UGC NET 6th Jan 2026 Shift 2_Paper 1 MBQ

Q1. Which one of the following is included while estimating Air Quality Index (AQI)?
(a) N_2O Nitrous oxide
(b) NO_2 Nitrogen dioxide
(c) N_2O_3 Dinitrogen trioxide
(d) N_2O_5 Dinitrogen pentoxide
Answer:
B
Sol:
The Air Quality Index (AQI) is a standardized measurement used to convey information about the quality of a [redacted] is used by environmen [redacted] a clear and easily under [redacted]
Nitrogen di [redacted] urban and industrial a [redacted] combustion of fossil fue [redacted] ncludes the following po [redacted]
• Particulate [redacted]
• Ozone (O_3 [redacted]
• Carbon Mo [redacted]
• Sulfur Dio [redacted]
• Nitrogen D [redacted]
• Lead (Pb)

Q2. Which [redacted] GWP) over a 100-year pe [redacted]
(a) Carbon [redacted]
(b) Methane [redacted]
(c) Nitrous [redacted]
(d) Hydroflu [redacted]
Answer:
D
Sol:
Correct Option – (d)
Introduction: Global Warming Potential (GWP) compares the cumulative radiative forcing of a unit mass of a greenhouse gas to that of CO_2 over a chosen time horizon (commonly 20 or 100 years). GWP helps prioritize mitigation by potency as well as abundance.
Information Booster:
CO_2 (a) is the baseline with GWP = 1.
Methane CH_4 (b) has a 100-yr GWP roughly in the mid-20s to 30s (depending on assessment).

Nitrous oxide N_2O (c) has a 100-yr GWP ≈ 298.
Hydrofluorocarbons (HFCs) (d) are a class with widely varying GWPs; many HFCs have very high GWPs (ranging from a few hundreds to several thousands), so as a class HFCs can include the highest GWPs among the listed options. Hence (d) is the best answer given the options.
Additional Knowledge:
Sulphur hexafluoride (SF_6) and some per- and polyfluorocarbons (PFCs) have even larger GWPs (tens of thousands) but were not listed.
Policy context: the Kigali Amendment to the Montreal Protocol (2016) aims to phase down HFCs because of their high GWPs.
While GWP helps compare gases, CO_2 remains the dominant driver of warming due to its large absolute emissions and long atmospheric lifetime.

Q3. If the st[redacted]he square of opposition [redacted]
(a) All recta[redacted]
(b) Some re[redacted]
(c) No recta[redacted]
(d) Some sq[redacted]
Answer:
A
Sol:
The Square [redacted]ropositions. According t[redacted]nowledging the existenc[redacted]equal sides). This immed[redacted]squares," as it's logically[redacted]nt highlights particularity[redacted]ctangles are squares." Th[redacted]ctangles are squares" mu[redacted]hus directly violating the[redacted]n the Square of Oppositio[redacted]

Q4. What is a primary difference between IPv4 and IPv6 addresses?6p1. IPv6 addresses are shorter than IPv4
(b) IPv6 uses 128 bits, while IPv4 uses 32 bits
(c) IPv6 is only for LANs
(d) IPv4 provides better security than IPv6
Answer:
B
Sol:

IPv6 addresses are 128 bits long, compared to the 32-bit length of IPv4 addresses, allowing a vastly larger number of unique addresses. IPv4's 32-bit system offers around 4.3 billion addresses, which is insufficient for the modern internet's needs. IPv6, with its expanded address space, supports an almost limitless number of unique addresses, essential for the growth of the Internet of Things (IoT) and global connectivity. IPv6 also includes built-in security features and more efficient routing, making it a significant improvement over IPv4.

Important Key Points:

1. IPv6 was developed to solve the address exhaustion problem encountered with IPv4.
2. IPv6 includes built-in support for IPsec, enhancing security at the protocol level.
3. IPv6 uses hexadecimal notation, while IPv4 uses dotted decimal notation.

Knowledge Booster:

Shorter add [redacted]

IPv6 is used [redacted]

IPv6 offers i [redacted]

Q5. Match t [redacted]

LIST - I (Le [redacted]	
A. Classical [redacted]	
B. Social Le [redacted]	
C. Cognitiv [redacted]	
D. Connect [redacted]	on

Choose the [redacted]

(a) A - II, B - [redacted]

(b) A - I, B - [redacted]

(c) A - IV, B [redacted]

(d) A - III, B [redacted]

Answer:

A

Sol:

Correct Opt [redacted]

Introductio [redacted] undamental mechanisms or core concepts. Understanding these connections is essential for grasping the diverse ways in which learning is theorized to occur.

Information Booster: Let's analyze each pairing:

A. Classical Conditioning

Core Mechanism/Concept: II. Association between stimulus and response. Classical conditioning, famously demonstrated by Ivan Pavlov, involves learning through the association of a neutral stimulus with a stimulus that naturally elicits a response, eventually leading the neutral stimulus to elicit a similar response. It's about involuntary, reflexive responses.

B. Social Learning Theory

Core Mechanism/Concept: I. Learning through observation and imitation. Developed by Albert Bandura, Social Learning Theory (later Social Cognitive Theory) posits that individuals learn behaviors, attitudes, and emotional reactions by observing others (models) and the consequences of their actions, without necessarily direct reinforcement. Key concepts include observational learning, modeling, and vicarious reinforcement.

C. Cognitive Load Theory

Core Mechanism/Concept: IV. Managing working memory capacity during instruction. Proposed by John Sweller, Cognitive Load Theory focuses on how instructional design can manage the demands placed on a learner's limited working memory capacity to optimize learning. It distinguishes between intrinsic (inherent difficulty), extraneous (poor design), and germane (schema construction) cognitive load.

D. Connectiv [redacted]

Core Mecha [redacted], a learning theory for t [redacted] hat learning is a process [redacted] knowledge resides in c [redacted] e, and grow these netwo [redacted]

Additional K [redacted]

Behaviorism [redacted] stimuli.

Social Lear [redacted] factors like attention an [redacted]

Cognitive L [redacted] ional design based on ho [redacted]

Connectivis [redacted] al age," that attempts to [redacted] constantly evolving and [redacted]

Q6. The pro [redacted]

(a) Crow an [redacted]

(b) John De [redacted]

(c) Robert M [redacted]

(d) Robert Mager

Answer:

B

Sol:6pThe project method of teaching was first propounded by John Dewey, an American philosopher, psychologist, and educational reformer. Dewey emphasized experiential learning, where students actively engage with real-world problems and projects to construct their knowledge.

Key Features of the Project Method:

1. Experiential Learning:

Learning occurs through doing and reflecting on the process.

2. Focus on Student Interest:

Projects are often chosen based on students' curiosity and real-world relevance.

3. Collaborative Learning:
Encourages teamwork and social interaction.
4. Problem-Solving:
Develops critical thinking as students work through challenges.
Information Booster:
1. Historical Background:
John Dewey's educational philosophy emphasized learning by doing, which laid the foundation for the project method.
It aligns with the progressive education movement.
2. Steps in the Project Method:
Selection of the project.
Planning the [redacted]
Executing th[redacted]
Evaluating a[redacted]
3. Benefits: [redacted]
Develops cr[redacted]
Connects ac[redacted]
Additional K[redacted]
1. (a) Crow [redacted]
Known for t[redacted]
2. (c) Robert[redacted]
Not associat[redacted]ory.
3. (d) Rober[redacted]
Known for [redacted]nstructional objectives," [redacted]

Q7. The ima[redacted]ntext, which of the follow[redacted]
(A) JPEG
(B) MP3
(C) MIDI
(D) AVI
(E) MP4
Choose the correct answer from the options given below:6p1. (A), (B) and (E) only
(b) (C), (D) and (E) only
(c) (B), (C) and (D) only
(d) (A) and (E) only
Answer:
A
Sol:6pThe following are compressed file formats:
JPEG: A compressed image format.
MP3: A compressed audio format.

MP4: A compressed video format.
MIDI is not a compressed format but a protocol for musical instruments. AVI is an uncompressed or minimally compressed video format.
Important Key Points:
1. JPEG, MP3, and MP4 are all commonly used compressed file formats.
2. MIDI is a protocol for audio data, while AVI is often used for uncompressed video.

Q8. Match the following models of communication with their key characteristics:

List-I (Model)	List-II (Key Characteristic)
1. Shannon-Weaver Model	[redacted] ce.
2. Schramm [redacted]	[redacted] l, Decoder, [redacted]
3. Berlo's S [redacted]	[redacted] unication.
4. Osgoo [redacted] Model	[redacted] ts: Source, [redacted]

Codes:
(a) 1-D, 2-C, [redacted]
(b) 1-B, 2-A, [redacted]
(c) 1-C, 2-B, [redacted]
(d) 1-B, 2-C, [redacted]
Answer:
D
Sol:6pCorre [redacted]
Introductio [redacted] process of communicat [redacted] volved from simple linea [redacted]
Information [redacted]
1. Shannon- [redacted] eveloped in the context [redacted] (Encoder) -> Channel -> [redacted] interference disrupting the message.
2. Schramm's Model (1954) (Matches with C): Wilbur Schramm introduced the crucial element of feedback, making the model circular rather than linear. He argued that communication requires overlapping "fields of experience" between the sender and receiver for the message to be understood effectively.
3. Berlo's SMCR Model (1960) (Matches with D): David Berlo's model is a linear one that focuses on the factors influencing each component: Source (communication skills, attitude, knowledge), Message (elements, structure, content), Channel (senses), and Receiver (similar factors as source). It is detailed but criticized for being static.

4. Osgood-Schramm Model (1954) (Matches with A): This is a truly transactional model where communication is seen as a dynamic process. Charles Egerton Osgood and Wilbur Schramm proposed that participants in communication (interpreters) simultaneously perform the functions of encoding, decoding, and interpreting. It emphasizes the shared social context and the continuous, reciprocal nature of communication.
Additional Knowledge: The Transactional Model (later development) views communication as an ongoing process where all parties are continuously sending and receiving messages, and each person's field of experience is constantly changing. This is the most accurate model for describing interpersonal communication.

Q9. Match t[redacted]

List-I (Scen[redacted]
1. A CEO w[redacted]
2. Meditati[redacted]
3. A negoti[redacted]
4. A couple[redacted]

Codes:
(a) 1-C, 2-A,[redacted]
(b) 1-D, 2-A[redacted]
(c) 1-C, 2-B,[redacted]
(d) 1-D, 2-B[redacted]
Answer:
B
Sol:
Correct Opti[redacted]
Introductio[redacted] pose of the interaction. [redacted] principles.
Information[redacted]
1. A CEO wri[redacted] t addressed to the publi[redacted] essage.
2. Meditatin[redacted] of focusing one's mind and calming one's thoughts. It is a quintessential intrapersonal activity.
3. A negotiation between two companies (Matches with C): This is organizational communication. While it involves interpersonal skills, the representatives are acting on behalf of their entire organizations, and the outcomes have organizational-level consequences.
4. A couple resolving a disagreement (Matches with B): This is a dyadic (two-person) form of interpersonal communication. It involves personal relationship dynamics, emotions, and conflict resolution strategies at an individual level.
Additional Knowledge: Other contexts include Small Group (e.g., committee meetings) and Mass Communication (e.g., television news). Organizational communication often encompasses and influences all other contexts within its structure.

Q10. Match the following descriptions with the correct type of communication barrier:

List-I (Description)	List-II (Barrier)
1. A manager is too overwhelmed with emails to respond effectively.	A. Psychological
2. An employee assumes a technical term means one thing, but the boss means another.	B. Semantic
3. A team member is too afraid of criticism to share a new idea.	C. Organizational
4. A listener is focused on crafting a rebuttal instead of understanding the speaker.	D. Personal

Codes:
(a) 1-C, 2-B, [redacted]
(b) 1-B, 2-C, [redacted]
(c) 1-C, 2-B, [redacted]
(d) 1-D, 2-A [redacted]
Answer:
C
Sol:
Correct Mat [redacted]

Introduction:

Communica [redacted] ganizational (structural [redacted] sychological (mental/em [redacted] atches align descriptions [redacted]

Information Booster:

1. A manage [redacted]
- Represe [redacted] mmunication volume (e.g. [redacted] and causing delays or er [redacted]
- Arises fr [redacted] hierarchies, not persona [redacted]
- Commo [redacted] g to burnout and missed priorities.

2. Employee assumes technical term differently from boss – Semantic (B)
- Exemplifies semantic barriers from differing word interpretations, like jargon or technical terms having multiple meanings between sender and receiver.
- Causes misunderstandings due to varied connotations, faulty translations, or unclear symbols, not emotional states.
- Key issue: Words like "bandwidth" mean data rate to experts but speed to others, distorting intent.

3. Team member afraid of criticism to share idea – Psychological (A)
- Falls under psychological barriers from fear, anxiety, or defensiveness blocking open expression.

- Fear of judgment or challenge creates emotional distance, leading to withheld ideas despite their value.
- Stems from mental states like stress or low self-esteem, affecting encoding/decoding.

4. Listener focused on rebuttal instead of understanding – Personal (D)

- A personal barrier involving poor listening habits, like defensive/aggressive listening where one plans counterarguments over active comprehension.
- Includes selective attention or prejudice, prioritizing rebuttal due to individual biases or frustration.
- Differs from psychological as it's habitual, not deeply emotional

Additional Knowledge: Other psychological barriers include selective perception (hearing what we want to hear) and cognitive dissonance. A key organizational barrier is filtering, where information is deliberately altered as it moves through the hierarchy.

Q11. Which [redacted]
A. A firewall [redacted]
B. A botnet [redacted]
C. Phishing [redacted]
D. Encrypti[redacted]uces online privacy by e[redacted]
Choose the [redacted]
(a) A, B and [redacted]
(b) A, B and [redacted]
(c) A and C [redacted]
(d) C and D [redacted]
Answer:
B
Sol:
Correct Opti[redacted])
Introductio[redacted]
In cybersec[redacted]VPNs play a major role i[redacted]al questions to check wh[redacted]his question evaluates the understanding of correct and incorrect cybersecurity statements.
Information Booster
Statement A: A firewall helps in monitoring and controlling incoming and outgoing network traffic.
A firewall works as a security barrier between internal and external networks. It filters traffic based on predefined rules and prevents unauthorised access.
Statement B: A botnet is a group of infected computers controlled by a hacker.
Cybercriminals use malware to infect multiple devices and control them remotely. These infected systems collectively form a botnet used for large-scale attacks.
Statement C: Phishing is a method used to enhance password strength.

Phishing is a *social engineering cyberattack* where attackers impersonate legitimate sources to steal passwords, bank details, or personal information. It has no role in improving password security.
Statement D: Encryption converts readable data into an unreadable format for security.
Encryption transforms plain text into ciphertext using an algorithm and a key. Only authorised users with the decryption key can access the original information.
Statement E: VPN reduces online privacy by exposing user data.
A VPN actually enhances privacy, encrypts internet traffic, and hides the user's IP address. It does *not* expose user data.
Therefore, the correct statements are:
A (Firewall) B (Botnet) D (Encryption)
Additional Information
A firewall is [redacted]
Botnets are [redacted]
Phishing te[redacted]
Encryption [redacted]

Q12. Which [redacted] m?
A. Chart roo[redacted]
B. Cookies
C. Pharming[redacted]
D. Virus
E. VoIP
Choose the [redacted]
(a) A and D [redacted]
(b) C and D [redacted]
(c) B and D [redacted]
(d) A, D and[redacted]
Answer:
B
Sol:
The followi[redacted]
C. Pharming - Pharming is a fraudulent practice that can lead to unauthorized access to websites or services.
D. Virus - Viruses are a well-known security risk that can harm a computer system.
So, the correct answer is (b) C and D only

Q13. Match the following research types with the level of control a researcher has over the variables:

List-I (Research Type)	**List-II (Level of Variable Control)**
A. Descriptive Research	1. High level of control, primarily in a lab setting.
B. Exploratory Research	2. No control, only passive observation and description.
C. Explanatory (Experimental) Research	3. Minimal control, flexible to allow for new discoveries.

Choose the correct option:
(a) A-2, B-3, C-1
(b) A-1, B-2, C-3
(c) A-2, B-1, C-3
(d) A-3, B-2, C-1
Answer:
A
Sol:
Correct Option – (a)
Introduction
This question requires you to connect the research type to the degree of researcher intervention and control, a cr[redacted]
Information[redacted]
A. Descripti[redacted]The goal of descriptive [redacted]terfere with or manipula[redacted]onducting a descriptive [redacted]tempting to influence th[redacted]
B. Explorato[redacted]archer in an exploratory[redacted]questions to ask in a foc[redacted]deliberately flexible to al[redacted]rol required in an experi[redacted]
C. Explanato[redacted]The defining feature of ar[redacted] and control all other var[redacted]iable caused a change in [redacted]y controlled environmen[redacted]
Additional K[redacted]
The level of [redacted] of causality but can som[redacted]rol makes it difficult to e[redacted]

Q14. What is the sum of the binary (base 2) number $(1100)_2$, and the hexadecimal (base 16) number $(3)_{16}$?6p1. $(F)_{16}$

(b) $(15)_{16}$

(c) $(1003)_{10}$

(d) $(1103)_8$

Answer:

A

Sol:

Convert

$$(1100)_2$$

(binary) to decimal:

$(1100)_2 = 1 \times 2^3 + 1 \times 2^2 + 0 \times 2^1 + 0 \times 2^0 = 8 + 4 = 12_{10}$6pConvert

$$(3)_{16}$$

(hexadecimal) to decimal:

$(3)_{16}$ [redacted]

$12_{10} +$ [redacted]

15_{10}

back to hexa [redacted]

$15_{10} =$ [redacted]

$(F)_{16}$6 [redacted]

1. Binary Sy [redacted]
2. Hexadeci [redacted] represents 11, and so o [redacted]

Q15. Arran [redacted] the correct sequence:

A. Formulat [redacted]

B. State the [redacted]

C. Collect an [redacted]

D. Set the si [redacted]

E. Make a de [redacted]

Choose the [redacted]

(a) . A, B, C, D, E

(b) . B, A, C, D, E

(c) . B, A, D, C, E

(d) . A, B, D, C, E

Answer:

C

Sol:

Correct Option - (c)

Introduction

Hypothesis testing is a systematic and logical process. This question requires you to understand the correct order of these steps, from the initial conceptualization of the research question to the final conclusion drawn from the data. The sequence ensures a rigorous and unbiased approach to statistical inference.

Information Booster

The correct logical flow of the hypothesis testing process is as follows:

1. B. State the null hypothesis (H0) as a statement of "no effect.": The first step is to establish the baseline or "status quo" assumption that there is no effect or no difference. This is the hypothesis that will be challenged by the data.

2. A. Formulate the alternative hypothesis (H1): This hypothesis is the logical opposite of the null hypothesis and represents the researcher's claim or expectation. It's what the researcher hopes to prove.

3. D. Set [redacted] the researcher [redacted] error. The significance [redacted] to the area [redacted]

4. C. Collect [redacted] performs the [redacted] is then used to [redacted] were true.

5. E. Make a [redacted] This is the final step. If [redacted] researcher concludes [redacted] fail to reject it.

Additional [redacted]

The [redacted] prevents the [redacted] objectivity in the [redacted]

The phrase [redacted] absence of evidence [redacted] enough evidence to [redacted]

Q16. Given below are two statements:

Statement I: A cookie is a packet of information sent by a web browser to a web server.

Statement II: Spam can ‘clog up’ a ‘user’ inbox with unwanted emails: it can also lead to phishing attacks.

In the light of the above statements, choose the most appropriate 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

Answer:

D

Sol:
Statement I is false because a cookie is a packet of information sent by a web server to a web browser. A web browser stores cookies on a user's computer to remember information about the user's browsing history, such as login credentials, website preferences, and shopping cart items.
Statement II is true. Spam is unsolicited or unwanted electronic mail. It can be a nuisance, as it can clog up a user's inbox with unwanted emails. Spam can also be dangerous, as it can lead to phishing attacks. Phishing attacks are attempts to trick users into revealing personal information, such as passwords or credit card numbers.

Q17. Match the following email-related terms with their correct functions:

	List – I[redacted]	
A.	CC	[redacted]
B.	BCC	[redacted]
C.	Attach[redacted]	
D.	Spam	[redacted]

1. A - I, B - [redacted]
(b) A - II, B [redacted]
(c) A - I, B - [redacted]
(d) A - III, B [redacted]
Answer:
A
Sol:6pA. CC [redacted]
Function I: [redacted] received the email.
B. BCC (Blin[redacted]
Function II: [redacted] ients.
C. Attachme[redacted]
Function III[redacted]
D. Spam:
Function IV[redacted] oses.

Q18. Match the following Mass Media concepts with their primary definition:

List I (Concept)	**List II (Definition)**
1. Gatekeeping	a. The process through which news and information are filtered and selected for public consumption
2. Media Convergence	b.The process by which different media forms and technologies merge into a single platform
3. Cultivation Theory	c.A set of attitudes and beliefs developed in heavy media consumers that align with media portrayals
4. Digital Divide	d. The socioeconomic and geographical gap in access to and use of information and communication technologies

Options:
(a) 1-a, 2-b, 3-c, 4-d
(b) 1-a, 2-c, 3-d, 4-b
(c) 1-d, 2-b, 3-a, 4-c
(d) 1-b, 2-a, 3-c, 4-d
Answer:
A
Sol:
Correct Matching:
(a) Gatekeeping – a. The process through which news and information are filtered and selected for public consumption
(b) Media C[redacted]merge into a single platfo[redacted]
(c) Cultivati[redacted]rs that align with media [redacted]
(d) Digital D[redacted]rmation and communicat[redacted]

Introduction:

Gatekeeping [redacted] and Digital Divide with[redacted]edia studies, where gate[redacted]tion shapes perceptions[redacted]

Information Booster:

Gatekeeping[redacted]
● Gatekee[redacted] like editors and reporte[redacted]
● It acts as[redacted]haping, and disseminati[redacted]
● Originat[redacted]underscores media's role[redacted]

Media Conv[redacted]
● Media co[redacted] into unified digital systems, like smartphones delivering TV, print, and internet content.
● Driven by digitization, it enables cross-platform content flow, transforming production, distribution, and consumption across computing, communication, and content.
● Examples include Netflix evolving from DVDs to streaming, blending industries and audiences seamlessly.

Cultivation Theory (c):
● Developed by George Gerbner, it posits that heavy media consumers, especially TV viewers, develop attitudes and beliefs mirroring media portrayals, like perceiving higher crime rates.
● Long-term exposure cultivates a "mean world syndrome", where reality aligns with repeated media messages over personal experience.

● It distinguishes first-order effects (general worldviews) and second-order effects (specific attitudes), strongest in light-of-experience viewers.

Digital Divide (d):

● The digital divide is the socioeconomic and geographical gap separating those with access to ICTs (internet, devices) from those without, affecting education and opportunities.

● It spans first-level (access) and second-level (usage) divides, influenced by urban-rural splits, income, and global development disparities.

● Factors include affordability, infrastructure, and literacy, exacerbating inequalities in information access.

Additional Knowledge:

No incorrect options exist here, as all matches are precise; however, common misconceptions include confusing g[redacted]wing media convergence[redacted]ry for direct effects (it's [redacted]ncompasses socioeconon[redacted]

Q19. Which [redacted]

(a) . It is bas[redacted]

(b) . It is the[redacted]

(c) . It is the[redacted]

(d) . It motiv[redacted]

Answer:

A

Sol:

Correct Opti[redacted]

Introductio[redacted]

Information[redacted] rewards or punishment[redacted]nctions. The person is m[redacted]njoy the task itself.

Additional I[redacted]

Intrinsic motivation is the opposite of extrinsic motivation. It is driven by internal factors like enjoyment, curiosity, and personal satisfaction (b, c, and d).

An individual with high intrinsic motivation enjoys the process of learning and seeks out challenges for the sake of mastery, which is described in options (b), (c), and (d).

Q20. Which of the following is NOT a trait of a good teacher?6p1. Full command over the subject

(b) Treating the intellectual ability of all students identically

(c) A lot of preparation and thinking in the subject before taking class

(d) Effective communication and presentation skills

Answer:
B
Sol:6pThe correct answer is; Treating the intellectual ability of all students identically. A good teacher recognizes that students have diverse intellectual abilities and learning styles. Treating all students identically without considering their individual needs and abilities is not effective. A good teacher tailors instruction to meet the varying needs of students, using differentiated teaching strategies to ensure all students have the opportunity to succeed.

Q21. What is the primary purpose of using a portfolio in educational assessment?
(a) To conduct standardized testing
(b) To evalu [redacted]
(c) To assig [redacted]
(d) To repla [redacted]
Answer:
B
Sol:
Correct Opti [redacted]
Introductio [redacted] ent into the
educational [redacted]
Information [redacted]
(a) To cond [redacted]
Incorrect. P [redacted] is typically
individualiz [redacted] uniformity
and compar [redacted]
(b) To evalu [redacted]
Correct. Thi [redacted] ortfolio is a
curated coll [redacted] ent types of
assignments [redacted] to observe
growth, tra [redacted] tery across
various cont [redacted]
(c) To assig [redacted]
Incorrect. Assessment, by its very nature, aims to be fair and systematic. Assigning random grades contradicts all principles of valid and reliable evaluation.
(d) To replace final examinations entirely:
Incorrect. While portfolios can be a substantial component of a student's overall assessment and may reduce the reliance on traditional final exams, their primary purpose is not simply to replace existing methods. Their value lies in providing a unique, comprehensive, and process-oriented view of learning that other assessments cannot. They often complement, rather than entirely replace, other forms of assessment.
Conclusion: The primary purpose of using a portfolio in educational assessment is (b) To evaluate a student's learning process and progress over time.

Additional Information: Portfolio assessment encourages student self-reflection, metacognition, and ownership of their learning. It provides a rich source of evidence for both formative and summative evaluation, offering insights into how students learn, not just what they have learned.

Q22. What is the ratio of sold items of type A and C together to unsold items of type B and E together?
Study the given table carefully to answer the questions that follow:
The following table shows the total number of five different items manufactured by BMW Company and percentage distribution of each item sold.

Items	No. of items manufactured	Percentage distribution of items sold
A	2000	35%
B	1500	65%
C	1600	40%
D	600	63%
E	2800	70%

(a) 1341:74[redacted]
(b) 268:273[redacted]
(c) 1340:60[redacted]
(d) 609:134[redacted]
Answer:
B
Sol:6pSoluti[redacted]

$$2000 \times \frac{35}{100} + 1600 \times \frac{40}{100} : 1500 \times \frac{35}{100} + 2800 \times \frac{30}{100}$$
$$= 700 + 640 : 525 + 840$$
$$= 1340 : 1365$$
$$268 : 273$$

Q23. If rati[redacted] 7:8 and 5:1 respectively[redacted] of these two types of iten[redacted]
Study the given table carefully to answer the questions that follow:
The following table shows the total number of five different items manufactured by BMW Company and percentage distribution of each item sold.

Items	No. of items manufactured	Percentage distribution of items sold
A	2000	35%
B	1500	65%
C	1600	40%
D	600	63%
E	2800	70%

(a) 212

(b) 313
(c) 125
(d) 113
Answer:
D
Sol:6pSolution:

Unsold item of B = $1500 \times \frac{35}{100} = 525$

Defective item of type B = $525 \times \frac{7}{15} = 245$

Non-defective item of type B = $525 - 245 = 280$

Unsold item of D = $600 \times \frac{37}{100} = 222$

Defective item of type D = $222 \times \frac{5}{6} = 185$

Non-defective item of type B = $222 - 185 = 37$

Req. difference = $(245 + 185) - (280 + 37)$

$= 430 - 317 = 113$

Q24. If 60% [redacted] proximately
what percen [redacted]
Study the gi [redacted]
The followi [redacted] ompany and
percentage [redacted]

Items	No. of items manufactured	Percentage distribution of items sold
A	2000	35%
B	1500	65%
C	1600	40%
D	600	63%
E	2800	70%

(a) 62%
(b) 84%
(c) 89%
(d) 50%
Answer:
C
Sol:6pSolution:

Non-defective items of type A = $2000 \times \frac{40}{100} = 800$

Average of unsold items of type C and type E = $\frac{1600\times\frac{60}{100}+2800\times\frac{30}{100}}{2}$

$= 900$

Req. Percentage = $\frac{800}{900} \times 100 = 88.88\% \approx 89\%$

Q25. If the cost of each item sold of type B is Rs. 50 and that of type E is Rs. 70 then find the average of total selling cost of items of type B and type E?

Study the given table carefully to answer the questions that follow:

The following table shows the total number of five different items manufactured by BMW Company and percentage distribution of each item sold.

Items	No. of items manufactured	Percentage distribution of items sold
A	2000	35%
B	1500	65%
C	1600	40%
D	600	63%
E	2800	70%

(a) 82850
(b) 92975
(c) 76458
(d) 68250

Answer:

B

Sol:6pSoluti [illegible]

$$\text{Req. average } = \frac{\left(1500\times\frac{65}{100}\right)\times 50+\left(2800\times\frac{70}{100}\right)\times 70}{2}$$

$$\frac{48750 + 137200}{2} = 92975$$

Q26. No. of [illegible] less than no. of items sol[illegible]

Study the gi[illegible]

The followi[illegible] ompany and percentage [illegible]

Items	No. of items manufactured	Percentage distribution of items sold
A	2000	35%
B	1500	65%
C	1600	40%
D	600	63%
E	2800	70%

(a) 33%
(b) 28%
(c) 38%
(d) 45%

Answer:

A

Sol:6pSolution:

No. of items sold of type A and D = $2000\times\frac{35}{100} + 600\times\frac{63}{100}$

= 700+378 = 1078

No. of items sold of type C and B = $1600\times\frac{40}{100} + 1500\times\frac{65}{100}$

= 640+975

= 1615

Req. Percentage = $\frac{1615-1078}{1615}\times 100$

$= \frac{537}{1615}\times 100 = 33.25\% \approx 33\%$

Q27 Find th [redacted] : 5 and B is 120.

(a) 9 : 25

(b) 3 : 5

(c) 5 : 3

(d) 25 : 9

Answer: A

Sol: Given:

Ratio of A : B = 3 : 5

B = 120

Solution:

If A : B = 3 : 5, then

A = $\frac{3}{5}\times 120$ = 72

$A^2 = 72^2$ = 5184

$B^2 = 120^2$= 14400

$A^2 : B^2$ = 5184 : 14400 = 9 : 25

Q28. Rahul goes to a place 70 km away and returns in 10 hours 40 minutes. He can cover 15 km downstream or 7 km upstream in the same time. What is the speed of the current?

(a) 6 km/hr

(b) 3.5 km/hr

(c) 5.5 km/hr

(d) 11 km/hr

Answer: C

Sol: Given:

Total distance (70 km out + 70 km back) = 140 km

Total time = 10 h 40 min = $\frac{32}{3}$ h

In any given time, Rahul can cover 15 km downstream or 7 km upstream.

Find the speed of the current.

Formula Used:

Downstream speed, D = x + y

Upstream speed, U = x - y

where x = speed of boat in still water, y = speed of current

Time = Distance / Speed

Solution:

From first condition;

$$\frac{15}{x+y} = \frac{7}{x-y}$$

15(x-y) = 7(x+y)

15x - 15y = 7x + 7y

8x = 22y

x = $\frac{11}{4}y$

From the second condition;

$$\frac{70}{x+y}+\frac{70}{x-y}=\frac{32}{3}$$

Substituting value of x in the equation :

$$\frac{70}{\frac{15}{4}y}+\frac{70}{\frac{7}{4}y}=\frac{32}{3}$$

$$\frac{280}{15y}+\frac{280}{7y}=\frac{32}{3}$$

$$\frac{56}{3y}+\frac{40}{y}=\frac{32}{3}$$

$$\frac{176}{3y}=\frac{32}{3}$$

$$y=5.5$$

Thus, speed of current is 5.5 km/hr

Q29. In the [illegible] UE, arrange the other pr[illegible] in the sequence of their truth values (E, I, [illegible]

1. O (Some S [illegible]

2. I (Some S [illegible]

3. E (No S is [illegible]

(a) 3 (False) [illegible]

(b) 3 (True), 2 (False), 1 (True)

(c) 1 (False), 2 (False), 3 (True)

(d) 2 (True), 3 (True), 1 (False)

Answer: A

Sol:6pCorrect Option – (a)

Introduction: The Square of Opposition illustrates the logical relationships between the four types of categorical propositions: A, E, I, and O.

Information Booster:

Contradictories (A and O): If A is True, O must be False.

Contraries (A and E): If A is True, E must be False (they cannot both be true).

Subalternation (A to I): If the universal (A) is True, the particular (I) must also be True.
Additional Knowledge: This logic applies to the Aristotelian perspective. In modern logic (Boolean), subalternation is not recognized because universal statements do not imply the existence of individuals.

Q30. Match the type of Inference/Anumana (List I) with its characteristic (List II):

List I (Inference Type)	List II (Characteristic)
A. Purvavat	I. Inference based on common points of similarity.
B. Sheshavat	II. Inference of an unperceived effect from a perceived cause.
C. Samanyatodrishta	III. Inference of an unperceived cause from a perceived effect.

Options:
(a) A-II, B-II [redacted]
(b) A-III, B-I [redacted]
(c) A-I, B-II, [redacted]
(d) A-II, B-I, [redacted]
Answer: A
Sol:6pCorre [redacted]
Introductio [redacted]
The Nyaya s [redacted] hip between
the perceive [redacted]
Information [redacted]
Purvavat (A [redacted] clouds and
inferring tha [redacted]
Sheshavat ([redacted] ooded river
and inferrin [redacted]
Samanyatod [redacted]: Observing
the sun in t [redacted] moves (even
though we c [redacted]
Additional K [redacted]
Another cla [redacted] alavyatireki
(Negative o [redacted]

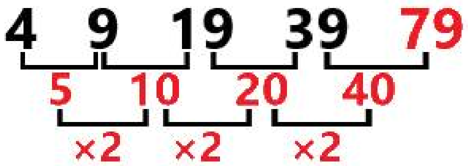
Q31. Match the informal fallacy (List I) with its specific characteristic of emotional appeal (List II):

List I (Fallacy)	List II (Characteristic)
A. Argumentum ad Baculum	I. Appealing to the pity or sympathy of the listener.
B. Argumentum ad Misericordiam	II. Appealing to the threat of force or negative consequences.
C. Argumentum ad Populum	III. Appealing to the desire to be part of a popular group.
D. Argumentum ad Verecundiam	IV. Appealing to the authority of an unqualified source.

Options:
(a) A-II, B-I, C-III, D-IV
(b) A-I, B-II, C-III, D-IV

(c) A-II, B-IV, C-I, D-III
(d) A-III, B-I, C-IV, D-II
Answer: A
Sol:6pCorrect Option – (a)
Introduction
Informal fallacies often rely on emotional manipulation rather than logical evidence. These are categorized under "Fallacies of Relevance," where the premises are logically irrelevant to the conclusion but psychologically persuasive.
Information Booster
Ad Baculum (Appeal to Force): "Accept this policy or you will be fired." The "reason" is a threat, not logic.
Ad [redacted] Health
status [redacted]
Ad [redacted]
Ad [redacted] about
molecular [redacted]
Additional [redacted]
These [redacted] "emotion"
(fear, pity, [redacted]

Q32. Find [redacted]
4, 9, 19, 39, [redacted]
(a) 59
(b) 69
(c) 49
(d) 79
Answer:
D
Sol:
Given: 4, 9, [redacted]
Logic: Each [redacted]
Differences:
9−4 = 5
19−9 = 10
39−19 = 20
Next difference: 40
39 + 40 = 79
Alternate



So, the missing term is 79.
Thus, correct option is (d).

Q33. Match the following concepts from Nyaya philosophy with their correct definitions:

List I (Concept)	List II (Definition)
1. Hetu	[redacted]
2. Sadhya	[redacted]
3. Paksha	[redacted]
4. Vyapti	[redacted]jor terms

1. 1-b, 2-a, [redacted]
(b) 1-a, 2-c, [redacted]
(c) 1-c, 2-d, [redacted]
(d) 1-d, 2-a, [redacted]
Answer:
A
Sol:
Introductio[redacted]
The Nyaya [redacted] logic and epistemolog[redacted] constitute a logical infer[redacted]
Information[redacted]
1. Hetu (b): [redacted]gument and is used to es[redacted]he inference "The hill has[redacted]
2. Sadhya (a[redacted] conclusion. In the same[redacted]re trying to prove.
3. Paksha (c): The Paksha is the minor term or the subject of the conclusion. It is the locus or place where the Sadhya is being inferred to exist. In the example, the hill is the Paksha, as we are trying to prove that the hill possesses fire.
4. Vyapti (d): Vyapti is the most crucial concept in Nyaya logic. It is the invariable and universal relationship between the Hetu (middle term) and the Sadhya (major term). It is the logical ground of inference, ensuring that whenever there is smoke, there is fire.
Additional Knowledge
Anumana (inference) is one of the four valid means of knowledge (Pramanas) accepted by the Nyaya school. The structure of a valid inference is often presented in a five-part syllogism called Pancavayava.

Q34 Assertion (A): Rubrics provide a clear set of criteria for grading student work, which enhances consistency in assessment.

Reason (R): The formation of rubrics requires input from students to ensure that assessment criteria are relevant and understandable.

Read the assertion (A) and reason (R) below and choose the correct option:

(a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

Answer:

B

Sol:6pAsser [redacted] ding student work, which [redacted] xpectations and perform [redacted] eason (R) is also true be [redacted] assessment criteria are [redacted] y. However, Reason (R) [redacted] ics enhance consistency [redacted] e of student input.

Information [redacted]

Rubrics and [redacted] idelines that can be appli [redacted] y in grading. Student Inv [redacted] opment can enhance the [redacted] ad to better performanc [redacted]

Q35 Read th [redacted] given in the statements [redacted] which of the given conclu [redacted]

Statements:

All crows are sparrows.

No crow is a peacock.

Conclusions:

(i) No sparrow is a peacock.

(ii) Some peacocks are crows.

(a) Neither conclusion (i) nor (ii) follows.

(b) Only conclusion (ii) follows.

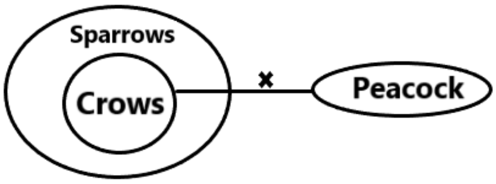
(c) Only conclusion (i) follows.

(d) Both conclusions

Answer:

A

Sol:
Statements:
All crows are sparrows.
No crow is a peacock.
According to the given statement, Venn diagram will be:



Analyze the conclusions:
Conclusions[redacted]
(i) No sparr[redacted]
Since sparr[redacted] may not be
peacocks. S[redacted]
(ii) Some pe[redacted]
“Some peac[redacted]
Thus, the co[redacted]

Q36 Arrang[redacted]
A. National [redacted]
B. Kothari C[redacted]
C. Universit[redacted]
D. NEP 202[redacted]
Options:
(a) C, A, B, D[redacted]
(b) B, C, A, D[redacted]
(c) C, B, A, D[redacted]
(d) B, A, C, D[redacted]
Answer:
C
Sol:
Correct Opti[redacted]
Introduction: The history of education policy in India is marked by important reports and policies that shaped the system over decades.
Information Booster:
University Education Commission (1948–49) under Dr. S. Radhakrishnan focused on university reforms.
Kothari Commission Report (1964–66) laid the foundation for modern educational planning.
NEP 1986 introduced structural changes and emphasized equality.
NEP 2020 is the latest comprehensive education policy.
Additional Information:
NEP 2020 replaced the 1986 policy after 34 years.

Kothari Commission is often called the "Bible of Indian Education."

Q37 Identify the correct chronological sequence of the following:
(A) Codex
(B) Television
(C) Radio
(D) Newspaper
(E) Technicolour Cinema
Choose the correct answer from the options given below:
(a) C, D, E, A, B
(b) A, D, C, E , B
(c) B, E, A, D[redacted]
(d) D, C, B, E[redacted]
Answer:
B
Sol:
Introduction:
Communica[redacted]anding their timeline is i[redacted]like ICT and communicat[redacted]
Information Booster (Chronology Explained):
(a) Codex (1[redacted]
○ The earl[redacted]
○ Replaced[redacted]
(b) Newspa[redacted]
○ The first[redacted]
○ *Relation*[redacted]cited as the earliest.
(c) Radio (L[redacted]
○ Experim[redacted]
○ Public b[redacted]
(d) Technic[redacted]
○ Two-color system began in 1916.
○ Famous three-strip Technicolor introduced in 1932.
5. Television (1927–1936)
○ First electronic TV demonstrated in 1927 (Philo Farnsworth).
○ Public broadcasting began from 1936 (BBC).
Additional Knowledge:
- Technicolor cinema was widely used *before* television became a global household medium.
- Radio became the dominant mass medium before both color cinema and television.
- Codex remains the foundation of print culture.

Q38 Choose the correct statements about Post-Vedic Education.

A. Post-Vedic education was not meant only for the sake of education. It was for the sake of life.
B. Self study was emphasized
C. Upanishads are known as ‘Para-Vidya’
D. The Student who studied three vedas was called ‘Vaidya’
E. Upanishads are considered to be above all kinds of material knowledge
Choose the correct answer from the options given below:
(a) A, B,C, D only
(b) A, C, D, E only
(c) B, C, D, E only
(d) A, B, C, E only
Answer:
D
Sol:
Introductio[redacted]
Post-Vedic e[redacted]rning but at preparing i[redacted]vledge, self-developmen[redacted]
Information[redacted]
- A. Post-V[redacted]s to develop a complete [redacted]
- B. Self-st[redacted]al reflection, meditation, [redacted]
- C. Upani[redacted]nowledge of ultimate rea[redacted]
- D. The st[redacted]d the Vedas was called a[redacted]medicine.
- E. Upani[redacted]ishads deal with suprem[redacted]

Additional I[redacted]
- Para-Vid[redacted]ematics, and material sci[redacted]shads.
- Post-Ved[redacted]g.

Q39 Consider the following statements about rubrics:
A. An analytic rubric provides a single, overall score for a performance, without breaking it down into specific criteria.
B. A holistic rubric offers detailed feedback on multiple dimensions of a task, allowing for targeted improvement.
C. Analytic rubrics are generally more suitable for providing formative feedback than holistic rubrics.
D. Holistic rubrics are typically faster to score for complex performances.
Which of the above statements are TRUE?
Choose the correct answer from the options given below:

(a) A and B Only
(b) B and D Only
(c) C and D Only
(d) A and C Only
Answer:
C
Sol:
Correct Option - (c)
Introduction: This question challenges your understanding of the distinctions between analytic and holistic rubrics and their implications for feedback and scoring.
Information Booster: Let's analyze each statement:
A. An analyt[redacted]t down into
specific crite[redacted]
FALSE. This[redacted]aks down a
performanc[redacted]des separate
scores or ra[redacted]
B. A holistic[redacted]for targeted
improveme[redacted]
FALSE. This[redacted]all judgment
or score bas[redacted]sion, it does
not offer the[redacted]
C. Analytic r[redacted]tic rubrics.
TRUE. Beca[redacted]h individual
criterion, th[redacted]his detailed
information[redacted]djustments,
which are th[redacted]
D. Holistic r[redacted]
TRUE. Since[redacted]rally quicker
to apply, es[redacted]l a separate
evaluation f[redacted]ent of large
batches of w[redacted]
Conclusion:[redacted]
Additional Information: Understanding the strengths and weaknesses of different rubric types helps educators choose the most appropriate tool for their assessment goals. Analytic rubrics are powerful for diagnosing learning needs and providing actionable feedback, while holistic rubrics are efficient for making quick overall judgments about performance quality.

Q40 Arrange the following universities in the order they were established (from oldest to newest):
A. Aligarh Muslim University
B. Banaras Hindu University
C. Osmania University
D. Patna University
Choose the correct answer:

(a) B, C, D, A
(b) B, D, C, A
(c) C, B, A, D
(d) A, B, C, D
Answer:
B
Sol:
Chronological Sequence (Oldest to Newest):
1. B. Banaras Hindu University (1916)
2. D. Patna University (1917)
3. C. Osmania University (1918)
4. A. Aligarh [redacted]
The correct [redacted]
Information [redacted]
B. Banaras H [redacted] first Central
Universities [redacted]
D. Patna Un [redacted] ersity of the
Indian subc [redacted]
C. Osmania [redacted] ve language
(Urdu) as t [redacted] e Nizam of
Hyderabad. [redacted]
A. Aligarh M [redacted] ns lie in the
Muhammad [redacted] 1875. The
university s [redacted]
These unive [redacted] indigenous
efforts to es [redacted]

Q41 The cos [redacted] and Item B
is sold at a [redacted] s the selling
price of item [redacted]
(a) Rs. 1360
(b) Rs. 1500
(c) Rs. 1440
(d) Rs. 1600
Answer: C

Sol: Given :

Loss on A = 10%

Profit on B = 60%

Overall profit = 20%

Formula Used :

Selling Price (SP) = Cost Price (CP) × (1 ± Profit/Loss %)

Overall Profit % = $\dfrac{\text{Total SP} - \text{Total CP}}{\text{Total CP}} \times 100$

Solution :

Let the cost price of item B = ₹x

Then, cost price of item A = ₹(x + 400)

SP of A = (x + 400) $\times$ 90% = 0.9(x + 400)

SP of B = x $\times$ 160% = 1.6x

Total CP = x + (x + 400) = 2x + 400

Total SP = 0.9(x + 400) + 1.6x

Given overall profit = 20%

Total SP = 1.2 $\times$ Total CP

0.9(x + 400) + 1.6x = 1.2(2x + 400)

0.9x + 360 + 1.6x = 2.4x + 480

2.5x + 360 = 2.4x + 480

0.1x = 120

x = 1200
Cost price of A = 1200 + 400 = 1600

SP of A = 90% of 1600 = ₹1440

Selling price of item A = ₹1440