



UGC Net Memory Based Question Paper 26 June 2025 Shift 2

Q1. Which among the following is a MOOC platform?

- (a) Diksha
- (b) NROER
- (c) EdX
- (d) GoogleMeet

Ans.(c)

Sol. A MOOC (Massive Open Online Course) platform is designed to deliver large-scale, open-access online courses for learners worldwide. Among the options, EdX is a well-known MOOC platform that provides access to a wide range of online courses from reputed institutions globally. Founded by Harvard University and MIT, it offers courses in various disciplines, including engineering, humanities, data science, and more.

Hence, the correct answer is (c) EdX.

Information Booster:

1. MOOCs are characterized by accessibility, affordability, and scalability, often offering free course content.

2. EdX collaborates with top universities worldwide, providing certifications for paid users.

3. Other prominent MOOC platforms include Coursera, Khan Academy, and Udemy.

4. Diksha and NROER are more focused on national education needs rather than global online courses.

5. Google Meet is a video conferencing tool, not designed for course delivery or certification.

6. MOOCs promote lifelong learning and skill development, aligning with the needs of modern education systems.

Additional Knowledge:

Diksha (option a):An Indian government platform for school education, offering e-content for teachers and students.

NROER (option b): The National Repository of Open Educational Resources, a digital library for teachers and students, not specifically a MOOC platform.

Google Meet (option d):A video conferencing platform, primarily used for virtual meetings and collaboration, not for offering structured courses like MOOCs.

Q2. According to UGC regulations 2018 on plagiarism, level 3 plagiarism refers to similarities

- (a) above 60%
- (b) below 10%

(c) above 10% to 30%

(d) above 40% to 60%

Ans.(a)

Sol. The correct answer is (a); above 60%

The UGC (University Grants Commission) regulations 2018 on plagiarism categorize plagiarism into levels based on the percentage of similarity between the submitted work and existing sources. Here's what each option represents in the context of these regulations:





(a) above 60%: This represents Level 3 plagiarism, which is the most severe category under the UGC regulations. It indicates a very high degree of similarity to existing sources, suggesting that a significant portion of the work may have been copied without appropriate citation or acknowledgement. The penalties for Level 3 plagiarism are the most severe and may include dismissal of students from the program, termination of faculty, and other disciplinary actions.

(b) below 10%: Similarities below 10% are often considered acceptable or minor in many academic contexts, including under the UGC regulations. Such a low percentage of similarity typically does not constitute plagiarism and may be attributed to the use of common phrases or technical terms that are not unique to a single source. However, academic integrity still requires proper citation and acknowledgement of direct quotes or specific ideas even within this range.

(c) above 10% to 30%: This range may be considered for Level 1 plagiarism under the UGC regulations, depending on the specific context and the nature of the similarities. Level 1 plagiarism is less severe than Level 3 but still requires corrective actions. The penalties might include mandatory revision of the work, a warning, or other educational interventions designed to address and correct the issue.

(d) above 40% to 60%: This range likely corresponds to Level 2 plagiarism under the UGC regulations, indicating a substantial amount of similarity to existing sources that raises significant concerns about the originality of the work. Penalties for Level 2 plagiarism are more severe than for Level 1 but less severe than for Level 3. They may include more stringent corrective actions, such as the requirement to withdraw the manuscript or a bar on publishing work for a certain period.

Q3. If 'TABLE' is coded as '45' in certain coding scheme how the word 'CHAIR' will be coded?

- (a) 44
- (b) 43
- (c) 42
- (d) 40

Ans.(a)

Sol. To determine the code for 'CHAIR' based on how 'TABLE' is coded as '45', let's analyze the coding scheme likely used:

1. Alphabet Value Assignment: Assign each letter a numeric value corresponding to its position in the alphabet: A = 1, B = 2, ..., Z = 26.

2. Coding 'TABLE': • T = 20, A = 1, B = 2, L = 12, E = 5

• Sum = 20 + 1 + 2 + 12 + 5 = 40

However, 'TABLE' is coded as '45', which suggests there might be an additional constant added to the sum of these values. The difference here is 5, so the rule could be "Sum of positions + 5".

1. Coding 'CHAIR': • C = 3, H = 8, A = 1, I = 9, R = 18

- Sum = 3 + 8 + 1 + 9 + 18 = 39
- Following the presumed rule (Sum of positions + 5):
- 39 + 5 = 44

Therefore, 'CHAIR' would be coded as '44'.







Q4. Find the wrong term in the series given below: 5, 10, 17, 24, 37, 50, 65 (a) 37 (b) 17 (c) 24 (d) 50 **Ans.(c) Sol.** Consecutive odd numbers are added in previous term to get the next term, starting from 5. 5 + 5 = 10 10 + 7 = 17 17 + 9 = 26 26 + 11 = 37 37 + 13 = 50 50 + 15 = 65

Q5. Statement I: Indian Logic makes a distinction between deduction and induction. Statement II: Indian Logic studies thought as such and not the forms of thought alone. In light of the above statements, choose the correct answer from the options given below:

Given below are two statements:

- (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 Indian logic (especially in the Nyaya school) does not make a clear distinction between deduction and induction as understood in Western logic. Nyaya logic focuses more on the methods of reasoning that combine elements of both induction and deduction in the process of inference (Anumana). Statement II is true, as Indian logic studies thought not only through its formal structures but also as a process of cognition and epistemology. Indian logic is concerned with how knowledge is attained, structured, and validated through perception, inference, and testimony.

Information Booster: 1. Nyaya focuses on valid reasoning (Anumana) and does not explicitly distinguish between deduction and induction.

2. Indian logic covers epistemology, including how knowledge is obtained and verified.

3. The study of thought in Indian philosophy goes beyond forms and investigates processes like perception and inference.

4. Nyaya epistemology combines aspects of induction (generalizing from observation) and deduction (applying general rules).

5. Indian logic uses categories like Pramana (means of knowledge) and Hetu (cause or reason) to explore cognition.





Q6. What is the total number of rejected sports shoes from all the companies together in year 2022? Read the given passage and answer the following questions

The following table presents the number of sports shoes produced by seven different companies A–G (in lakh) along with the percentage (%) of sports shoes rejected and percentage (%) of sports shoes sold by these companies during the years 2022 and 2023. Based on the data in the table, answer the questions that follow.

Company-wise details of sports shoes

	Year 2022			Year 2023		
Company	Number (in	Rejected	Sold	Number (in	Rejected	Sold
	lakh)	(%)	(%)	lakh)	(%)	(%)
A	25	3	65	33	4	72
В	26	5	88	30	3	76
С	32	2	72	37	3	82
D	24	9	76	32	5	87
E	35	4	81	41	5	80
F	18	5	90	24	4	81
G	30	4	83	35	4	78

(a) 835000

(b) 835020

(c) 835040

(d) 835080

Ans.(a)

Sol. Solution:

Company A = 25 ×31001003 = 0.75 Company B = 26 ×51001005 = 1.30 Company C = 32 ×21001002 = 0.64 Company D = 24 ×91001009= 2.16 Company E = 35 ×41001004= 1.40 Company F = 18 ×51001005 = 0.90

Company G = 30 ×41001004 = 1.20

Total Rejected Shoes in 2022 = 0.75 + 1.30 + 0.64 + 2.16 + 1.40 + 0.90 + 1.20 = 8.35 lakh = 835000

Q7. Percentage rise in the production of sports shoes from the year 2022 to 2023 is more than 25% for exactly _____ companies. Read the given passage and answer the following questions

The following table presents the number of sports shoes produced by seven different companies A–G (in lakh) along with the percentage (%) of sports shoes rejected and percentage (%) of sports shoes sold by these companies during the years 2022 and 2023. Based on the data in the table, answer the questions that follow.

Company-wise details of sports shoes





	Year 2022			Year 2023		
Company	Number (in	Rejected	Sold	Number (in	Rejected	Sold
	lakh)	(%)	(%)	lakh)	(%)	(%)
A	25	3	65	33	4	72
В	26	5	88	30	3	76
С	32	2	72	37	3	82
D	24	9	76	32	5	87
E	35	4	81	41	5	80
F	18	5	90	24	4	81
G	30	4	83	35	4	78

(a) 2

(b) 3

(c) 4

(d) 5

Ans.(b)

5

Sol. Formula Used:

Percentage Increase=(New-OldOld)×100Percentage Increase=(OldNew-Old)×100 Solution:

Company A = $(33-2525)\times100=(825)\times100=32\%(2533-25)\times100=(258)\times100=32\%$ Company B = $(30-2626)\times100=(426)\times100\approx16\%(2630-26)\times100=(264)\times100\approx16\%$ Company C = $(37-3232)\times100=(532)\times100\approx15.63\%=(3237-32)\times100=(325)\times100\approx15.63\%$ Company D= $(32-2424)\times100=(824)\times100=33.33\%=(2432-24)\times100=(248)\times100=33.33\%$ Company E = $(41-3535)\times100=(635)\times100\approx17.14\%(3541-35)\times100=(356)\times100\approx17.14\%$ Company F= $(24-1818)\times100=(618)\times100\approx33.33\%=(1824-18)\times100=(186)\times100\approx33.33\%$ Company G == $(35-3030)\times100=(530)\times100\approx16.67\%=(3035-30)\times100=(305)\times100\approx16.67\%$ Only 3 companies (A, D and F) have a production rise of more than 25\%.

Q8. What is the percentage rise in the production of sports shoes by company C from the year 2022 to 2023? Read the given passage and answer the following questions

The following table presents the number of sports shoes produced by seven different companies A–G (in lakh) along with the percentage (%) of sports shoes rejected and percentage (%) of sports shoes sold by these companies during the years 2022 and 2023. Based on the data in the table, answer the questions that follow.

Company-wise details of sports shoes

	Year 2022			Year 2023		
Company	Number (in	Rejected	Sold	Number (in	Rejected	Sold
	lakh)	(%)	(%)	lakh)	(%)	(%)
A	25	3	65	33	4	72
В	26	5	88	30	3	76
С	32	2	72	37	3	82
D	24	9	76	32	5	87
E	35	4	81	41	5	80
F	18	5	90	24	4	81
G	30	4	83	35	4	78





(a) 15.375%
(b) 20.625%
(c) 15.625%
(d) 10.625%
Ans.(c)
Sol. Solution:
Percentage rise in the production by C from the year 2022 to 2023
=(37-3232)×100=(532)×100≈15.625%(3237-32)×100=(325)×100≈15.625%

Q9. Total number of sports shoes sold by all companies in year 2023 is approximately _____% of the total number of sports shoes produced by all the companies in that year. Read the given passage and answer the following questions

The following table presents the number of sports shoes produced by seven different companies A–G (in lakh) along with the percentage (%) of sports shoes rejected and percentage (%) of sports shoes sold by these companies during the years 2022 and 2023. Based on the data in the table, answer the questions that follow.

	Year 2022			Year 2023		
Company	Number (in	Rejected	Sold	Number (in	Rejected	Sold
	lakh)	(%)	(%)	lakh)	(%)	(%)
A	25	3	65	33	4	72
В	26	5	88	30	3	76
С	32	2	72	37	3	82
D	24	9	76	32	5	87
E	35	4	81	41	5	80
F	18	5	90	24	4	81
G	30	4	83	35	4	78

Company-wise details of sports shoes

(a) 84

(b) 79

(c) 72

(d) 75

Ans.(b)

Sol. Formula Used:

Percentage Sold=(Total Shoes SoldTotal Shoes Produced)×100Percentage Sold=(Total Shoes ProducedTotal Shoes Sold)×100

Solution:

Company	Production (2023)	Sold (%)	Sold (in lakh)
А	33	72	33 × 0.72 = 23.76
В	30	76	30 × 0.76 =22.80
С	37	82	37 × 0.82 = 30.34
D	32	87	32 × 0.87 =27.84
Е	41	80	41 × 0.80 =32.80
F	24	81	24 × 0.81 =19.44
G	35	78	35 × 0.78 =27.30

Total Sold = 23.76 + 22.80 + 30.34 + 27.84 + 32.80 + 19.44 + 27.30 = 184.28 lakh

Percentage sold =(184.28232)×100≈79.43%(232184.28)×100≈79.43%





Q10. What is the percentage rise in the sale of sports shoes by company F from the year 2022 to 2023? Read the given passage and answer the following questions

The following table presents the number of sports shoes produced by seven different companies A–G (in lakh) along with the percentage (%) of sports shoes rejected and percentage (%) of sports shoes sold by these companies during the years 2022 and 2023. Based on the data in the table, answer the questions that follow.

Company-wise details of sports shoes

	Year 2022			Year 2023		
Company	Number (in	Rejected	Sold	Number (in	Rejected	Sold
	lakh)	(%)	(%)	lakh)	(%)	(%)
A	25	3	65	33	4	72
В	26	5	88	30	3	76
С	32	2	72	37	3	82
D	24	9	76	32	5	87
E	35	4	81	41	5	80
F	18	5	90	24	4	81
G	30	4	83	35	4	78

⁽a) 12%

- (b) 25%
- (c) 15%
- (d) 20%

Ans.(d)

Sol. Formula Used:

Sales in units=Production×(Sold (%)100)Sales in units=Production×(100Sold (%)) Solution:

2022 Sales by Company F = 18 × (90 / 100) = 16.2 lakh 2023 Sales by Company F = 24 × (81 / 100) = 19.44 lakh Percentage Rise=(19.44–16.216.2)×100=(3.2416.2)×100=20% Percentage Rise=(16.219.44–16.2)×100=(16.23.24)×100=20%

Q11. Statement I: Adolescence period is the transitional period of growth and development between childhood and adulthood.

Statement II: Adolescence is a period of emotional stability and great relief.

In the light of the above statement, choose the correct answer from the options given below: Given below are two statements:

(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 are false.

(d) Statement I is false but Statement II are true.

Ans.(c)

Sol. Statement I is correct because adolescence is widely recognized as a transitional phase between childhood and adulthood, characterized by significant physical, psychological, and social changes. However, Statement II is incorrect because adolescence is typically a period marked by emotional instability and various challenges rather than stability and great relief.





Q12. Quantitative research can be construed as research strategy that usually

(a) Entails a deductive approach to the relationship between theory and research.

(b) Emphasizes an inductive approach to the relationship between theory and research.

(c) Rejects the practices and norms of natural scientific model, and of positivism in particular.

(d) Embodies a view of social reality as a constantly shifting emergent property of individual's creation. **Ans.(a)**

Sol. Quantitative research is a research strategy that focuses on numerical data, structured methodology, and statistical analysis. It is commonly associated with a deductive approach, where research begins with a hypothesis or theory and tests it through systematic data collection and analysis. This approach follows the positivist paradigm, emphasizing objectivity and generalizability.

- Deductive Approach: It starts with a theory, formulates hypotheses, and then tests these hypotheses using empirical data.
- Positivist Model: Quantitative research aligns with the natural scientific model, emphasizing measurement, causality, and general laws.
- Structured Methodology: Uses surveys, experiments, and statistical tools for data collection and analysis.

Information Booster:

- Quantitative research focuses on objectivity, reliability, and replicability.
- It involves large sample sizes to ensure statistical significance.
- The methodology includes structured surveys, experiments, and secondary data analysis.
- Researchers use statistical techniques such as correlation, regression, and hypothesis testing.
- It is widely used in social sciences, business research, healthcare, and economics.

Q13. Which of the following research approaches suggests that theory is an outcome of research?

- (a) Deductive approach
- (b) Inductive approach
- (c) Quantitative approach
- (d) Cross-sectional approach

Ans.(b)

Sol. The inductive approach involves generating theories or generalizations from specific observations or empirical data. This approach starts with data collection and moves towards identifying patterns, which eventually leads to the formulation of a theory.

In the inductive approach, research begins with observations, and theory emerges as an outcome of analyzing the data.

It is commonly used in exploratory research where there is little pre-existing theory.

Information Booster:

Inductive Approach:

Starts with data collection.

Identifies patterns or themes.

Builds a theory as an outcome.

Examples of Inductive Research:

Observing social behaviors in a community to develop a theory of cultural norms.

Studying responses to a new teaching method to build a theory about its effectiveness.





Strengths of Inductive Research:

Generates new theories.

Useful in areas where little research has been conducted.

Additional Knowledge:

Deductive Approach (a):

Example: Testing an existing theory about employee motivation using a survey.

Frequently used in experimental and quantitative research.

Quantitative Approach (c):

Example: Using numerical data to test relationships between variables.

Can align with both inductive and deductive reasoning.

Cross-sectional Approach (d):

Example: Surveying a population at a single point in time to study attitudes toward a policy. Focuses on a snapshot of data, not the development of theory.

Q14. What is the full form of "HTTP" in internet terminology?

- (a) Hypertext Transfer Process
- (b) High Transmission Text Protocol
- (c) Hypertext Transfer Protocol
- (d) Hyperlink and Text Transfer Protocol

Ans.(c)

Sol. Correct Answer: (C) Hypertext Transfer Protocol

- HTTP stands for Hypertext Transfer Protocol.
- It is a protocol used for transferring hypertext requests and information on the World Wide Web.
- HTTP is the foundation of data communication on the internet, enabling browsers to retrieve web pages and resources from web servers.
- The protocol operates on a client-server model, where the client (usually a web browser) requests data from a web server, which then responds with the requested resources.

Information Booster

- HTTP is a stateless protocol, meaning that each request is independent and not connected to previous requests.
- It forms the backbone of the web browsing experience, allowing websites to load and display content.
- HTTPS (Hypertext Transfer Protocol Secure) is the secure version of HTTP, encrypting data to protect against eavesdropping and tampering.
- HTTP operates on port 80 by default, while HTTPS uses port 443.
- The protocol works by establishing a connection between a client (e.g., a web browser) and a server (e.g., a web hosting server) to exchange information.

Q15. Which of the following statements A-D about computer memory size is/are true?

A. 25 KB is larger than 100 MB.

B. 999 MB is larger than 50 GB.

C. 3500 KB is smaller than 2 GB.

D. 2350 bytes is smaller than 2 KB.





Choose the correct answer from the options given below:

(a) A only

(b) C only

(c) B and D only

(d) B and C only

Ans.(b)

Sol. 3500 KB is smaller than 2 GB: This is true. 1 GB = 1024 MB, and 3500 KB = 3.5 MB, which is much smaller than 2 GB (2048 MB).

Information Booster:

1. Memory units: 1 GB = 1024 MB, 1 MB = 1024 KB, and 1 KB

= 1024 bytes.

2. Small vs large units: Bytes are the smallest unit, followed by kilobytes (KB), megabytes (MB), and gigabytes (GB).

3. Conversions: Understanding conversions between these units helps in analyzing memory size.

4. Practical use: In practical computing, memory and storage size comparisons are essential for data handling and application requirements.

Additional information:

A. 25 KB is larger than 100 MB: This is false. 1 MB = 1024 KB, so 100 MB is much larger than 25 KB.

B. 999 MB is larger than 50 GB: This is false. 1 GB = 1024 MB, so 50 GB = 51200 MB, which is much larger than 999 MB.

D. 2350 bytes is smaller than 2 KB: This is false. 1 KB = 1024 bytes, so 2 KB = 2048 bytes. Since 2350 bytes is larger than 2048 bytes, this statement is false.

Q16. With respect to RAM and ROM, which of the following statements are true?

(A) ROM is Real optical memory.

(B) RAM stores the instructions you are currently working on.

(C) ROM stores the BIOS.

(D) RAM allows the user to read and write data.

(E) Both RAM and ROM lose their data when the power is turned off.

Choose the correct answer from the options given below:

(a) (A), (D) and (E) only

(b) (B), (C) and (D) only

(c) (A), (B) and (C) only

(d) (C), (D) and (E) only

Ans.(b)

Sol. The correct answer is (B), (C) and (D) only.

RAM stores data that is actively being worked on, such as currently running programs. RAM is readwrite memory, which means users can read from and write to it during computer operations. ROM is non-volatile and stores critical data, such as the BIOS (Basic Input/Output System) that helps

start the computer. ROM is read-only memory, which retains information even without power.







Information Booster

1. RAM (Random Access Memory): RAM is a volatile memory that loses its contents when the system is powered off. It holds temporary data that is actively being used by the computer's CPU.

2. ROM (Read-Only Memory): ROM is non-volatile and contains essential instructions for booting the computer, such as the BIOS. It retains its content even when the computer is turned off.

3. Difference between RAM and ROM: RAM is designed for fast data access and is writable, whereas ROM is permanent storage designed for critical system instructions.

Q17. Which of the following represent the Quantitative Research methodology?

- (A) One to One Interview
- (B) Survey research
- (C) Focus groups
- (D) Correlation research
- (E) Descriptive research

Choose the correct answer from the options given below:

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

Ans.(b)

Sol. Quantitative research methodology focuses on collecting and analyzing numerical data to identify patterns, relationships, and trends. Methods in quantitative research often involve structured tools and statistical techniques. Among the options provided:

- Survey research (B): Surveys are highly structured and often involve numerical data, making them a popular quantitative method. Surveys allow researchers to gather data from a large population and analyze trends or correlations.
- Correlation research (D): This method explores the relationships between variables quantitatively, using statistical methods to measure the strength and direction of associations between factors.
- Descriptive research (E): Descriptive research aims to quantify characteristics, behaviors, or phenomena within a population, often using structured formats like surveys or observational data analyzed statistically.

One to One Interviews (A) and Focus Groups (C) are typically qualitative methods, as they involve gathering in-depth insights and subjective data through open-ended questions. Information Booster:

1. Quantitative Methods are usually numerical, objective, and structured, providing data that can be statistically analyzed.

2. Common Quantitative Techniques include surveys, experiments, and observational studies.

3. Qualitative vs. Quantitative: Qualitative research is exploratory and subjective, while quantitative research is confirmatory and objective.

4. Descriptive and Correlational Research are foundational quantitative methods, often used to establish baselines and understand variable relationships.

5. Quantitative Data Analysis relies on statistical software like SPSS or R for data analysis.

6. Applicability: Quantitative methods are commonly applied in fields needing objective measurements, such as economics, psychology, and social sciences.





- Q18. Identify the measures of dispersion:
- A. Mean deviation
- B. Median
- C. Standard deviation
- D. Range
- E. Quartile

Choose the correct answer from the options given below:

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

Ans.(c)

Sol. Measures of dispersion describe the spread, variability, or distribution of data around a central value. They quantify how much the values in a dataset deviate from the average.

The measures of dispersion include:

- A. Mean deviation: Indicates the average distance of each data point from the mean.
- C. Standard deviation: Measures the spread of data points around the mean, reflecting data variability.
- D. Range: Represents the difference between the maximum and minimum values in a dataset.

The following are not measures of dispersion:

- B. Median: A measure of central tendency, indicating the middle value of a dataset when sorted.
- E. Quartile: Quartiles split data into four parts but are used in dispersion metrics like the interquartile range (IQR). Quartiles themselves are not dispersion measures.

Thus, the correct answer includes A (Mean deviation), C (Standard deviation), and D (Range). Information Booster:

1. Range: Simplest measure of dispersion, but sensitive to outliers.

2. Mean Deviation (Average Deviation): Uses absolute values to assess variability; less commonly used than standard deviation.

3. Standard Deviation: A robust measure providing insight into the degree of data clustering around the mean.

4. Variance: Square of the standard deviation, useful for understanding variability but harder to interpret directly due to squared units.

5. Interquartile Range (IQR): The spre

Q19. What is the primary focus of an exploratory research design?

- (a) To test a specific hypothesis
- (b) To establish statistical correlations
- (c) To gain insights and formulate hypotheses
- (d) To compare different treatment effects





Ans.(c)

Sol. Exploratory research design is used when the researcher has little or no prior knowledge of the research problem. It aims to explore the issue, gather insights, and develop preliminary hypotheses for further investigation.

Information Booster:

- Focuses on understanding phenomena, problems, or behaviors in depth.
- Often uses qualitative methods like interviews, focus groups, observations.
- Not aimed at producing final answers but at clarifying concepts.
- Results are often used to guide future descriptive or causal research.
- Highly flexible and informal in nature.
- Useful in studying emerging trends, new technologies, or unfamiliar domains.
- Can also employ secondary data analysis or pilot studies.

Additional Knowledge:

- (a) Hypothesis testing occurs in experimental or causal designs.
- (b) Correlational studies are concerned with relationships, not exploration.
- (d) Treatment comparisons are part of experimental/quasi-experimental designs.
- Exploratory design does not require large samples or rigorous protocols.

Q20. A research paper evaluated by other experts either for publication o presentation at a conference is considered to have undergone.

- (a) Peer Review
- (b) Public Review
- (c) Private Review
- (d) Research Review

Ans.(a)

Sol. Peer review is a process where experts in the same field as the author review a research paper to assess its validity, significance, and originality before it is published or presented. This process ensures that the research meets the standards of quality and credibility required for academic work. It involves evaluating the paper's methodology, data analysis, and conclusions, as well as providing feedback for improvement.

Q21. Which of the following hardware components will lose data when the power to a computer is switched off?

A. Processor Registers B. Cache Memory C. SSD

D. RAM

- E. ROM

Choose the correct answer from the options given below:

- (a) B and Donly
- (b) A, C and D only

(c) A, B and C only

(d) A, B and Donly





Ans.(d)

Sol. When the power is turned off, volatile memory components like Processor Registers, Cache Memory, and RAM lose all their stored data because they require power to retain information. Non-volatile memory components like SSD and ROM retain data even when the power is off. Information Booster

1. Processor Registers: These are small, fast storage locations within the processor. They are used to store temporary data and instructions. Since they are volatile, they lose all data when the system is powered off.

2. Cache Memory: Cache memory is used to store frequently accessed data for quick retrieval. It is faster than RAM but is also volatile, meaning it loses its content when the computer is turned off.

3. RAM: RAM (Random Access Memory) is used to store data that the CPU needs to access quickly. Like registers and cache, RAM is volatile and loses its data when power is lost.

Additional Knowledge

• SSD: Solid-state drives are non-volatile storage devices, meaning they retain data even when the power is turned off.

• ROM: Read-Only Memory is a non-volatile type of memory that stores firmware and other critical data, and retains information without power.

Q22. Which informal fallacy is committed in the following statement- "American Indians are disappearing. That man is an American Indian'.

- (a) Red Herring
- (b) Hasty Generalization
- (c) Begging the question
- (d) Fallacy of division

Ans.(d)

Sol. The statement "American Indians are disappearing. That man is an American Indian" commits the fallacy of division. This fallacy occurs when one erroneously attributes something true of a group (in this case, "American Indians are disappearing") to an individual member of that group (the specific man being referred to as an American Indian).

Q23. What is Router?

- (a) An Input device
- (b) A storage device
- (c) An output device
- (d) A networking device

Ans.(d)

Sol. A router is a networking device that connects multiple computer networks together and directs data packets between them. It routes internet traffic from a modem to various devices within a local area network (LAN), ensuring efficient communication between devices and the internet. Important Key Points:

1. Router Definition: A router manages and directs network traffic by forwarding data to its correct destination using IP addresses.

2. Function: It connects local networks to the internet and assigns IP addresses to devices on the network.

3. Common Usage: Widely used in homes and businesses to enable internet access across multiple devices.





Knowledge Booster:

- An Input device: Refers to devices like keyboard or mouse used to send data into a computer.
- A storage device: Devices like hard drives or USBs used to store data.
- An output device: Devices like monitors and printers used to display or present data from the computer.

Q24. "MODEM" is used for:

- (a) A/D conversion only
- (b) D/A conversion only
- (c) Both A/D & D/A conversions
- (d) None of the above

Ans.(c)

Sol. A MODEM (Modulator-Demodulator) is a device that performs both Analog to Digital (A/D) and Digital to Analog (D/A) conversions. It converts digital signals from a computer into analog signals that can be transmitted over telephone lines or other analog communication mediums. The demodulation process converts the incoming analog signals back into digital data that the computer can process. MODEMs are essential for enabling internet connectivity over traditional telephone lines and are still used in many communication systems today, despite the shift to broadband technologies.

Q25. Which type of modem contains clock recovery circuits?

- (a) Synchronous modem
- (b) Asynchronous modem
- (c) Digital modem
- (d) Internal modem

Ans.(a)

Sol. A synchronous modem contains clock recovery circuits to synchronize the transmission of data between sender and receiver. These modems ensure that data is sent and received in a coordinated manner by using timing signals.

Important Key Points:

1. Clock recovery circuits are essential for maintaining synchronization in synchronous data communication.

2. Synchronous modems are widely used for high-speed and real-time communication.

3. These modems transmit data in continuous streams, unlike asynchronous modems, which use start and stop bits. Knowledge Booster:

- Asynchronous modem: Does not require clock recovery circuits, as it sends data in discrete packets with start and stop bits.
- Digital modem: Refers to modems handling digital signals but not necessarily synchronous communication.
- Internal modem: Indicates a modem integrated into a computer but does not specify its mode of operation.







Q26. In square of opposition which one of the following is contradictory of 'All S is P? (a) All S is Q

(b) Some S is not P

(c) No S is P

(d) Some S is P

Ans.(b)

Sol. In the square of opposition, contradictory statements are pairs where one is always true, and the other is always false.

- The universal affirmative 'All S is P' (A-type proposition) states that every member of S belongs to P.
- The contradictory of this is the particular negative 'Some S is not P' (O-type proposition), which states that at least one member of S does not belong to P.

If "All S is P" is true, then "Some S is not P" must be false, and vice versa, making them contradictory. Information Booster 1. Contradictory statements: One is true, and the other is false (e.g., A and O; E and I).

2. Contrary statements: Both cannot be true but can be false (e.g., A and E).

3. Subalternation: Truth flows downward (A \rightarrow I, E \rightarrow O), and falsity flows upward.

4. Sub-contrary statements: Both cannot be false but can be true (e.g., I and O).

5. The square of opposition visually represents these logical relationships among categorical propositions.

Q27. Which wireless technology is based on the IEEE 802.11 standard?

(a) WiMAX

(b) Bluetooth

(c) ZigBee

(d) WiFi

Ans.(d)

Sol. WiFi is based on the IEEE 802.11 standard and is used for wireless local area networking. It allows devices to communicate wirelessly within a local area network (LAN). WiFi is widely used for wireless internet access in homes, offices, and public places.

Knowledge Booster:

A (WiMAX): Based on IEEE 802.16, used for wide-area networking.

B (Bluetooth): Short-range wireless technology, not based on 802.11.

C (ZigBee): Used for low-power, short-range communication in IoT applications.

Q28. In a breeder reactor:

(a) More fissile materials are produced than it is consumed.

(b) Less fissile materials are produced than it is consumed.

(c) Neutrons are slowed down by moderator.

(d) U-238, a fissile material, is produced from Pu-239, a fertile material.

Ans.(a)

Sol. A breeder reactor is a type of nuclear reactor designed to produce more fissile material than it consumes during its operation. This is achieved by converting fertile materials (such as U-238 or Th-232) into fissile isotopes (such as Pu-239 or U-233) through neutron absorption and subsequent nuclear reactions.





In a breeder reactor, the process of "breeding" involves converting non-fissile (fertile) material into fissile material. For instance:

U-238 absorbs a neutron and undergoes beta decay to form Pu-239, a fissile material.

This results in the production of more fissile material than the reactor consumes.

Information Booster:

Breeder Reactor Characteristics:

Uses fast neutrons (fast breeder reactors) without a moderator.

Converts fertile isotopes (e.g., U-238, Th-232) into fissile isotopes (e.g., Pu-239, U-233).

Advantages of Breeder Reactors:

Efficient use of uranium resources.

Produces more fuel than it consumes, extending the supply of fissile materials.

Examples of Breeder Reactors:

BN-600 Reactor (Russia): A commercial fast breeder reactor.

Monju Reactor (Japan): A demonstration fast breeder reactor (now decommissioned).

Q29. Given below are two Statements:

Statement I: Reactor is the heart of any nuclear power plant.

Statement II: In case of nuclear power plants, expect the reactor, the technology is exactly similar to any other fossil fuelled power plant.

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 true but Statement II is false.

(d) Statement I is false but Statement II is true.

Ans.(a)

Sol. Statement I: The reactor is indeed the heart of any nuclear power plant because it is where the nuclear fission reactions occur, generating the heat needed to produce steam and ultimately electricity. Thus, Statement I is true.

Statement II: Apart from the reactor, the technology used in nuclear power plants is quite similar to that used in fossil-fueled power plants. Both types of plants use a heat source (nuclear fission or burning fossil fuels) to produce steam, which then drives turbines connected to electricity generators. Therefore, Statement II is also true.

Q30. Which principle in Intellectual Property Rights (IPR) justifies granting rights to creators based on their effort and labor in producing intellectual works?

(a) Utilitarian Theory

(b) Labor Theory

(c) Personality Theory

(d) Economic Incentive Theory

Ans.(b)

Sol. The *Labor Theory*, primarily attributed to John Locke, justifies intellectual property rights based on the idea that individuals have a natural right to the fruits of their labor. Since creators invest time, effort, and resources in producing intellectual works, they should be granted exclusive rights as a reward for their efforts.





- **Q31.** In the Buddhist system of education, higher education was placed at:
- (a) The first level

(b) The second level

- (c) The third level
- (d) The fourth level

Ans.(b)

Sol. In the Buddhist system of education, higher education was indeed considered at the second level of learning. The structure emphasized a progression from foundational teachings to advanced knowledge and spiritual practices:

- 1. Second Level (Higher Education):
- Introduced intermediate and advanced teachings of Buddhist scriptures (such as Sutras and Vinayas).
- Focused on developing reasoning, philosophical inquiry, and scriptural studies.
- Higher education included learning in renowned Buddhist centers such as Nalanda, Vikramashila, and Takshashila.

Information Booster:

1. Centers of Learning:

- Nalanda, Takshashila, and Vikramashila were global hubs for advanced Buddhist education.
- They attracted scholars from across the world for specialized studies.
- 2. Core Subjects:
- Buddhist scriptures, logic, metaphysics, medicine, and administration were taught.
- 3. Educational Approach:
- Combined theoretical knowledge with ethical practices and debate-based learning.
- Additional Knowledge:

1. First Level:

- Focused on elementary education, covering basic literacy, Buddhist moral principles, and introductory monastic rules.
- 2. Third Level:
- Beyond intellectual education, this stage emphasized practical application, meditative training, and achieving spiritual liberation (nirvana).

Q32. Statement I: National Board of Accreditation (NBA) was established by UGC.

Statement II: National Assessment and Accreditation Council (NAAC) was established by AICTE. Given below two statements:

- (a) Both statement I and Statement II are correct.
- (b) Both statement I and Statement II are incorrect.
- (c) Statement I is correct but Statement II is incorrect.
- (d) Statement I is incorrect but Statement II is correct.

Ans.(b)

Sol. The correct answer is (b) Both statement I and Statement II are incorrect.

The National Board of Accreditation (NBA) was established by AICTE (All India Council for Technical Education), not UGC. The National Assessment and Accreditation Council (NAAC) was established by UGC, not AICTE.

Information Booster:

NBA accredits technical programs at various educational institutions.

NAAC assesses and accredits higher education institutions in India.





Q33. What does the acronym 'Wi-Fi' stand for?

(a) Wireless Fidelity

(b) Wide Fidelity

(c) Wireless Frequency

(d) Wired Fidelity

Ans.(a)

Sol. Wi-Fi stands for Wireless Fidelity. It refers to a technology that allows electronic devices to connect to a wireless local area network (WLAN) and the internet.

Q34. Which scale measures earthquake intensity?

(a) Mercalli

(b) Richter

(c) Beaufort

(d) Saffir-Simpson

Ans.(a)

Sol. The Mercalli scale measures the intensity of an earthquake, assessing its effects and how strongly it is felt by people. Unlike the Richter scale, which measures the earthquake's magnitude, the Mercalli scale focuses on the observed impact, including damage to buildings and human perception.

Hence, the correct answer is (b) Mercalli.

Information Booster:

The Mercalli scale ranges from I (not felt) to XII (total destruction), based on human and structural responses to the shaking.

It does not measure the earthquake's energy but rather its observable effects on people, buildings, and the Earth's surface.

The Mercalli scale is subjective, meaning it can vary depending on location, distance from the epicenter, and local building practices.

Unlike the Richter scale, the Mercalli scale is not logarithmic and does not provide a numerical measure of the energy released by the earthquake.

The scale helps to understand the severity of an earthquake's impact, particularly in terms of damage and human experience.

Additional Knowledge:

Richter scale measures the magnitude of an earthquake, quantifying the energy released at the source. Beaufort scale is used to measure wind speed, not earthquake intensity.

Saffir-Simpson scale is designed for measuring the intensity of hurricanes, not earthquakes.

Q35. The amount of destruction caused by an earthquake is measured by:

(a) Richter Scale

(b) Intensity Scale

(c) Magnitude Scale

(d) Mercalli Scale

Ans.(d)

Sol. The Mercalli Scale measures the intensity of an earthquake based on its observable effects and the amount of destruction it causes. Unlike other scales that measure the energy released by an earthquake (magnitude), the Mercalli Scale provides a qualitative assessment of damage on structures, human perception, and changes in the Earth's surface.





Information Booster:

- Richter Scale: Measures the magnitude or energy released by an earthquake, not the destruction or damage it causes.
- Intensity Scale: This is a general term, and the Mercalli Scale is a specific type of intensity scale.
- Magnitude Scale: Refers to the measurement of the earthquake's size or energy, such as the Richter Scale or Moment Magnitude Scale (Mw).

Q36. Diagnostic evaluation is conducted:

Read the passage and answer question that follow.

Diagnostic evaluation is conducted along with formative evaluation during the instructional process. It is carried out based on the data obtained from formative evaluation. Diagnostic evaluation is specially conducted to identify and remove the learning difficulties of learner if it is observed and found during the formative evaluation. For example, if a learner couldn't understand certain concepts in a particular subject and continuously performs poorly in that subject, we conduct diagnostic test to know the causes of the difficulties and accordingly provide them remedial treatment to overcome the difficulties. The key word in diagnostic evaluation is identifying of 'learning difficulties'. Diagnostic evaluation not only solver learning difficulties of learners but also identifies and provides remedies for personal, physical and psychological problems. This can be exemplified as sometime you may find that few students in your class are very nervous to come forward and say something, showing fear towards the friends and teacher because of contain psycho-social disorder and physical disorders.

- (a) Randomly
- (b) After the instruction process is over
- (c) Along with formative evaluation during the instructional process
- (d) Before the instruction process begins

Ans.(c)

Sol. According to the passage, diagnostic evaluation is conducted alongside formative evaluation during the instructional process. It helps in identifying and addressing any learning difficulties the students might face as they progress through their learning. This allows for timely remedial actions to be taken to assist the learner.

Q37. If a learner repeatedly performs poorly in a subject then:

Read the passage and answer question that follow.

Diagnostic evaluation is conducted along with formative evaluation during the instructional process. It is carried out based on the data obtained from formative evaluation. Diagnostic evaluation is specially conducted to identify and remove the learning difficulties of learner if it is observed and found during the formative evaluation. For example, if a learner couldn't understand certain concepts in a particular subject and continuously performs poorly in that subject, we conduct diagnostic test to know the causes of the difficulties and accordingly provide them remedial treatment to overcome the difficulties. The key word in diagnostic evaluation is identifying of 'learning difficulties'. Diagnostic evaluation not only solver learning difficulties of learners but also identifies and provides remedies for personal, physical and psychological problems. This can be exemplified as sometime you may find that few students in your class are very nervous to come forward and say something, showing fear towards the friends and teacher because of contain psycho-social disorder and physical disorders.





(a) The learner is told to drop the subject.

(b) The learner is told that he/she is suffering from physical disorders.

(c) The learner is told that he/she is suffering from certain psycho-social disorder.

(d) A diagnostic test is conducted to identify the causes of the difficulties and accordingly provide remedial treatment.

Ans.(d)

Sol. According to the passage, if a learner is struggling with a subject repeatedly, diagnostic evaluation is conducted to identify the causes of the learning difficulties. This test helps determine if the issues are due to misunderstandings, psychological factors, or other reasons, and helps in providing the appropriate remedial treatment. This approach ensures that the learner receives targeted support for their specific difficulties rather than just being told to drop the subject or assume physical or psychological disorders.

Q38. Select a suitable title for the given passage.

Read the passage and answer question that follow.

Diagnostic evaluation is conducted along with formative evaluation during the instructional process. It is carried out based on the data obtained from formative evaluation. Diagnostic evaluation is specially conducted to identify and remove the learning difficulties of learner if it is observed and found during the formative evaluation. For example, if a learner couldn't understand certain concepts in a particular subject and continuously performs poorly in that subject, we conduct diagnostic test to know the causes of the difficulties and accordingly provide them remedial treatment to overcome the difficulties. The key word in diagnostic evaluation is identifying of 'learning difficulties'. Diagnostic evaluation not only solver learning difficulties of learners but also identifies and provides remedies for personal, physical and psychological problems. This can be exemplified as sometime you may find that few students in your class are very nervous to come forward and say something, showing fear towards the friends and teacher because of contain psycho-social disorder and physical disorders.

(a) Formative Evaluation

(b) The Instruction Process

(c) Diagnostic Evaluation

(d) Remedial Instruction

Ans.(c)

Sol. The passage primarily discusses diagnostic evaluation, which is carried out to identify learning difficulties during the instructional process. It emphasizes how this evaluation is used to diagnose the causes of a learner's struggles and provide remedial treatment to overcome those difficulties. Hence, the focus is on diagnostic evaluation rather than formative evaluation or remedial instruction.

Q39. If students are nervous to come forward and say something or show a fear towards their friends and teachers, it means that:

Read the passage and answer question that follow.

Diagnostic evaluation is conducted along with formative evaluation during the instructional process. It is carried out based on the data obtained from formative evaluation. Diagnostic evaluation is specially conducted to identify and remove the learning difficulties of learner if it is observed and found during the formative evaluation. For example, if a learner couldn't understand certain concepts in a particular subject and continuously performs poorly in that subject, we conduct diagnostic test to know the causes of the difficulties and accordingly provide them remedial treatment to overcome the difficulties. The key word in diagnostic evaluation is identifying of 'learning difficulties'. Diagnostic evaluation not only solver learning difficulties of learners but also identifies and provides remedies for personal, physical and psychological problems. This can be exemplified as sometime you may find that few students in your class are very nervous to come forward and say something, showing fear towards the friends and teacher because of contain psycho-social disorder and physical disorders.





(a) They are slow learners.

(b) They are suffering from psycho-social disorders and physical disorders.

(c) They are arrogant.

(d) They are stupid

Ans.(b)

Sol. The passage explains that if students show fear or nervousness when asked to speak or interact with others, it could be due to psycho-social disorders or physical disorders. These students might have anxiety, shyness, or other psychological barriers that prevent them from participating comfortably in social or academic activities. It is not related to their intelligence or arrogance.

Q40. The purpose of diagnostic evaluation is to:

Read the passage and answer question that follow.

Diagnostic evaluation is conducted along with formative evaluation during the instructional process. It is carried out based on the data obtained from formative evaluation. Diagnostic evaluation is specially conducted to identify and remove the learning difficulties of learner if it is observed and found during the formative evaluation. For example, if a learner couldn't understand certain concepts in a particular subject and continuously performs poorly in that subject, we conduct diagnostic test to know the causes of the difficulties and accordingly provide them remedial treatment to overcome the difficulties. The key word in diagnostic evaluation is identifying of 'learning difficulties'. Diagnostic evaluation not only solver learning difficulties of learners but also identifies and provides remedies for personal, physical and psychological problems. This can be exemplified as sometime you may find that few students in your class are very nervous to come forward and say something, showing fear towards the friends and teacher because of contain psycho-social disorder and physical disorders.

(a) Instill fear in a learner.

(b) Only identify the 'learning difficulties'.

(c) Encourage learners to give up subjects in which they perform poorly.

(d) Not only identify and solve learning difficulties of learners but also identify and provide remedies for personal, physical, and psychological problems faced by the learner.

Ans.(d)

Sol. The passage highlights that diagnostic evaluation is designed to do more than just identify academic difficulties. Its goal is to uncover the root causes of learning difficulties and address any personal,

physical, or psychological problems that may be hindering the learner's performance. The evaluation aims to provide remedial treatment to help students overcome these challenges, not to create fear or encourage giving up on subjects.

