-E-C-D

Ans.(a)

Sol. The correct chronological order for developing a lesson plan is:

1. C. Design Learning Outcomes: The first step in lesson planning is to decide on the learning outcomes, which are clear goals that define what students should learn by the end of the lesson.
2. A. Select the Content: After setting the learning outcomes, you choose the content that aligns with these outcomes and helps achieve the set goals.
3. E. Select the pedagogy: Once the content is selected, decide on the pedagogical approach (teaching methods) to deliver that content. This involves choosing how the content will be presented and what strategies will be used.
4. B. Design Evaluation: After planning the content and teaching method, design how the evaluation will be done to assess if the students have met the learning outcomes. This includes assignments, tests, or other assessment forms.
5. D. Design diagnostic methods: Lastly, design the diagnostic methods that will be used to check the students' prior knowledge or identify areas that need reinforcement before starting the lesson.

Information Booster:

1. Design Learning Outcomes (C) provides the foundational goals for the lesson, ensuring everything in the plan is aligned with what students should achieve.
2. Select the Content (A) comes after outcomes because the content should directly support the intended learning outcomes.
3. Select the pedagogy (E) refers to choosing the best teaching methods that will effectively engage students and help them achieve the learning outcomes.
4. Design Evaluation (B) is necessary to determine if the learning outcomes have been achieved by the students after completing the lesson.
5. Design diagnostic methods (D) allows for evaluating the students' readiness for the lesson, helping the teacher assess their current understanding and adjust instruction accordingly.

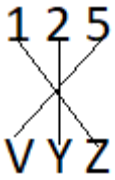
Q19. If 125 is coded as VYZ and 487 is coded as TSW, then the code for 369 is:
(a) RXU
(b) RUX
(c) XRU
(d) XUR

Ans.(b)

Sol. The given pattern involves coding numbers using reverse alphabetical order where A is counted as 26, B as 25, and so on, with Z being counted as 1.

How 125 is coded as VYZ:

1. 1 corresponds to Z (since Z is the first letter from the reverse alphabet).
2. 2 corresponds to Y (since Y is the second letter from the reverse alphabet).
3. 5 corresponds to V (since V is the fifth letter from the reverse alphabet).



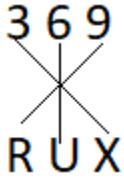
How 487 is coded as TSW:

1. 4 corresponds to W(since W is the fourth letter from the reverse alphabet).
2. 8 corresponds to S(since S is the eight letter from the reverse alphabet).
3. 7 corresponds to T(since T is the seventh letter from the reverse alphabet).

How 369 is coded as RUX:

Now, let's decode 369:

1. 3 corresponds to X (since X is the third letter from the reverse alphabet).
2. 6 corresponds to U (since U is the sixth letter from the reverse alphabet).
3. 9 corresponds to R (since R is the ninth letter from the reverse alphabet).



Q20. Which of the following are strategies to overcome communication barriers?

A. Conducting communication audits

B. Using technical jargon for precision

C. Reducing information overload

D. Encouraging informal relationships

Choose the correct answer from the options given below:

(a) A, B, and C

(b) A, C, and D

(c) B, C, and D

(d) A, B, and D

Ans.(b)

Sol. The correct strategies to overcome communication barriers include:

- Conducting communication audits (A): Helps organizations evaluate the effectiveness of their communication systems, identify gaps, and take corrective measures.
- Reducing information overload (C): Prevents confusion and ensures the message is clearly understood by filtering essential information.
- Encouraging informal relationships (D): Promotes open, two-way communication, especially in rigid hierarchies, helping to bypass structural barriers.

Information booster
1. Communication audits assess strengths and weaknesses in internal and external communication.
2. Information overload leads to misinterpretation, stress, and lower retention—filtering key points enhances clarity.
3. Informal communication channels, like coffee-break chats or casual team discussions, improve trust and reduce hierarchy-induced barriers.
4. Technical jargon, while useful in expert groups, should be avoided in mixed or general communication unless adequately explained.
5. Strategies must be audience-centric—knowing the receiver's background helps tailor effective messages.
6. Feedback mechanisms also play a critical role in confirming message clarity.

Additional Knowledge
Using technical jargon for precision– This is not a good strategy because jargon can create semantic barriers if the receiver does not understand specialized terms.

Q21. Which of the following is NOT one of the "5C's of Cinematography" as defined by Joseph V. Mascelli?
(a) Camera Angles
(b) Composition
(c) Color Grading
(d) Continuity
Ans.(c)
Sol. The "5C's of Cinematography" are a set of essential principles outlined by Joseph V. Mascelli that guide professional visual storytelling in filmmaking.
Information Booster:
The 5 Cs are:
1. Camera Angles – how the camera is positioned to capture the scene.
2. Composition – how elements are arranged within the frame.
3. Continuity – maintaining logical consistency across shots.
4. Cutting – editing technique for fluid storytelling.
5. Close-ups – tight shots that focus on detail or emotion.

Additional Knowledge:
- Color grading is an important post-production process, but it is not one of Mascelli's original 5C s.
- The 5C s help ensure visual coherence, emotional impact, and narrative clarity in filmmaking.

Q22. Which among the following features applies to descriptive research?
A. It may involve the procedure of Induction and analysis
B. A study that describes and interprets what is/was the case
C. It can never be normative
D. It is used only in quantitative research
E. Survey studies is one of its types
Choose the correct answer from the options given below:
(a) B, C and D only
(b) A, B and E only
(c) C, D and E only
(d) B, D and A only

Ans.(b)

Sol. Descriptive research is a research methodology that is primarily concerned with describing and interpreting what exists or what has been the case.

1. A. It may involve the procedure of Induction and analysis:
   - o True. Descriptive research may use inductive reasoning, which involves observing patterns and deriving generalizations or conclusions from those observations.
2. B. A study that describes and interprets what is/was the case:
   - o True. Descriptive research is focused on providing a description of the current or past state of a phenomenon, answering questions like "what is or was the case?" It aims to describe characteristics of a subject or group being studied.
3. E. Survey studies is one of its types:
   - o True. Surveys are one of the most common types of descriptive research, where data is collected through questionnaires, interviews, and observations to describe a phenomenon.

Information Booster:

1. Descriptive research is often used to gain a better understanding of a specific problem or phenomenon.
2. Survey studies are widely used in descriptive research for gathering qualitative or quantitative data about subjects in a systematic manner.
3. This type of research is non-experimental and typically does not involve intervention, only observation and description.
4. Inductive reasoning in descriptive research helps develop theories and generalizations based on observed patterns.

Additional Knowledge:

1. C. It can never be normative:
   - o False. Descriptive research can include normative aspects (such as setting benchmarks or standards), but it is primarily focused on providing a factual account rather than establishing norms or prescriptions.
2. D. It is used only in quantitative research:
   - o False. Descriptive research can be used in both quantitative and qualitative research. It focuses on gathering and presenting information regardless of the methodological approach.

Q23. In the light of the method of scientific inquiry, pick the correct order:

A. Formulation of Hypothesis

B. Interpretation of results

C. Identification of the problem

D. Collection, organization, and analysis of data

E. Verification, rejection, modification of the hypothesis

Choose the correct answer from the options given below:

(a) A-C-B-E-D

(b) B-C-A-D-E

(c) D-A-C-E-B

(d) C-A-D-B-E

Ans.(d)

Sol. The correct order of steps in the scientific method is as follows:

1. C. Identification of the problem: The first step is to identify and define the research problem or question that needs to be answered.
2. A. Formulation of Hypothesis: Once the problem is identified, a hypothesis (an educated guess or potential explanation) is formulated.
3. D. Collection, organization, and analysis of data: After the hypothesis is created, data is collected, organized, and analyzed to test the hypothesis.
4. B. Interpretation of results: After the data is analyzed, the results are interpreted to understand what the data reveals about the hypothesis.
5. E. Verification, rejection, modification of the hypothesis: Based on the interpretation of the results, the hypothesis is either verified, rejected, or modified to reflect the findings.

Information Booster:

1. Identification of the problem (C) is the foundation of the scientific inquiry process. Without a clear problem, the research cannot proceed in a structured way.
2. Formulating a hypothesis (A) is essential to give direction to the research. It serves as a tentative explanation for the identified problem.
3. Data collection (D) is a crucial step where factual evidence is gathered, often through experiments, surveys, or observations.
4. Interpretation of results (B) is where the raw data is transformed into meaningful conclusions that help answer the research question.
5. Verification of the hypothesis (E) is the final step in evaluating whether the hypothesis holds true or if it needs adjustment.

Q24. Which of the following are physical parameters of water quality?

A. Hardness
B. pH
C. Temperature
D. Turbidity
E. TSS

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

(a) C, D and E Only
(b) A, B and C Only
(c) B, C and D Only
(d) A, B and E Only

Ans.(a)

Sol. Physical parameters of water quality refer to those characteristics of water that can be measured without altering its chemical composition. These include observable or measurable physical traits such as:

- Temperature (C) – Affects the solubility of gases and the rate of chemical reactions.
- Turbidity (D) – Measures how clear the water is, often influenced by suspended particles.
- TSS (E) – Refers to Total Suspended Solids, which affect water clarity and can be filtered out physically.

Whereas:

- Hardness (A) – Is a chemical parameter, determined by the concentration of calcium and magnesium ions.
- pH (B) – Is also a chemical parameter, indicating the acidity or alkalinity of water.

Thus, only C, D, and E are physical parameters.

Information Booster:

- Physical Parameters of Water Quality Include:
  - Temperature: Influences biological activity and chemical solubility.
  - Turbidity: Expressed in NTU (Nephelometric Turbidity Units); important for aquatic life.
  - Color, Odor, and Taste: Though subjective, still considered in physical analysis.
  - Total Suspended Solids (TSS): Indicates the amount of particulate matter in water.
- Chemical Parameters:
  - pH, Hardness, Alkalinity, Dissolved Oxygen, Chemical Oxygen Demand (COD), etc.
- Biological Parameters:
  - Include microbial content such as E. coli, coliform bacteria, etc.

Additional Knowledge:

- TSS affects aquatic ecosystems by reducing light penetration and can smother habitats.
- Turbidity is directly related to TSS but may also be caused by microbial activity or dissolved substances.
- Temperature is a critical factor in metabolic rates of aquatic organisms and oxygen solubility.
- Hardness causes scaling in pipes and affects soap efficiency, but it's a chemical trait.
- pH values outside the 6.5–8.5 range can harm aquatic life and corrode pipelines.

Q25. With reference to digital communication, which of the following are examples of simplex type of communication?

A. Radio broadcasting
B. Television broadcasting
C. Computer to Printer communication
D. Keyboard to computer communication
E. Walkie-Talkie communication

Choose the correct answer from the options given below:

(a) E Only
(b) A, B, C and D Only
(c) A, C and E Only
(d) D and E Only

Ans.(b)

Sol.

- Simplex communication is a one-way communication mode where data flows only in one direction from sender to receiver with no return channel for feedback or response.
- Radio broadcasting (A) and Television broadcasting (B) are classic examples of simplex communication since signals are transmitted from the station to the audience without any feedback from the receiver.

- Computer to Printer communication (C) is simplex because data flows only from the computer to the printer; the printer does not send data back to the computer in typical printing operations.
- Keyboard to computer communication (D) is also simplex, where the keyboard sends input signals to the computer but does not receive any data back.
- Walkie-Talkie communication (E) is not simplex; it is half-duplex, meaning communication can occur in both directions but only one direction at a time (push-to-talk).

Information Booster:

1. Simplex communication is unidirectional and typically used in broadcasting and some peripheral device communications.
2. Half-duplex allows communication both ways but not simultaneously (e.g., walkie-talkies).
3. Full-duplex communication allows simultaneous two-way data flow (e.g., telephone calls).
4. Simplex systems are simpler and often cheaper due to one-way data flow.
5. Examples of simplex include television, radio, keyboards, and printers.

Q26. Given below are two statements:
Statement I: According to NEP-2020, all funding agencies of Research in the country will merge into a single entity National Research Foundation (NRF) .
Statement II: The main objective of NRF is to catalyze quality research in our country.
In light of the above statements,Choose the correct answer from the options given below:
(a) Both Statement I and Statement II are true
(b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false
(d) Statement I is false but Statement II is true
Ans.(d)
Sol. Statement I is false because, according to NEP 2020, the National Research Foundation (NRF) will be created to strengthen research and innovation across the country, but it will not merge all existing funding agencies into a single entity. Instead, NRF will coordinate with other funding agencies and provide additional support to research initiatives.
Statement II is true as the main objective of NRF is to catalyze and promote high-quality research across disciplines in India, enhancing the research ecosystem and fostering innovation at all levels.
Information Booster: 1. National Research Foundation (NRF) is proposed under NEP 2020 to support quality research in universities and colleges.
2. It aims to bridge the gap between research and its societal impact, encouraging multidisciplinary research and innovation.
3. NRF will work alongside existing research funding agencies but not replace or merge them.
4. One of NRF's key roles is to ensure that funding for research is directed toward projects of national importance and relevance.

Q27. Who wrote the book "Understanding Media: The Extension of Man"?
(a) Marshall McLuhan
(b) Denis McQuail
(c) George Gabner
(d) Herbert

Ans.(a)

Sol. The book "Understanding Media: The Extension of Man" was written by Marshall McLuhan and published in 1964. McLuhan is well-known for his work on media theory, and in this book, he explores how media (especially electronic media) influence human perceptions and behaviors. McLuhan coined the famous phrase "The medium is the message," suggesting that the medium through which information is communicated has a more significant impact than the content itself.

Information Booster:

1. Marshall McLuhan: A Canadian philosopher and communication theorist, McLuhan is considered a pioneer in the study of media theory.
2. The Medium is the Message: McLuhan emphasized that the medium of communication shapes human experience more than the content.
3. The Global Village: McLuhan introduced the concept of the "global village," where electronic media connects the world and brings people closer.
4. Technological Determinism: McLuhan believed that technology influences society, shaping human culture and consciousness.
5. Media as Extensions: He argued that media are extensions of human faculties, such as the wheel extending the foot, and the book extending the eye.
6. Impact on Communication Studies: McLuhan's ideas have had a profound influence on modern media studies and communication theories.

Additional Information:

- (b) Denis McQuail: McQuail is an influential media scholar known for his work on communication theories and media studies, but he is not the author of this book.
- (c) George Gabner: Known for his work on media effects and cultivation theory, Gabner has contributed significantly to media studies but is not the author of this book.
- (d) Herbert: There is no notable media theorist by the name of Herbert connected to this work.

Q28. UGC was established on the recommendation of-

(a) University Education Commission

(b) Higher Education Commission

(c) Ministry of Education

(d) Planning Commission

Ans.(a)

Sol. The University Grants Commission (UGC) of India was established on the recommendation of the University Education Commission. The University Education Commission, also known as the Radhakrishnan Commission (1948-1949), was appointed by the Government of India to report on Indian university education and suggest improvements and extensions that may be desirable to suit present and future requirements of the country. The establishment of the UGC was one of its key recommendations, aimed at overseeing and maintaining the standards of university education in India.

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Q29. What type of assessment involves students measuring their progress based on their own absolute performance rather than external standards or peers?
(a) Norm-referenced assessment
(b) Self-referenced assessment
(c) Formative assessment
(d) Summative assessment
Ans.(b)
Sol. Self-referenced assessment involves students measuring their progress based on their own absolute performance, rather than comparing themselves to external standards or peers. In this type of assessment, the student focuses on personal growth and improvement, evaluating their achievements over time without reference to how others perform. It emphasizes individual progress, making it highly personalized and reflective.
Information Booster:
Self-referenced assessment encourages personal development by measuring progress against previous performance.
This method fosters self-awareness, helping students identify areas of improvement.
It is often used in personal goal setting and reflective practices in education.
Unlike norm-referenced assessments, it doesn't compare results with others or external benchmarks.
Additional Knowledge:
Norm-referenced assessment (Option a): Compares a student's performance with a group or cohort, ranking them in comparison to others.
Formative assessment (Option c): An ongoing process that provides feedback to improve learning during the instructional process.
Summative assessment (Option d): Conducted at the end of a learning period to evaluate the overall performance, often for grading purposes.

Q30. Based on Macaulay's Minute, the English Education Act was introduced in _____.
(a) 1875
(b) 1835
(c) 1855
(d) 1815
Ans.(b)
Sol. Based on Macaulay's Minute, the English Education Act was introduced in 1835.

- The Act was based on the recommendations of Thomas Babington Macaulay, who argued that English education was the best way to modernize India and prepare it for self-rule.
- The passing of Charter Act of 1833, was led by appointment of Lord Macaulay as India's First Law member of the Governor General in Council.
- Lord William Bentinck, then Governor-General of the British East India Company, decided in 1835 to reallocate funds needed by the British Parliament to spend on education and literature in India, and the Act of the Council of India gave effect to his decision.

Q31. Direct instruction is best used when teachers do which one of the following?
(a) Assign critical thinking exercises
(b) Teach basic skills and explicit knowledge
(c) Have their students explore numerous pathways to solve a mathematics problem
(d) Encourage their students to refine their creativity in art
Ans.(b)
Sol. Direct instruction is a teacher-centered approach that emphasizes clear, structured teaching of basic skills and explicit knowledge. It involves systematic presentation of material, guided practice, and immediate feedback, making it most effective for foundational learning such as facts, procedures, and skills.
Information Booster:
- It is highly efficient for teaching foundational concepts where clarity and precision are critical.
- Direct instruction includes demonstrations, lectures, and drill exercises.
- Less suited for open-ended tasks requiring exploration or creativity.
- Supports learners who benefit from structured, step-by-step guidance.

Additional Knowledge:
- Assigning critical thinking exercises (a) fits more with inquiry-based or problem-based learning.
- Exploring multiple solution paths (c) aligns with constructivist or discovery learning approaches.
- Encouraging creativity (d) is often fostered through experiential or project-based learning.

Q32. According to the classical Indian school of logic (Nyāya), which fallacy is committed in the following argument: "Anything that is thinkable is nameable because it is thinkable"?
(a) Asādhāraṇa
(b) Sādhāraṇa
(c) Āśrayāsiddha
(d) Svarūpāsiddha
Ans.(a)
Sol. In the Nyāya school of logic, the fallacy of Asādhāraṇa occurs when the middle term (hetu) is too narrow or restricted, making it incapable of applying to either the subject or the predicate universally.
In the argument "Anything that is thinkable is nameable because it is thinkable," the hetu (reason) "thinkable" does not properly establish the relationship between the subject and predicate.
The term thinkable is overly specific, failing to serve as a proper middle term in the syllogism.
Information Booster:
Nyāya Fallacies (Hetvabhasa):
Asādhāraṇa: Middle term is too specific or narrow.
Sādhāraṇa: Middle term is too general or irrelevant.
Āśrayāsiddha: Subject is non-existent or unestablished.
Svarūpāsiddha: Middle term is invalid in its own nature.
Key Logical Terms:
Paksha (Subject): The entity being discussed.
Sādhya (Predicate): The property being attributed to the subject.
Hetu (Reason): The justification provided for the relationship.

Additional Knowledge:
Sādhāraṇa (b):
Example: "A mountain has fire because it has color." The middle term “color” is too general and applies to irrelevant cases.
Āśrayāsiddha (c):
Example: "The horns of a rabbit are sharp because they are horns." The subject “horns of a rabbit” is non-existent.
Svarūpāsiddha (d):
Example: "Sound is eternal because it is created." The middle term "created" contradicts the nature of eternality.

Q33. Identify the numbers that occur in the given series: 0, 3, 10, 21, 36, … ?
A. 55
B. 78
C. 99
D. 105
E. 136
Choose the most appropriate answer from the options given below:
(a) A, B, C and D only
(b) B, C, and E only
(c) C, D, E, and A only
(d) D, E, A, and B only
Ans.(d)
Sol. The given series: 0, 3, 10, 21, 36, …
Given = the double difference is 4
first difference
3 - 0 = 3
10 - 3 = 7
21 - 10 = 11
36 - 21 = 15
double difference is
7 - 3 = 4
11 - 7 = 4
15 - 11 = 4
so next difference should be 15 + 4 = 19
further next = 19 + 4= 23
further next = 23 + 4 = 27
further next difference = 27 + 4 = 31
so next term = 36 + 19 = 55
further next term = 55 + 23 = 78
further next term = 78 + 27 = 105
further next term = 105 + 31 = 136
hence except C (99) all term will be answer.
Hence option d is correct.

Q34. Match the LIST-I with LIST-II:

LIST-I (Schemes)	LIST-II (Objectives)
A. Malviya Mission Scheme	I. Scholarship for north-east students
B. Vidyanjali	II. To garner international experience
C. GIAN	III. Remedial classes and training
D. Ishan Uday	IV. Professional development of teachers

Choose the correct answer from the options given below:
(a) A-I, B-II, C-III, D-IV
(b) A-II, B-I, C-IV, D-III
(c) A-III, B-IV, C-I, D-II
(d) A-IV, B-III, C-II, D-I
Ans.(d)
Sol.

- A. Malviya Mission Scheme: The objective is IV. Professional development of teachers. This scheme focuses on improving the teaching infrastructure and opportunities for higher education.
- B. Vidyanjali: The objective is III. Remedial classes and training. Vidyanjali is focused on enhancing educational support through volunteer involvement, including remedial classes and training.
- C. GIAN: The objective is II. To garner international experience. GIAN aims to provide academic exposure and knowledge by collaborating with international experts and institutions.
- D. Ishan Uday: The objective is I. Scholarship for north-east students. Ishan Uday offers scholarships for students from the North-East region to promote education.

Information Booster:

1. A (Malviya Mission Scheme): The focus is on enhancing higher education by providing professional development opportunities for teachers, improving overall educational quality.
2. B (Vidyanjali): Vidyanjali supports educational improvement by encouraging volunteerism and additional support to schools, particularly in terms of remedial classes and teacher training.
3. C (GIAN): GIAN provides a platform for global academic collaboration, bringing in experts from around the world to teach and train Indian students and faculty, thus promoting international exposure.
4. D (Ishan Uday): Ishan Uday offers financial assistance in the form of scholarships to students from the North-East, thus fostering educational growth and promoting inclusivity in education.

Q35. If the number of people in City-A belonging to the age group of (19-35) years is 31,680, then how many people are there in the age group of more than 60 years?Read the given passage and answer the following questions
The following table shows the percentage (%) distribution of population in five different age groups for five different cities A-E. Based on the data in the table, answer the questions that follow.
City-wise Details of Population

	Percentage Distribution of Population in Age Groups of				
	0<Age≤13	13<Age≤19	19<Age≤35	35<Age≤60	Age>60
A	18%	12%	24%	30%	16%
B	16%	18%	22%	29%	15%
C	20%	20%	20%	25%	15%
D	15%	18%	21%	26%	20%
E	18%	15%	25%	24%	18%

Note: a<Age≤b means Age belonging to group (a, b].
(a) 21120
(b) 24280
(c) 23680
(d) 19350
Ans.(a)
Sol. Given:
In City-A:
Percentage of people aged (19-35) = 24%
Percentage of people aged >60 = 16%
Solution:
Let total population of City-A be x.
Then,
24% of x = 31,680
=> x =31,6800.240.2431,680= 132,000
Now,
Population aged >60 = 16% of 132,000 = 0.16 × 132,000 = 21,120

Q36. If the total population of City-B and City-E are 96,000 and 130,000, respectively, then the population of City-E in the age group of (0,13) years is approximately ___% more than the population of City-B in the same age group.Read the given passage and answer the following questions
The following table shows the percentage (%) distribution of population in five different age groups for five different cities A-E. Based on the data in the table, answer the questions that follow.
City-wise Details of Population

	Percentage Distribution of Population in Age Groups of				
	0<Age≤13	13<Age≤19	19<Age≤35	35<Age≤60	Age>60
A	18%	12%	24%	30%	16%
B	16%	18%	22%	29%	15%
C	20%	20%	20%	25%	15%
D	15%	18%	21%	26%	20%
E	18%	15%	25%	24%	18%

Note: a<Age≤b means Age belonging to group (a, b].
(a) 47.24
(b) 49.67
(c) 52.34
(d) 57.5
Ans.(c)
Sol. Solution:
City-B:
(0–13): 16%
Total = 16% of 96,000 = 15360
City-E:
(0–1): 18%
Total = 18% of 130,000 = 23400
Now,
Required % more =23400−1536015360×100=52.34%1536023400−15360×100=52.34%

Q37. If the population of City-A and City-B in the age group of (19,35) years are 17,280 and 21,120, respectively, then what is the ratio of the total population of City-A to that of City-B?Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of population in five different age groups for five different cities A-E. Based on the data in the table, answer the questions that follow.

City-wise Details of Population

	Percentage Distribution of Population in Age Groups of				
	0<Age≤13	13<Age≤19	19<Age≤35	35<Age≤60	Age>60
A	18%	12%	24%	30%	16%
B	16%	18%	22%	29%	15%
C	20%	20%	20%	25%	15%
D	15%	18%	21%	26%	20%
E	18%	15%	25%	24%	18%

Note: a<Age≤b means Age belonging to group (a, b].

(a) 2:3

(b) 3:4

(c) 4:5

(d) 5:6

Ans.(b)

Sol. Given:

City-A: Age group (19–35) = 24%

City-B: Age group (19–35) = 22%

Solution:

City-A:

Age group (19–35) = 24%

Let total = x

0.24x = 17,280

=> x =17,2800.240.2417,280= 72,000

City-B:

Age group (19–35) = 22%

Let total = y

0.22y=21120=>y=211200.22=960000.22y=21120=>y=0.2221120=96000

Required Ratio = 72,000 : 96,000 = 3:4

Q38. If the population of City-E in the age group of (0,13) years is 16,200, then the population in the age group of (0,13) years of City-E is ___% of the population in the age group of (13,19) years of City-E.Read the given passage and answer the following questions

The following table shows the percentage (%) distribution of population in five different age groups for five different cities A-E. Based on the data in the table, answer the questions that follow.

City-wise Details of Population

	Percentage Distribution of Population in Age Groups of				
	0<Age≤13	13<Age≤19	19<Age≤35	35<Age≤60	Age>60
A	18%	12%	24%	30%	16%
B	16%	18%	22%	29%	15%
C	20%	20%	20%	25%	15%
D	15%	18%	21%	26%	20%
E	18%	15%	25%	24%	18%

Note: a<Age≤b means Age belonging to group (a, b].
(a) 60
(b) 75
(c) 90
(d) 120
Ans.(d)
Sol. Solution:
(0,13) group = 16,200
(0,13) group % in City E = 18%
=> Total population of City-E = 16,200 / 0.18 = 90000
Now, (13–19) age % = 15%
Population = 15% × 90000 = 13500
Now, required % =1620013500×100=120%1350016200×100=120%

Q39. .If the population of City-C and City-D in the age group of more than 60 years is equal to 24,000 each, then what is the sum of the total population of City-C and City-D?Read the given passage and answer the following questions
The following table shows the percentage (%) distribution of population in five different age groups for five different cities A-E. Based on the data in the table, answer the questions that follow.
City-wise Details of Population

	Percentage Distribution of Population in Age Groups of				
	0<Age≤13	13<Age≤19	19<Age≤35	35<Age≤60	Age>60
A	18%	12%	24%	30%	16%
B	16%	18%	22%	29%	15%
C	20%	20%	20%	25%	15%
D	15%	18%	21%	26%	20%
E	18%	15%	25%	24%	18%

Note: a<Age≤b means Age belonging to group (a, b].
(a) 2.4 lakh
(b) 2.8 lakh
(c) 3.2 lakh
(d) 4.8 lakh
Ans.(b)
Sol. Solution:
City-C: Age >60 = 15%
=> 15% of x = 24,000 => x =24,0000.150.1524,000 = 160,000
City-D: Age >60 = 20%
=> 20% of x = 24,000 => x =24,0000.200.2024,000= 120,000
Sum = 160,000 + 120,000 = 280,000 = 2.8 lakhs

Q40. Which of the following is/are the feature/s of Reflective level of teaching?
(A) Students learn by understanding the facts and information.
(B) Teaching is nothing but learning the subject by rote.
(C) Development of problem-solving ability.
(D) The student's original thinking and creative abilities.
(E) The pupils are kept in strict disciplines and cramming is insisted. Choose the correct answer from the options given below:
(a) (B) and (C) only
(b) (D) and (E) only
(c) (A) and (B) only
(d) (C) and (D) only
Ans.(d)
Sol. The Reflective level of teaching emphasizes the development of problem-solving ability and encourages original thinking and creative abilities in students. This level of teaching goes beyond understanding facts and promotes higher-order thinking, allowing students to analyze, evaluate, and create new ideas.
Information Booster: · Reflective teaching fosters critical thinking and creativity in students.

- The primary goal of this teaching method is to enable students to apply knowledge to real-life situations.
- Problem-solving is an essential component at the reflective level.
- It encourages active participation from students, making them independent thinkers.
- Reflective teaching promotes understanding over rote memorization.

Additional Knowledge:Understanding facts and information is more characteristic of the understanding level of teaching, not reflective teaching. Reflective teaching focuses on applying and evaluating knowledge.
Learning by rote contradicts the reflective teaching approach, which values deeper cognitive engagement over memorization.
Strict discipline and cramming are often associated with traditional, lower-level teaching approaches, such as the memory level of teaching, not reflective.

Q41. A man borrows Rs 1024 at the interest rate of 50% per annum but payable half yearly for 2 years. What amount he has to pay back at the end of the loan period if the interest was compound interest?
(a) Rs. 2048
(b) Rs. 2500
(c) Rs. 5344
(d) Rs. 5184
Ans.(b)
Sol. Given:
Principal (P) = Rs. 1024
Rate of interest (R) = 50% per annum
Time (T) = 2 years
Compounding = Half-yearly => n = 2

Formula:
$A=P\times(1+\frac{R}{100n})^{nT}A=P\times(1+\frac{nR}{100})^{nT}$
Solution:
$A=1024\times(1+\frac{50}{100\times2})^{2\times2}1024\times(1+\frac{100\times2}{50})^{2\times2}$
$A = 1024 \times (1 + 0.25)^4$
A = 1024 × (1.25)^4
$A = 1024 \times 2.44140625$
$A \approx$ Rs. 2501.25
Final Answer:
Rs. 2500

Q42. Arrange the following events related to mass media in the correct chronological sequence:
A. Publication of early newspapers.
B. Development of Television Broadcasting.
C. Introduction of email.
D. Launch of online news websites.
E. Invention of Radio.
Choose the correct answer from the options given below:
(a) A, E, B, D, C
(b) A, E, B, C, D
(c) E, A, C, D, B
(d) A, C, B, E, D
Ans.(b)
Sol. The correct chronological sequence of the events related to mass media is:

- A: The publication of early newspapers began in the 17th century with the rise of printed press.
- E: The invention of radio followed in the early 20th century, starting with the first radio broadcasts in the 1920s.
- B: The development of television broadcasting took place in the mid-20th century, with the first public broadcasts in the 1930s and 1940s.
- C: The introduction of email occurred in the late 20th century (1970s-1980s), revolutionizing communication via the internet.
- D: The launch of online news websites became prominent after the growth of the internet in the late 1990s and 2000s.

Information Booster:

1. Early newspapers were a significant development in mass communication, providing the first widely accessible medium for news dissemination.
2. Radio, invented by Guglielmo Marconi in the late 19th century, allowed for the broadcast of news and entertainment to wide audiences.
3. The television broadcasting revolutionized mass media by providing both visual and auditory content, becoming a dominant form of communication worldwide.
4. The email was a breakthrough in communication technology, offering an electronic means of exchanging messages.
5. The launch of online news websites marked a shift from traditional print and broadcast media to digital platforms, providing immediate access to information.

Q43. Which of the following statements about the URL given below are correct? https://www.mygov.in/index.html

A. http is the name of the protocol and stands for HyperText Transaction Protocol

B. in is a top-level domain name and represents a website hosted in India

C. mygov. is a second-level domain name in the name of the website.

Choose the most appropriate answer from the options given below:

(a) A and B only

(b) A and C only

(c) B and C only

(d) A, B and C

Ans.(c)

Sol. A. Incorrect. The correct full form is HyperText Transfer Protocol, not HyperText Transaction Protocol.

B. Correct. The ".in" domain is a country-code top-level domain (ccTLD) representing India.

C. Correct. "mygov" is the second-level domain in this URL.

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