



UGC NET Paper -1 Memory Based 28th June Shift -2

Q1. According to Erik Erikson, the primary developmental task during **the** stage of "industry **versus** inferiority" **is**:

- A. Developing a sense of competence and accomplishment
- B. Building intimate relationships
- C. Establishing a sense of identity
- D. Achieving generativity

Ans.(a)

Sol. According to Erik Erikson's psychosocial theory of development, the primary developmental task during the stage of "industry versus inferiority" is developing a sense of competence and accomplishment. This stage occurs during middle childhood, typically between the ages of 6 and 12. During this stage, children strive to acquire new skills, master tasks, and demonstrate their abilities. They engage in activities such as academics, sports, arts, and hobbies, aiming to gain a sense of competence and accomplishment in their endeavors. Successful completion of tasks and receiving recognition and encouragement from parents, teachers, and peers contribute to the development of a positive self-concept and feelings of competence.

Information Booster

Building intimate relationships: This task is associated with Erikson's stage of "intimacy versus isolation" during young adulthood when individuals strive to develop close, meaningful relationships with others, including romantic partnerships and friendships.

Establishing a sense of identity: This task is related to Erikson's stage of "identity versus role confusion" during adolescence. It involves exploring and developing a clear understanding of one's personal identity, values, beliefs, and life goals.

Achieving generativity: This task is linked to Erikson's stage of "generativity versus stagnation" during middle adulthood. It focuses on individuals' desire to contribute to society, leave a legacy, and make a positive impact through their work, parenting, mentoring, or other forms of generative activities.

Q2. The developmental theory by Erik Erikson focuses on:

- A. Psychosexual stages
- B. Cognitive milestones
- C. Psychosocial conflicts
- D. Behavioral reinforcements

Ans.(c)

Sol. Erik Erikson's theory of psychosocial development outlines eight stages of human growth, each involving a conflict or crisis. For example, in infancy, the crisis is "trust vs. mistrust," where the child learns whether or not they can trust caregivers. Successfully resolving each conflict leads to healthy development and the acquisition of virtues like trust, autonomy, or identity.

Information Booster:

- 1. Each stage builds on the resolution of the previous one.
- 2. The theory spans the entire lifespan, from infancy to old age.
- 3. Social and cultural factors significantly influence each stage.
- 4. Failure to resolve conflicts can lead to developmental challenges.





Q3. Mark the correct **sequence** of steps in Action Research:

Steps:

- A. Action
- **B.** Reflection
- C. Plan
- D. Observation
- A. A, C, B, D
- B. A, C, D, B
- C. C, A, B, D
- D. C, A, D, B

Ans.(d)

Sol. The correct sequence of steps in **Action Research** is as follows:

1. **C.** Plan: The process begins with planning, where the researcher identifies the problem, formulates research objectives, and devises

a strategy to address the issue.

2. A. Action: The planned interventions or strategies are implemented to address the identified problem.

3. **D.** Observation: The effects of the action are observed systematically to collect data on its impact and outcomes.

4. **B. Reflection:** The data collected is analyzed and reflected upon to evaluate the effectiveness of the action. This reflection helps in

refining future plans and actions.

Information Booster:

The action research paradigm is a participatory and cyclical approach to research focused on solving realworld problems through collaborative inquiry and reflection. It was popularized by Kurt Lewin, who described it as a process of "learning by doing."

Key Characteristics of Action Research

1. Practical Problem-Solving:

Action research focuses on addressing specific problems in a real-world context.

It is aimed at improving practices, policies, or conditions.

2. Collaborative:

It involves stakeholders (e.g., teachers, employees, community members) in every stage of the research process.

This ensures that the solutions are relevant and grounded in the participants' experiences.

3. Cyclical and Iterative Process:

Action research follows a cycle of planning, acting, observing, and reflecting.

These cycles are repeated to refine actions and achieve better results.

4. Reflective Practice:

Emphasizes critical reflection by practitioners to improve their understanding of the problem and their practices.

5. Change-Oriented:

The goal is not only to understand a problem but also to bring about meaningful change.





Q4. The Sarkar committee (1945) recommended the establishment of higher technical education institutes in four different regions of India on **the** pattern of:

A. Massachusetts Institute of Technology U.S.A.

B. Advance Institute of Indian sciences

C. London School of Engineering

D. University of Kyoto, Japan

Ans.(a)

Sol. The Sarkar Committee (1945), which was tasked with suggesting reforms for higher technical education in India, recommended that higher technical

institutes be established in four regions of India. The committee's vision was to model these institutions on the Massachusetts Institute of Technology (MIT), which was known for its high standard of technical and engineering education. MIT served as a global model for excellence in technical education, and the committee wanted to replicate this model in India to improve the country's technical education infrastructure.

Information Booster:

1. Sarkar Committee (1945) was formed to suggest ways to improve India's technical education system.

2. MIT's Model was based on research, innovation, and practical application, making it the perfect model for India to emulate.

3. The committee proposed the creation of four technical institutes in India, one for each major region.

4. The MIT model was viewed as a holistic approach to higher education, combining theory, practice, and research, which was the vision for

India's institutes.

Q5. What are **the** typical **steps** involved in conducting ethnographic research?

A. Sampling, data analysis, and reporting

B. Identification of the research problem, literature review, and hypothesis testing

C. Selection of a culturally relevant population, continuous observation, and in-depth interviews

D. Planning, data collection, and data verification

Ans.(c)

Sol. Ethnographic research is a qualitative method where researchers immerse themselves in the environment of their subjects. The correct steps for conducting this type of research start with the selection of a culturally relevant population to study. This involves identifying a group that has specific cultural traits of interest. Once the population is selected, continuous observation is a critical step, allowing researchers to record behaviors and interactions within their natural settings, gaining a deep understanding of the subject's cultural practices. The final step involves in-depth interviews, which are used to gather personal insights and narratives that help interpret the observed behaviors. This method allows researchers to understand the meanings behind certain actions and the cultural context of the population being studied, making option (c) the most accurate description of ethnographic research methodology. Information Booster:

While options (a), (b), and (d) involve important research steps, they do not specifically align with the ethnographic method. Option (a) is too general and skips cultural immersion, option (b) follows a more quantitative approach with hypothesis testing, and option (d) lacks the focus on cultural immersion and participant interaction which are key in ethnography.





Q6. Which of the following statements are true regarding logic?

(A) Aristotelian syllogism is deductive.

(B) Nyaya syllogism is deductive.

(C) Aristotelian syllogism is formal.

(D) Nyaya syllogism is formal.

(E) Nyaya syllogism is inductive.

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

A. A, B, C, D Only

B. A, B, C, D,

C. A, C and E Only

D. A, B, C and E Only

Ans.(b)



Sol. Aristotelian **syllogism** is deductive (A): This statement is true. Aristotelian syllogism follows deductive reasoning where a specific conclusion logically follows from general premises. For example, if all men are mortal and Socrates is a man, then Socrates is mortal.

Nyaya syllogism is deductive (B): This statement is true. The Nyāya system of logic uses a structured deductive method to reach conclusions. It follows a five-step framework: proposition, reason, example, application, and conclusion.

Aristotelian syllogism is formal (C): This statement is **true**. Aristotelian syllogism relies on a formal structure of argument, where the conclusion's validity depends on the logical form rather than the content. Nyāya syllogism is formal (D): This statement is **true**. The Nyāya syllogism employs a systematic, step-by-step process that adheres to formal logical structures, making it formal in its presentation.

Nyāya **syllogism is inductive (E)**: This statement is **true**. The Nyāya system also incorporates inductive reasoning, particularly through the use of examples and observations to generalize conclusions.

Information Booster 1. Deductive Reasoning: Moves from general principles to specific conclusions. Example: All humans are mortal; John is a human, so John is mortal.

2. Inductive Reasoning: Draws general conclusions based on specific observations. Example: Every swan observed so far is white; therefore, all swans

are white.

3. Aristotelian Syllogism: Consists of three parts:

Major premise

Minor premise

Conclusion

4. Nyāya Syllogism: Comprises five steps:

Pratijna (Proposition)

Hetu (Reason)

Udaharana (Example)

Upanaya (Application)

Nigmana (Conclusion)

5. **Formal Logic:** Emphasizes the structure of arguments, ensuring conclusions follow logically from premises.

6. Indian Logic: Combines deductive and inductive reasoning, often integrating real-world examples.





Q7. Arrange chronologically the following educational **institutions** in India: A. Establishment of Banaras Hindu University B. Establishment of Central University of Gujarat C. Establishment of Indian Institute of Science D. Establishment of Jamia Millia Islamia E. Establishment of Indian Institute of Management Ahmedabad Choose the correct answer from the options given below: A. C, A, D, E, B B. A, C, D, B, E C. D, A, B, E, C D. C, D, A, B, E Ans.(a) Sol. Correct Answer: 1 (C, A, D, E, B) Information Booster: Indian Institute of Science (IISc) - 1909: Located in Bengaluru. Premier institution for **scientific** research and higher education. Banaras Hindu University (BHU) - 1916: Founded by Madan Mohan Malaviya in Varanasi. One of India's largest residential universities. Jamia Millia Islamia - 1920: Founded during the Non-Cooperation Movement. Located in New Delhi. Indian Institute of Management Ahmedabad (IIM-A) - 1961: First IIM to be established. Known for excellence in management education. Central University of Gujarat (CUG) - 2009: Located in Gandhinagar, Gujarat. One of India's newer central universities. Additional Knowledge: Nalanda University was one of the earliest universities (ancient era), revived in

Q8. Which one of **the** following is an example of a composite data type **in C**?

modern times. Central Universities are established by an Act of Parliament.

- A. int
- B. char
- C. float
- D. struct

Ans.(d)

Sol. In C programming, a composite data type is a data type that can hold multiple values or elements of different types under a single name. Composite data types are typically used to group related data together. Option (d): **struct**

True: struct is a composite data type in C. It allows grouping together different data types (such as int, float, char, etc.) under a single name. Each member of a struct can have a different type. A **struct** can hold multiple values of different types, making it a composite data type. Information Booster:





1. Composite Data Types:

Composite data types in C allow you to create complex data structures by grouping different data types. Examples of composite data types:

- **struct**: Allows combining multiple variables of different data types into one entity.
- union: Similar to a struct, but all members share the same memory location.
- array: Can store multiple values of the same data type.
- 2. Example of a **struct**:

struct Person {

char name[50];

int age;

float height;

};

In this example, the struct **Person** groups a char array, an int, and a float together, making it a composite data type. Additional Knowledge:

Arrays can also be considered a composite data **type** when they store multiple values of the same type. Unions allow storing different data types, but unlike structs, all members of a union share the same memory space.

Option (a): int

False: **int** is a basic data type (primitive data type). It holds a single integer value. It is not a composite data type because it does not combine multiple values or data types.

Option (b): char

False: char is also a **basic** data type. It holds a single character. Just like int, it is not a composite data type. Option (c): float

False: float is a basic data type used to store floating-point numbers. It holds a single value, so it is not a composite data type.

Q9. Arrange the following **cognitive processes** as per the **Revised Bloom's** Taxonomy (from lower-order to higher-order thinking).

A. Evaluate

- B. Remember
- C. Analyze
- D. Understand

E. Apply

F. CreateChoose **the** correct answer from **the** options **given below**:

- A. B, D, E, C, A, F
- B. D, B, C, A, E, F
- C. B, C, D, A, E, F
- D. B, D, C, E, A, F

Ans.(a)

Sol. Introduction:

Bloom's Revised Taxonomy categorizes cognitive learning objectives from lower to higher-order thinking. Information Booster (Correct Answer: a)

Correct sequence: $B \rightarrow DE \rightarrow C \rightarrow A \rightarrow F$





- B. Remember: Recall facts and information.
- D. Understand: Explain concepts.
- **E. Apply: Use** knowledge in **new** situations.
- C. Analyze: Break down information into parts.
- A. Evaluate: Make judgments based on criteria.
- F. Create: Produce original work or solutions.

Additional Knowledge:

Option (b) places "Understand" before "Remember," which defies the foundational learning order.

Option (c) places "Analyze" before "Understand," which is too advanced early on.

Option (d) mixes the sequence **of Apply** and **Analyze incorrectly**.

Q10. Below are **two** statements:

Statement I: **The** most **suitable** storage medium for data storage **on** a network server **is the** Blu-ray **disc**. Statement **II**: CD-ROM is the optical disc in which data cannot be updated.

- Based on the above statements, select the most appropriate answer from the options given below:
- 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.(d)

Sol. Statement I is incorrect because Blu-ray discs, while having a high storage capacity, are not typically considered the most suitable storage medium for data on a network server. Network servers generally rely on more flexible, scalable, and accessible storage solutions such as hard drives, SSDs, or network-attached storage (NAS) systems that support frequent read/write operations and easier data management.

Statement II is correct; a CD-ROM (Compact Disc Read-Only Memory) is an optical disc which is pre-pressed with data. The data on a CD-ROM cannot be altered or updated after it is manufactured. This is in contrast to rewritable discs such as CD-RWs, which allow data to be written and erased multiple times.

Therefore, the correct answer is (d) Statement I is incorrect, but Statement II is correct.

Information Booster:

Optical storage media like Blu-ray are used for specific needs where large amounts of data need to be stored permanently in a compact form and not frequently updated.

Network servers require storage solutions that can be dynamically adjusted and accessed by multiple users simultaneously, making server-grade hard drives or SSDs more appropriate.

Q11. Through which plate did Aravalli separate from?

- A. Somali Plate
- B. Sunda Plate
- C. Eurasian Plate
- D. Arabian Plate

Ans.(c)

Sol. Ans. (c)

The Aravalli Range was formed when the Indian Plate was separated from the Eurasian Plate by an ancient ocean, known as the Tethys Ocean. The Aravalli Range is considered one of the oldest fold mountain ranges in the world, dating back to the Proterozoic Eon (around 1.5 to 2 billion years ago). These mountains are the remnants of a collision between the Indian Plate and the Eurasian Plate during the early stages of Earth's tectonic evolution.





Information Booster

1. Formation of Aravalli Range: Resulted from tectonic plate collisions, specifically the convergence of the Indian Plate and Eurasian Plate.

2. Age of Aravalli: Estimated to be around 1.5 to 2 billion years old, making it one of the oldest geological formations in India.

3. Geological Significance: Composed of ancient rocks, including quartzite, marble, and granite, which have undergone significant weathering and erosion.

4. Tethys Ocean: The Aravalli's formation is linked to the closing of the ancient Tethys Ocean, which existed between the Indian and Eurasian Plates.

5. Present-Day Role: The range provides critical mineral resources and has ecological importance for Rajasthan.

6. Erosion and Degradation: Over millions of years, the Aravallis have eroded into low hills and ridges. Additional Knowledge

Somali Plate: Located near Africa, unrelated to the Aravalli formation.

Sunda Plate: Part of Southeast Asia, has no connection with Aravalli geology.

Arabian Plate: Associated with the Indian Ocean region, not involved in the formation of Aravallis.

Eurasian Plate: Played a key role in India's geological evolution, especially in the formation of the Himalayas and the ancient Aravallis. Key Points:

The Aravallis are often referred to as "relic mountains" because they are remnants of ancient orogeny. They stretch across Rajasthan, Haryana, and Delhi, with Mount Abu as the highest peak.

Their mineral wealth includes marble, zinc, and lead.

Q12. Which of **the** following **is not caused due to** noise pollution?

A. Bronchitis

B. Cardiovascular diseases

C. High Blood Pressure

D. Insomnia

Ans.(a)

Sol. Bronchitis is a respiratory condition primarily caused by air **pollution** or infections, not noise pollution. Noise pollution mainly affects the nervous and cardiovascular systems, leading to issues such as: **Cardiovascular** diseases: Prolonged exposure to high noise levels can increase the risk of heart-related conditions.

High Blood **Pressure**: Noise pollution can trigger stress, which leads to elevated blood pressure.

Insomnia: Constant exposure to loud noise can disrupt sleep patterns, leading to insomnia.

Information booster:

1. Noise pollution affects mental and physical health, primarily by causing stress, sleep disturbances, and cardiovascular issues.

2. **Bronchitis**, on the other hand, is more commonly linked to airborne pollutants like dust, smoke, and industrial emissions.





Q13. Which of the following **Sustainable** Development Goals (Whis**) address** the Social **Issues**? (A) Affordable and clean energy (SDG 7) **(B**) Clean water and sanitation (SDG 6) (C) Gender equality (SDG

5) (D) Reduced **inequalities** (SDG 10**) (E) Sustainable** cities and communities (SDG **11)** Choose the correct answer:

A. A, C, E only

B. B, C only

C. B, C, D only

D. C, D, E only

Ans.(d)

Sol. 1. (c) Gender Equality (SDG 5):

Focuses on achieving gender equality and empowering all women and girls. This addresses significant social issues such as discrimination, gender- based violence, and equal opportunities.

2. (d) Reduced Inequalities (SDG 10):

Aims to reduce inequality within and among countries, addressing social disparities, marginalization, and inclusion.

3. (E) Sustainable Cities and Communities (SDG 11):

Ensures inclusive, safe, resilient, and sustainable urban areas, which includes tackling housing, social equity, and community welfare. Why Other Options Are Incorrect:

1. (a) Affordable and Clean Energy (SDG 7):

While this goal is crucial for sustainable development, it primarily focuses on energy access, efficiency, and renewable energy, making it an

environmental and economic issue rather than a direct social issue.

2. **(**b) Clean Water and Sanitation (SDG 6):

Focuses on ensuring availability and sustainable management of water and sanitation for all. While access to clean water is a basic human right, this goal is more aligned with infrastructure and environmental sustainability than social justice.

Information Booster:

1. SDG 5: Gender Equality

Targets eliminating discrimination, violence, and harmful practices against women and girls.

2. SDG 10: Reduced Inequalities

Focuses on income equality, social inclusion, and reducing disparities within and among countries.

3. SDG 11: Sustainable Cities and Communities

Aims to make cities inclusive by addressing issues like affordable housing, public transport, and reducing slum populations. Additional Knowledge:

Social SDGs emphasize equity, inclusion, and empowerment.

Goals like SDG 1 (No Poverty) and SDG 3 (Good Health and Well-being) also address social challenges. Sustainable development integrates social, environmental, and economic dimensions for holistic growth.

Q14. Type-II **error** of inference for **testing** a hypothesis can be minimized by:

A. Selecting lower a for considering the HO untenable.

B. Selecting larger sample size.

C. Selecting smaller sample size.

D. Selecting greater a for considering the HO untenable.





Ans.(b)

Sol. A Type-II error occurs when a false null hypothesis *(H)* is incorrectly accepted (failing to reject *Ho*). The probability of committing a Type-II error is denoted by B, and the power of a test (1-8) measures its ability to detect a true alternative hypothesis *(H.)*.

Increasing the sample size reduces the variability (standard error) in the data, making it easier to detect significant differences when they exist. This directly reduces ß and minimizes the likelihood of

a Type-II error. For example, in a hypothesis test, a larger sample size provides more accurate estimates, thereby increasing the precision and likelihood of rejecting a false *Ho*. Information Booster:

Type-II Error (8): Occurs when we fail to reject the null hypothesis *(H)* even though it is false. Factors Influencing Type-II Error:

1. Sample Size: Larger sample sizes reduce *B*.

2. Effect Size: Larger differences (effect sizes) between groups are easier to detect, reducing *B*

3. Significance Level (a): Increasing *a* can decrease *B*, but this increases the risk of Type-l error.

Balancing Errors: Researchers typically choose an *a* (Type-I error) value of 0.05 and aim to achieve high power (e.g., 0.8 or higher) by adjusting sample size.

Additional Knowledge:

Other Options Explained:

1. Selecting Lower *a* (a): Reducing *a* increases the chance of a Type-II error because the test becomes more conservative, making it harder to reject *Ho*

2. Selecting Smaller Sample Size (c): Smaller samples lead to higher variability and reduce the test's power, increasing the likelihood of a Type-ll error.

3. Selecting Greater *a* (d): Increasing *a* reduces Type-II error, but it raises the probability of a Type-I error, which might not be desirable in many cases.

Q15. Find the missing term in the series below:

- 0, 6, 24, 60, 120, **210**, ?
- A. 290
- B. 504
- C. 336
- D. 338

Ans.(c)

Sol. Check differences between terms:

- 6 0 = 6
- 24 6 = 18
- 60 24 = 36
- 120 60 = 60
- 210 120 = 90
- \rightarrow Next difference? Let's observe the pattern of the differences:
- 6, 18, 36, 60, 90





Now, check the **second-level differences**:

- 18 6 = 12
- 36 18 = 18
- 60 36 = 24
- 90 60 = 30

 \rightarrow This is increasing by 6 each time.

So, the next difference should be:

90 + 42 = 132

Now, add that to the last term:

210 + 126 = 336

Therefore, Missing Term = 336

Q16. Determine the next term in the following **letter**-and-number series:

A2Y, B3X, C5W, D7V, ?

A. E8U

B. E11K

C. E11U

D. E6U

Ans.(c)

Sol. The series follows a pattern in both letters and numbers:

For letters: Alphabetically forward (A, B, C, D, E...).

For numbers: Increasing by the pattern 2, 3 (+1), 5 (+2), 7 (+4). The next increment follows the doubling pattern, so it would be +4*2 = +8, resulting in 7+8=15.

For the third character: Alphabetically backward (Y, X, W, V, U...).

Thus, after D7V, the letter should be E, the number should follow the pattern to 15, and the last letter should be U, making the correct answer E11U, acknowledging a mistake in the pattern explanation, focusing on consistency and clarity in the solution provided.

Q17. Match the following Indian schools of philosophy with their respective proponents: School of Philosophy:

- 1. Advaita Vedanta
- 2. Yoga
- 3. Nyaya
- 4. Samkhya
- 5. Mimamsa
- 6. Buddhism

Proponents:

- A. Patanjali
- B. Gautama Buddha
- C. Kapila
- D. Adi Shankaracharya
- E. Gautama (Akshapada Gautama)
- **F.** Jaimini







Choose the correct option: Match the following

A. 1-F, 2-E, 3-D, 4-C, 5-B, 6-A

B. 1-A, 2-B, 3-C, 4-D, 5-E, 6-F

C. 1-B, 2-C, 3-D, 4-E, 5-F, 6-A

D. 1-D, 2-A, 3-E, 4-C, 5-F, 6-B

Ans.(d)

Sol. The correct matches for the Indian schools of philosophy and their proponents are:

1. Advaita Vedanta - D. Adi Shankaracharya: Adi Shankaracharya is known for consolidating the doctrine of Advaita Vedanta, which teaches non- dualism and the ultimate unity of the individual soul (Atman) with the ultimate reality (Brahman).

2. Yoga - A. Patanjali: Patanjali is attributed with authoring the Yoga Sutras, a key text in the Yoga school of philosophy which outlines the path of Raja Yoga.

3. Nyaya - E. Gautama (Akshapada Gautama): Akshapada Gautama is the sage credited with founding the Nyaya school, which focuses on logic and epistemology.

4. Samkhya - C. Kapila: Kapila is traditionally considered the founder of the Samkhya school, one of the oldest schools of Indian philosophy that divides the universe into purusha (consciousness) and prakriti (matter).

5. Mimamsa - F. Jaimini: Jaimini is known as the proponent of the Mimamsa school, which emphasizes the authority of the Vedas and rituals.

6. Buddhism - B. Gautama Buddha: Gautama Buddha is the founder of Buddhism, which teaches the Four Noble Truths and the Eightfold Path to enlightenment and liberation from suffering.

Q10. Match List I with List II	
List – I (In a Square of Opposition)	Lis <mark>t – II (Resultant)</mark>
(A) 'A' being given false	(1) 'E' is false
(B) 'E' being given false	(II) 'E' is true
(C) 'I' being given false	(III) T is undetermined
(D) 'O' being given f <mark>alse</mark>	(IV) T is true
Choose the correct answer from the	e ontions given below:

019 Match List Lwith List II

A. (A)-(1), (B)-(1), (C)-(II), (D)-(IV) B. (A)-(III), (B)-(IV), (C)-(II), (D)-(1) C. (A)-(II), (B)-(1), (C)-(III), (D)-(IV) D. (A)-(IV), (B)-(II), (C)-(III), (D)-(1)

Ans.(b)

Sol. In the Square of Opposition, relationships among categorical propositions (A, E, I, O) help determine the truth or falsity of propositions. Let us analyze the matches based on the given options:

1. (A) 'A' being given false (III) 'T is undetermined':

If 'A' (Universal Affirmative: "All S are P") is false, 'T' (truth of its subaltern, 'I') becomes undetermined because 'A' being false does not directly determine the truth value of 'I' (Particular Affirmative: "Some S are P").

2. (B) 'E' being given false

 \rightarrow

(IV) 'T is true':

If 'E' (Universal Negative: "No S are P") is false, 'T' (truth of 'O', its subaltern) must be true due to the rule of subalternation. 3. (C) 'I' being given false

←

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(II) 'E is true':

If 'I' (Particular Affirmative: "Some S are P") is false, 'E' (Universal Negative: "No S are P") must be true due to the contradictory relationship between

'E' and 'I.'

4. (D) 'O' being given false

(I) 'E is false':

If 'O' (Particular Negative: "Some S are not P") is false, 'E' (Universal Negative) must also be false, as 'E' entails 'O' in subalternation.

Information Booster: Square of Opposition Relationships:

Contraries (A vs. E): Both cannot be true, but both can be false.

Sub-Contraries (I **vs.** 0): Both cannot be false, but both can be true.

Contradictories (A vs. 0, E vs. I): One must be true, and the other must be false.

Sub-**Alternation:** Truth flows downward ($A \rightarrow I, E \rightarrow 0$), while falsity flows upward ($I \rightarrow A, 0 \rightarrow E$).

Q19. 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 = 2. **Coding 'TABLE'**: • T = 20, A = 1, B = 2, L = 12, E = 5 Sum 20+ 1+2+12+ 5 = 40

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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'.

Q20. Consider the following statements about Al classification and agents:

1. Weak **Al suggests** that **machines** can completely replicate human-level thinking.

2. Expert tasks include **activities** like medical **diagnosis** and playing chess.

3. A software agent uses mechanical **sensors** and actuators to interact with the environment.

4. A human agent uses both **sensors (**like eyes**)** and **actuators (**like **limbs)** to perceive and **act**. Which of the above statements are **correct**?

A. 2 and 4 only

B. 1, 2 and 3

C. 2, 3 and 4

D. All

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Ans.(a) Sol. —

Statement 2 is correct- Expert tasks such as medical diagnosis, mathematical problem solving, and chess playing are mentioned as activities requiring intelligence and skill.

Statement 4 is also correct -

— a human agent uses eyes, ears, limbs and organs as sensors and actuators to interact with its environment. However, statement 1 is incorrect - weak Al does not claim human-level thinking but merely adds some "thinking-like" features.

Statement 3 is also false — software agents do not use mechanical sensors and actuators; they interact via keystrokes, **files and** network packets. Information **Booster**:

1. Strong **Al:** Claims machines can match human thinking levels.

2. Weak Al: Suggests machines can simulate intelligent behavior in specific domains.

3. Expert Tasks: Require intelligence and skill; not easily done by all humans.

4. Software Agents: Work in digital environments, not physical/mechanical.

Additional Knowledge:

Statement **1**: Strong Al makes that claim, not Weak Al.

Statement 3: Refers to robotic agents, not software agents.

Q21. When you **sign** up something like a free e-mail **account**, you may be presented with a CAPTCHA. The most common **form** of CAPTCHA is an image

of several distorted letters. CAPTCHA stands for:

A. "Coverage Analysis and Planning Tool for Computers and Humans Apart."

B. "Completely Automated Public Turing test to tell Computers and Humans Apart"

C. "Completely Applied Parallel Technologies for Communication and Hardware Apart"

D. "Comparable Additional Protected Turing test to cell Computers and Humans Apart"

Ans.(b)

Sol. A CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) is a type of challenge-response test used in computing

to determine whether the user is human. It was introduced to prevent automated bots from performing actions that are typically reserved for humans, such as signing up for email accounts, making online purchases, or posting comments.

Completely Automated: The process is fully automated without human intervention.

Public: It is publicly accessible and used across various platforms.

Turing test: Named after Alan Turing, the Turing test is a measure of a machine's ability to exhibit intelligent behavior indistinguishable from a

human.

to tell Computers and Humans Apart: The main purpose is to differentiate between human users and automated systems (bots).

The most common form of CAPTCHA involves distorted letters or numbers that humans can read but are challenging for computer algorithms to interpret. Other forms include identifying objects in images, solving simple puzzles, or clicking checkboxes indicating the user is not a robot.





Q22. Arrange **the** following offline teaching methods from **most** teacher-centered to **most** learner-centered:

A. Lecture method

- B. Project method
- C. Discussion method

D. Demonstration method

Options:

- A. A, D, C, B
- B. A, C, D, B
- C. B, C, D, A
- D. D, A, B, C

Ans.(a)

Sol. The lecture method is highly teacher-centered, where the teacher controls content and delivery. Demonstration is still teacher-led but more

interactive as students observe practical work. Discussion is more learner-centered as it requires students' active input and sharing of ideas. Project method is most learner-centered, involving students taking initiative in planning, researching, and creating.

Information Booster:

Teacher-centered methods emphasize content mastery through instruction.

Learner-centered methods focus on student autonomy, inquiry, and collaboration.

Project method develops skills beyond content: teamwork, creativity, and communication.

The gradual shift toward learner-centered approaches aligns with modern educational philosophies.

Additional Knowledge:

Learner-centered approaches correlate with constructivist theories of learning.

Teacher-centered methods may still be effective for large groups or foundational knowledge.

Effective teaching often blends both approaches depending on objectives.

Q23. Arrange the following major **industrial** disasters in correct chronological order.

A. Bhopal gas tragedy

B. Seveso disaster

C. Deepwater Horizon oil spill

D. Soma Mine disaster

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

- A. A, B, C, D
- B. B, A, C, D
- C. C, D, A, B
- D. D, A, B, C

Ans.(b)

Sol. The chronological order of these major industrial disasters is:

1. Seveso Disaster (B) - Occurred in 1976 in Italy, when a chemical plant released a toxic cloud of dioxin, which led to severe environmental and

health impacts.





2. Bhopal Gas Tragedy (A) - Happened in 1984 in India, when a pesticide plant leaked methyl isocyanate gas, resulting in thousands of deaths

and long-term health issues.

3. Deepwater Horizon Oil Spill (C) - Took place in 2010 in the Gulf of Mexico, causing one of the largest oil spills in history due to a wellhead

blowout.

4. Soma Mine Disaster (D) - Happened in 2014 in Turkey, when a coal mine collapse resulted in significant loss of life, marking one of the

deadliest mining accidents.

Information Booster:

Seveso Disaster (B): Occurred in 1976, one of the worst industrial accidents in Europe, releasing toxic dioxin and causing widespread environmental damage.

Bhopal Gas Tragedy (A): Considered one of the deadliest industrial disasters in history, it caused immediate deaths and long-term health problems for survivors.

Deepwater Horizon Oil Spill (C): In 2010, it resulted in the release of millions of barrels of oil, creating massive environmental destruction in the Gulf of Mexico.

Soma Mine Disaster (D): In 2014, this coal mine disaster in Turkey resulted in the deaths of over 300 miners, highlighting the dangers of mining operations.

Q24. Which of the following are **true** about tropospheric or ground level **ozone**?

- A. It is called as good ozone
- **B.** It is formed due to downward transfer of **ozone** from ozone layer
- C. It is formed due to the action of sunlight **on** oxides of nitrogen
- D. It is a green-house gas
- E. It is a key component of photochemical smog

Choose the **correct** an<mark>sw</mark>er from the options given below:

- A. B, C, D and E only
- B. A, B and C only
- C. C, D and E only
- D. A, D and E only

Ans.(c)

Sol. Let's evaluate each statement about tropospheric or ground-**level** ozone:

A. It is called as good ozone

This is false. "Good" ozone refers to stratospheric ozone, which protects us from harmful UV radiation. Ground-level ozone is often called "bad"

ozone because it is a harmful air pollutant.

B. It is formed due to downward transfer of ozone from ozone layer

This is generally false. While a small amount of stratospheric ozone can be transported downwards into the troposphere, the majority of ground-level ozone is formed through different chemical reactions within the troposphere itself.

C. It is formed due to the action of sunlight on oxides of nitrogen

This is true. Ground-level ozone is primarily formed by photochemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOCs) in the presence of sunlight.





D. It is a green-house gas

This is true. Tropospheric ozone is a greenhouse gas, meaning it traps heat in the atmosphere and contributes to global warming.

E. It is a key component of photochemical smog

This is true. Ground-level ozone is the main ingredient and a key component of photochemical smog, which is a significant air pollution problem in many urban areas.

Based on the evaluation:

Statements C, D, and E are true.

Therefore, the correct answer **is (c) C**, D and E only.

Q25. Match the LIST-I with LIST-II

LIST – I (Indian Reality Show)	LIST – II (Channel)
A. Kaun Banega Crorepati	I. Sony TV
B. Shark Tank India	II. Sony LIV (streaming)
C. Indian Idol	III. Sony TV
D. Dance India Dance	IV. Zee TV

Choose the correct answer from the options given below:

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

Ans.(a)

Sol. Correct Option: (a)

Introduction: Indian television hosts a wide variety of reality shows across channels, each with a distinct theme and target audience. The broadcasting platform plays a key role in their accessibility and popularity. Information Booster: Kaun Banega Crorepati \rightarrow Sony TV A popular quiz show hosted by Amitabh Bachchan, it has been aired on Sony TV since its revival in 2010.

Shark Tank India → Sony LIV (streaming) This show is primarily streamed on Sony LIV, though **its TV** broadcast **is on** Sony TV, it's known for its digital-first presence.

Indian Idol \rightarrow Sony TV One of India's longest-running singing competitions, aired **on Sony** TV since its first season.

Dance India Dance

Zee TV A dance talent show exclusively broadcast by Zee **TV** since 2009.

Q26. Arrange **the** following **social** media platforms in chronological order of **their** launch.

A. Twitter

B. Facebook

C. Instagram

D. TikTok

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

A. B, A, C, D

B. A, B, D, C

C. B, D, A, C

D. C, B, A, D

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Ans.(a)

Sol. Correct Option: (a)

- Facebook \rightarrow 2004
- Originally created for Harvard students, it was one of the first major global social networks.
- Twitter \rightarrow 2006
- Launched as a micro-blogging platform, focused on short text posts called "tweets."
- Instagram $\rightarrow 2010$
- Focused on **visual sharing**, it rapidly gained popularity, especially among youth.
- TikTok \rightarrow 2016
- Developed by Bytedance, TikTok transformed short-form video content into a global trend.

Q27. Match the LIST-I with LIST-II

LIST – I (Women Entrepreneur)	LIST – II (Enterprise/Brand)	
A. Falguni Nayar	I. Nykaa	
B. Kiran Mazumdar-Shaw	II. Biocon	
C. Vandana Luthra	III. VLCC	
D. Richa Kar	IV. Zivam <mark>e</mark>	

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

A. AI, BII, C - III, D - IV

B. A-II, BI, C - IV, D - III

C. A-III, B-IV, C-II, D-I

D. A - IV, B-III, C - I, D - II

Ans.(a)

Sol. Correct Option: (a)

Introduction: India has seen a surge in **women** entrepreneurs who have pioneered successful ventures across beauty, wellness, pharmaceuticals, and e-commerce. Recognizing their brands is essential for understanding the entrepreneurial ecosystem.

Information Booster:

Falguni Nayar

Nykaa A former investment banker, she founded Nykaa in 2012. It became one of India's most successful beauty and **lifestyle** platforms and went public in 2021.

Kiran Mazumdar-Shaw

Biocon She founded Biocon in 1978, making it one of India's largest biopharmaceutical companies.

Vandana Luthra

VLCC She established **VLCC** in 1989, focusing on wellness, weight management, and beauty treatments. Richa Kar

Zivame Founded in 2011, Zivame is a leading **online** lingerie platform, breaking taboos around women's innerwear shopping in India.





Q28. which among the following is **a** correct statement based on the passage?

Read the given passage and answer the following questions. It is desirable for consumers to be aware of their rights, and to exercise those rights responsibly and intelligently. In these days of audio-video publicity on the public and private media, it is indeed very difficult, if not impossible, to verify the exaggerated or false claims made by producers, manufacturers, distributors and dealers of various goods and services. The all pervasive, exaggerated and often false claims, made for services and goods, emphasize the imperative need for Consumer Protection Legislation and creation of awareness about it among the general public. In this connection, there are a number of enactments, in India such as the prevention of Food Adulteration Act, 1954, the Essential Commodities Act, 1955, the Hire Purchases Act, 1972, the Standards Weight and Measure Act, 1976 etc. However, the remedies prescribed there under are time- consuming, inadequate and expensive. As in other areas of Judicial Processes, the offenders are hardly caught, proceeded against and rarely, if every, got convicted. When violators go scot-free, the victims have no remedy and gets frustrated.

A. Consumer's laws are not explained well in India

B. Indian Judiciary System needs a drastic reform to facilitate consumers' welfare

C. Indian manufacturers are clever

D. The Indian Consumers have no remedy and get frustrated

Ans.(b)

Sol. The passage highlights that while several consumer protection laws exist in India, they are **time-consuming**, inadequate, and expensive. It also states that **offenders** rarely get **convicted**, leaving consumers frustrated. This suggests that the **Indian** judicial system **requires** reform to better protect consumers.

Thus, the correct answer is **(b)** Indian Judiciary System needs a drastic reform to facilitate consumers' welfare.

Q29. Which among **the** following is **a correct** statement based **on** the passage? Read the given passage and **answer** the **following questions**.

It is **desirable** for **consumers** to be aware of **their rights**, and to exercise those rights responsibly and intelligently. In these days of audio-**video publicity** on **the** public and private media, **it is** indeed very difficult, if not **impossible**, **to** verify the exaggerated or false claims made by **producers**, **manufacturers**, distributors and **dealers of** various goods and services. **The all** pervasive, exaggerated and often false claims, made for services and goods, **emphasize** the imperative need for Consumer Protection Legislation and creation of awareness about it among the general **public**.

In this connection, there **are** a number of enactments, in India such as the prevention of Food Adulteration **Act**, **1954**, the Essential Commodities **Act**, **1955**, the Hire Purchases **Act**, **1972**, the Standards Weight and Measure **Act**, 1976 **etc**. However, **the** remedies prescribed there under are **time-** consuming, inadequate and expensive. **As** in other areas of Judicial **Processes**, the offenders are hardly caught, proceeded against and rarely, if every, got convicted. When violators **go scot**-free, the **victims** have no remedy and **gets frustrated**.

A. Consumers in India are aware of their rights

B. Consumers in India exercise their rights responsibly

C. Consumers in India are unaware of their rights and hence, they do not exercise them

D. None of the above could be ascertained on the basis of paragraph given here above





Ans.(d)

Sol. The passage emphasizes that **consumers** should be aware of their rights and **exercise** them responsibly. However, it does not clearly state whether **consumers** in India are **actually** aware **or** unaware of their rights. Since no definite conclusion can be drawn from the passage, the correct answer is (d) None of the above could be ascertained on the basis of **the** paragraph given here above.

Q30. Which among the following is a correct statement based on the passage?

Read the given passage and answer the following **questions**.

It is desirable for consumers to be aware of their rights, and to exercise those rights responsibly and intelligently. In these days of audio-video publicity on the public and private media, it is indeed very difficult, if not impossible, to verify the exaggerated or false claims made by producers, manufacturers, distributors and dealers of various goods and services. The all pervasive, exaggerated and often false claims, made for services and goods, emphasize the imperative need for Consumer Protection Legislation and creation of awareness about it among the general public. In this connection, there are a number of enactments, in India such as the prevention of Food Adulteration Act, 1954, the Essential Commodities Act, 1955, the Hire Purchases Act, 1972, the Standards Weight and Measure Act, 1976 etc. However, the remedies prescribed there under are time- consuming, inadequate and expensive. As in other areas of Judicial Processes, the offenders are hardly caught, proceeded against and rarely, if every, got convicted. When violators go scot-free, the victims have no remedy and gets frustrated.

A. The Government of India has enacted sufficient number of laws for protection of consumer interests

B. The paragraph does not give comprehensive list of laws in favour of consumers

C. Legal environment for consumers in India is not conducive

D. Legal environment for consumers in India is conducive

Ans.(b)

Sol. The passage **mentions several** consumer protection **laws** like the Prevention of Food Adulteration Act, **1954**, and the Essential Commodities Act, 1955, but it also states that these remedies are inadequate and **time**-consuming. Since the passage does not provide a complete **list** of consumer laws, the correct answer is **(b)** The paragraph does **not** give a comprehensive list of laws **in** favor of consumers.

Q31. Who among **the following could be** considered at **the** center point in the passage? Read the given passage and answer **the** following **questions**.

It is desirable for **consumers** to be aware of their **rights**, and to exercise those rights **responsibly** and intelligently. In these days of audio-video publicity **on** the public and private media, **it is** indeed very difficult, **if** not impossible, to verify **the** exaggerated or **false** claims made by producers, manufacturers, **distributors** and dealers of various **goods** and services. The all pervasive, exaggerated and often false claims, made for services and goods, **emphasize** the imperative need for **Consumer Protection Legislation** and creation of awareness about it among the **general public**. **In this connection**, there are a number of enactments, in India such as **the** prevention of Food Adulteration Act, 1954, **the Essential** Commodities **Act**, 1955, the Hire Purchases Act, 1972, **the** Standards Weight and Measure **Act**, 1976 **etc**. However, **the** remedies **prescribed** there under are time- consuming, inadequate and expensive. As **in** other areas of Judicial Processes, the offenders are hardly caught, proceeded against and rarely, if every, got convicted. When violators go **scot**-free, **the victims** have **no** remedy and **gets frustrated**.

A. Consumers

- **B. Judicial Process**
- C. Manufacturers
- D. Government





Ans.(a)

Sol. The entire passage revolves around consumer **rights** and protection, the challenges **they face** due to misleading advertisements and weak legal remedies, and the need for consumer **protection** laws. Therefore, **consumers** are the **central** focus of the passage.

Thus, the correct answer is (a) **Consumers**.

Q32. Which among the **following is a** correct **statement** based on the **passage**?

Read the given passage and answer the following **questions**.

It is desirable for consumers to be aware of **their rights**, and to exercise those **rights responsibly** and intelligently. In these days of audio-**video publicity on** the public and private media, it is indeed very difficult, **if** not **impossible**, to verify **the** exaggerated **or** false claims made by **producers**, manufacturers, distributors and dealers of various **goods** and services. The **all** pervasive, exaggerated and often false claims, made for services and goods, **emphasize** the imperative need for **Consumer** Protection Legislation and creation of awareness about it among the **general public**. In **this** connection, there are a number of enactments, in India such **as** the prevention of Food Adulteration **Act**, 1954, the Essential Commodities **Act**, 1955, the Hire Purchases **Act**, 1972, **the** Standards Weight and Measure Act, 1976 etc. However, **the** remedies prescribed there under are time- consuming, inadequate and expensive. **As** in other areas of **Judicial Processes**, the offenders are hardly caught, proceeded against and rarely, if every, got convicted. When violators **go scot**-free, the **victims** have no remedy and **gets frustrated**.

A. Producers and manufacturers are sensitive about consumers' rights.

B. Producers and manufacturers are insensitive about consumers' rights.

C. Producers and manufacturers are neutral about consumers' rights.

D. Producers and manufacturers are basically governed by ethics and values.

Ans.(b)

Sol. The passage highlights that producers and manufacturers make exaggerated and false claims about their goods and services. This shows that they are insensitive to consumer rights and **concerns**. If they were truly concerned about consumer welfare, they would provide accurate information. Thus, the correct answer is **(b) Producers** and manufacturers **are** insensitive about **consumers'** rights.

Q33. Number of votes **cast** in villages A and B together is % of the number of valid **votes cast** in village D. **The following table shows the number** of registered **voters for** an election held in five different **villages** (A-E), along with the percentage of votes **cast and** the percentage of valid votes cast. Based on **the** data in **the** table, answer the questions that follow:

Village	Number of Registered Voters	Percentage (%) of Votes Cast	Valid Votes (%) out of Votes Cast
А	18,000	75%	90%
В	22,500	80%	75%
С	20,000	50%	100%
D	25,000	80%	60%
Е	12,500	60%	80%
A. 262.5			
B. 225			
C 127 F			

Village-wise Details of Election

C. 137.5

D. 175





Ans.(a)

Sol.

Village	Registered Voters	Votes Cast	Valid Votes	Invalid Votes (Votes Cast – Valid Votes)
А	18.000	75% of 18,000 =	90% of 13,500 =	13.500 - 12.150 = 1.350
	10,000	13,500	12,150	10,000 12,100 1,000
В	22 500	80% of 22,500 =	75% of 18,000 =	18 000 - 13 500 = 4 500
D	22,300	18,000	13,500	10,000 13,500 - 1,500
C	20.000	50% of 20,000 =	100% of 10,000 =	10 000 - 10 000 - 0
C	20,000	10,000	10,000	10,000 10,000 - 0
п	25,000	80% of 25,000 =	60% of 20,000 =	20 000 - 12 000 - 8 000
D	23,000	20,000	12,000	20,000 12,000 - 0,000
F	12 500	60% of 12,500 =	80% of 7,500 =	7 500 - 6 000 - 1 500
	12,300	7,500	6,000	7,300 - 0,000 - 1,300

Total Votes Cast in A and B 13500 + 18000 = 31500

Valid Votes in D = 12000

Required % =

 $\left(\frac{31500}{12000}\right) \times 100 = 262.5\%$

(1200031500)×100=262.5%

Q34. What is the average of the number of valid votes cast in village B, D, and E together? The following table shows the number of registered voters for an election held in five different villages (A-E), along with the percentage of votes cast and the percentage of valid votes cast. Based on the data in the table, answer the questions that follow:

Village-wise Details of Election

Villago	Number of Registered	Percentage (%) of Votes	Valid Votes (%) out of Votes
vmage	Voters	Cast	Cast
А	18,000	75%	90%
В	22,500	80%	75%
С	20,000	50%	100%
D	25,000	80%	60%
Е	12,500	60%	80%
A 7500		•	

A. 7500

B. 9000

C. 8000

D. 10500





Ans.(d)

301.				
Village	Registered Voters	Votes Cast	Valid Votes	Invalid Votes
А	18,000	75% of 18,000 = 13,500	90% of 13,500 = 12,150	13,500 – 12,150 = 1,350
В	22,500	80% of 22,500 = 18,000	75% of 18,000 = 13,500	18,000 – 13,500 = 4,500
С	20,000	50% of 20,000 = 10,000	100% of 10,000 = 10,000	10,000 - 10,000 = 0
D	25,000	80% of 25,000 = 20,000	60% of 20,000 = 12,000	20,000 – 12,000 = 8,000
E	12,500	60% of 12,500 = 7,500	80% of 7,500 = 6,000	7,500 – 6,000 = 1,500

Valid Votes in B, D and E village = 13500 + 12000+ 6000 = 31500 Average = 31500/3=10500

Q35. Total number of invalid votes cast **in** villages D and E together is **less** than the number of votes cast in village C.

The following **table shows the number** of regis**tered voters** for an election held in five **different villages** (A-E), **along** with **the** percentage of votes **cast** and the percentage of valid votes **cast**. Based on the data **in** the table, answer the questions **that** follow:

Village-wise Details of Election

Village	Number of Registered Voters	Percentage (%) of Votes Cast	Valid Votes (%) out of Votes Cast
А	18,000	75%	90%
В	22,500	80%	75%
С	20,000	50%	100%
D	25,000	80%	60%
Е	12,500	60%	80%
A. 750 B. 1500	AU	LQE	

C. 500

D. 1250

Ans.(c)

23

Sol.

Invalid Votes (Votes Cast -Registered Village **Votes Cast** Valid Votes Voters Valid Votes) 75% of 18,000 = 90% of 13,500 = 18,000 13,500 - 12,150 = **1,350** А 13,500 12,150 80% of 22,500 = 75% of 18,000 = В 22,500 18,000 - 13,500 = **4,500** 18,000 13,500 50% of 20,000 = 100% of 10,000 = С 20,000 10,000 - 10,000 = 010,000 10,000 80% of 25,000 = 60% of 20,000 = D 25,000 20,000 - 12,000 = **8,000** 20,000 12,000 60% of 12,500 = 80% of 7,500 = E 12,500 7,500 - 6,000 = **1,500** 7,500 6,000





Total Invalid Votes in D and E = 8000 + 1500 = 9500 Difference from Votes Cast in C = 10000 - 9500 = 500

Q36. What is the number of invalid votes of villages A and D together?

The following table shows the number of registered **voters** for an election held in five different villages (A-E), along with the **percentage** of votes **cast and the** percentage of valid votes cast. Based on the data in the table, answer the questions that follow:

Village-wise Details of Election

Village Number of Registered Vote	Number of Degistered Vete	Demonstrate (0/) of Votes Co	Valid Votes (%) out of Votes
	rencentage (%) of votes ca	Cast	
Α	18,000	75%	90%
В	22,500	80%	75%
C	20,000	50%	100%
D	25,000	80%	60%
E	12,500	60%	80%

A. 7700

B. 9350

C. 7000

D. 7600

Ans.(b)

Sol.

Village	Registered Voters	Votes Cast	Valid Votes	Invalid Votes (Votes Cast – Valid Votes)
	10.000	75% of 18,000 =	90% of 13,500 =	
A	18,000	13,500	12,150	13,500 – 12,150 = 1,350
B	22 500	80% of 22,500 =	75% of 18,000 =	18000 - 13500 - 4500
D	22,300	18,000	13,500	10,000 - 13,300 - 4,300
C	20.000	50% of 20,000 =	100% of 10,000 =	10 000 - 10 000 - 0
C	20,000	10,000	10,000	10,000 10,000 - 0
р	25,000	80% of 25,000 =	60% of 20,000 =	20 000 - 12 000 - 8 000
D	23,000	20,000	12,000	20,000 12,000 - 0,000
F	12 500	60% of 12,500 =	80% of 7,500 =	7 500 - 6 000 = 1 500
L	12,500	7,500	6,000	7,300 0,000 - 1,300

Invalid Votes D and A together = 8000+ 1350 = 9350

Q37. Number of valid votes cast in villages A and C together is approximately

% **less** than the number of votes cast in villages D and E together. **The** following **table shows** the **number** of registered **voters** for an **election** held in five different villages **(A-E)**, along with the percentage **of** votes cast and the percentage of valid votes cast. Based on the data in the table, answer the questions that follow:





Village-wise Details of Election

Village	Number of Registered Vote	Percentage (%) of Votes Ca	Valid Votes (%) out of Votes Cast
А	18,000	75%	90%
В	22,500	80%	75%
С	20,000	50%	100%
D	25,000	80%	60%
Е	12,500	60%	80%

A. 45.7

B. 36.6

C. 19.5

D. 28.5

Ans.(c)

Sol.

Village	Registered Voters	Votes Cast	Valid Votes	Invalid Votes (Votes Cast – Valid Votes)
А	18,000	75% of 18,000 = 13,500	90% of 13,500 = 12,150	13,500 – 12,150 = 1,350
В	22,500	80% of 22,500 = 18,000	75% of 18,000 = 13,500	18,000 – 13,500 = 4,500
С	20,000	50% of 20,000 = 10,000	100% of 10,000 = 10,000	10,000 - 10,000 = 0
D	25,000	80% of 25,000 = 20,000	60% of 20,000 = 12,000	20,000 - 12,000 = 8,000
Е	12,500	60% of 12,500 = 7,500	80% of 7,500 = 6,000	7,500 - 6,000 = 1,500
Valid votes in A and C = 12150 + 10000 = 22150				

Votes cast in D and E = 20000 + 7500 = 27500

Percentage Less =

 $\left(\frac{27500 - 22150}{27500}\right) \times 100 = \left(\frac{5350}{27500}\right) \times 100 \approx 19.45\%$

(2750027500-22150)×100=(275005350)×100≈19.45%

Q38. Who is credited with creating the first standardized intelligence test, which laid the foundation for modern intelligence testing?

A. Alfred Binet

B. Charles Spearman

- C. Lewis Terman
- D. Howard Gardner

Ans.(a)

Sol. The correct answer is Alfred Binet.

1. Alfred Binet, a French psychologist, is credited with creating the first standardized intelligence test in the early 20th century. His goal was to identify children who needed special educational support, not to measure a person's innate intellectual ability.





2. The test he developed, known as the Binet-Simon Scale, was the precursor to later intelligence tests, including those developed by Lewis Terman.

3. Charles Spearman developed the theory of general intelligence (g-factor), but he was not responsible for creating the first intelligence test.

4. Howard Gardner is known for his theory of multiple intelligences, which differs from traditional intelligence testing by proposing various types of intelligences rather than a single measure.

Information Booster

1. Alfred Binet's Contribution:

1.1. Binet's original goal was to help French educators by identifying children who needed additional academic support.

1.2. The test was initially focused on cognitive abilities like memory, reasoning, and problem-solving.

1.3. The Binet-Simon Scale was later adapted and revised by other psychologists, including Lewis Terman, for use in the United States.

2. Development of Intelligence Testing:

2.1. The Binet-Simon Scale was further refined and became the Stanford-Binet Intelligence Scales, which remains one of the most well-known intelligence tests.

2.2. Intelligence testing evolved significantly, with IQ (intelligence quotient) becoming a central concept in subsequent tests.

3. Importance of Standardization:

3.1. One of Binet's significant contributions was standardizing the intelligence test, allowing it to be administered and interpreted consistently across

different individuals.

3.2. This standardization laid the groundwork for future testing practices in educational and psychological assessments.

Additional Information

Incorrect option (2) - Charles Spearman:

Spearman's main contribution was the development of the g-factor theory of intelligence, not the creation of intelligence tests. He argued that intelligence is a general ability that influences performance across various cognitive tasks.

Incorrect option (3) - Lewis Terman:

Terman, a psychologist at Stanford University, revised Binet's intelligence test and introduced the Stanford-Binet Intelligence Scale. While important in the history of intelligence testing, Terman did not create the first standardized test.

Incorrect option (4) - Howard Gardner:

Gardner is known for his Theory of Multiple Intelligences, which suggests that intelligence is not a single entity but rather consists of different kinds of intelligences, such as linguistic, logical-mathematical, spatial, and musical. This theory contrasts with traditional IQ-based models of intelligence.

Q39. Which of the following numbers will replace the question mark (?) in the given series? A2B, B3D, C5F, ? E11

A. C7H **B. D7M** C. D7F D. D7H 26



Ans.(d)

Sol. Given Series: A2B, B3D, C5F, ?, E11 Solution: Step-by-step Analysis:

The missing term is D7H

First Letters: A, B, C, ?, $E \rightarrow$ They are in alphabetical order: A +1, B +1, C+1 \rightarrow , D +1 \rightarrow , E +1 \rightarrow

-> So the missing first letter is D. Middle Digits: 2, 3, 5, ?, 11 \rightarrow These are all prime numbers. Prime sequence: 2,3,5,7,11 \rightarrow So the missing number is 7. Last Letters: B, D, F, ?, ? -> The letters are increasing by +2 in alphabet position: B +2, D +2, F +2 \rightarrow , H +2 \rightarrow , J +2 \rightarrow \leftarrow So the missing letter is H.



Q40. Which of the following numbers will replace the question mark (?) in the given series?

0, 9, 26, **65**, 124, 217, ? A. 342 B. 340 C. 240 D. 540 Ans.(a) Sol. Given Series: 0, 9, 26, 65, 124, 217, ? Solution: Let's denote each term of the series using a formula based on position (n): Observe the pattern: = 13-1 9=23+126 = 33 - **1** 65 = 43 + 1124 = 53-1217 = 63 + 1We observe the pattern alternates as follows: Odd positions: n3 - 1 Even positions: n3 + 1Next position is 7 (odd), so: 73-13431 = = 342The number that will replace '?' is 342.