

UGC NET Paper -1 Memory Based 28th June Shift -1 Topic Based Questions

Q1. In the Four-Quadrant format of MOOCs, which of the following facilitates interactions amongst learners and course coordinators?

- (a) Videos
- (b) Assessments
- (c) Reading material
- (d) Discussion forum

Ans.(d)

Sol. Discussion forum is the correct answer because in the Four-Quadrant format of MOOCs (Massive Open Online Courses), the discussion forum is specifically designed to facilitate interactions between learners and course coordinators. It provides a platform where students can ask questions, engage in discussions with their peers, and receive feedback from instructors. This interactive element is critical in promoting collaborative learning and resolving queries related to course content.

Information Booster: • The Four-Quadrant approach includes videos, reading materials, assessments, and a discussion forum.

- Discussion forums enhance collaborative learning and peer-to-peer interaction.
- They allow students to post queries, participate in discussions, and receive guidance from course coordinators.
- Interaction in discussion forums fosters community learning in MOOCs.

Additional Knowledge: • Videos are primarily used for delivering lectures or tutorials in MOOCs. While they provide valuable content, they do not directly facilitate interaction between learners and coordinators.

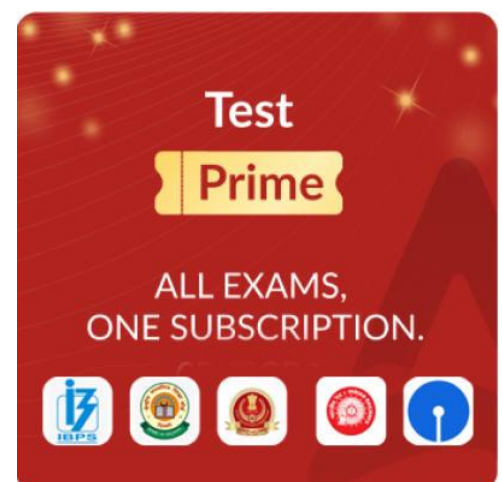
- Assessments are designed to evaluate learners' understanding of the course material. They help in tracking progress but do not serve as a platform for interaction.
- Reading material provides additional resources and references for deeper learning but does not inherently facilitate two-way interaction between participants and instructors.

Q2. When the age of the researcher affects the behaviour of the study participants, it is called:

- (a) Sociological Effect
- (b) Biosocial Effect
- (c) Psychological Effect
- (d) Psychosocial Effect

Ans.(b)

Sol. When the age of the researcher affects the behavior of the study participant, this influence can be seen as involving both biological (age as a biological factor) and social aspects (how society perceives and reacts to age differences), which might suggest the Biosocial Effect. Therefore, if option (b) Biosocial Effect is the correct answer this would emphasize the integration of both biological age and social dynamics affecting behavior.



Information Booster:

- Option A (Sociological Effect): Still pertains purely to societal structures and effects, not directly considering the biological aspects of age.
- Option C (Psychological Effect) and Option D (Psychosocial Effect): While these focus on psychological and combined psychological-social influences respectively, neither specifically address the biological component that the term "biosocial" encompasses, which includes biological aspects like age combined with social factors in influencing behaviors. Thus, if emphasizing the biological aspect of age alongside social responses, option (b) would be the correct option.

Q3. In its formative years, which university had taken to the strategy of adopting multi-media instructions through Gyan Vani and Gyan Darshan?

- (a) Karnataka State Open University
- (b) Indira Gandhi National Open University
- (c) Dr. B.R. Ambedkar Open University
- (d) Yashwant Rao Chavan Open University

Ans.(b)

Sol. Indira Gandhi National Open University (IGNOU) adopted a multi-media instruction strategy through platforms like Gyan Vani and Gyan Darshan to provide education through radio and television broadcasts. This innovative approach helped in reaching a wide audience and making education accessible to remote areas.

Information Booster:

- Karnataka State Open University: Focuses on distance education within Karnataka.
- Dr. B.R. Ambedkar Open University: One of the first open universities established in India.
- Yashwant Rao Chavan Open University: Focuses on providing flexible education opportunities in Maharashtra.

Q4. Match List I with List II

List I (Learning Definitions)	List II (Proponent)
A. Learning is an organization of behavior.	I. Guilford
B. Learning is the change in behavior resulting from behavior.	II. Skinner
C. Learning is selecting the appropriate response and connecting with the stimulus.	III. Garret
D. Learning is a process of progressive behavior adaptation.	IV. Thorndike

Choose the correct answer from the options given below: Match the Following

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

Ans.(d)

Sol. The correct matching of definitions with their proponents is as follows: A-III, B-I, C-IV, D-II

A-III (Garret): "Learning is an organization of behavior" — This aligns with Garret's view of learning as an organized and structured process.

B-I (Guilford): "Learning is the change in behavior resulting from behavior" — Guilford's approach emphasizes changes in behavior resulting from previous experiences or actions.

C-IV (Thorndike): "Learning is selecting the appropriate response and connecting with the stimulus" — Thorndike's Law of Effect describes learning as forming connections between stimuli and responses.

D-II (Skinner): "Learning is a process of progressive behavior adaptation" — Skinner's operant conditioning theory focuses on the adaptation of behavior through reinforcement.

Q5. Which of the following are not the characteristics of teacher-centered methods of teaching?

- A. Students are passive learners
- B. Teacher act as facilitator for learning
- C. Teacher directs learning activities
- D. Learning is based on collaboration between students
- E. Learning is based on student interest

Choose the correct answer from the options given below:

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

Ans.(c)

Sol. B. Teacher acts as a facilitator for learning: This statement is not applicable to teacher-centered methods.

D. Learning is based on collaboration between students: This statement is not applicable to teacher-centered methods.

E. Learning is based on student interest: This statement is not applicable to teacher-centered methods. So, the answer (c) suggests that teacher-centered methods include the facilitation by the teacher and a focus on student interest. It's important to note that teacher-centered methods typically involve the teacher being the central authority in the classroom, directing learning activities, and students being passive recipients of knowledge. This is contrary to the typical characteristics of student-centered methods where collaboration and student interest play a more prominent role.

Q6. The factor 'g' in the Spearman definition of intelligence stands for -

- (a) Genetic intelligence
- (b) Generative intelligence
- (c) General intelligence
- (d) Global intelligence

Ans.(c)

Sol. General intelligence, also known as g factor, refers to the existence of a broad mental capacity that influences performance on cognitive ability measures. It refers to a general mental ability that, according to Spearman, underlies multiple specific skills, including verbal, spatial, numerical and mechanical.

The child doesn't proceed straight or linear on the path of development at any stage never takes place at a constant or steady pace. After the child had developed to a certain level, there is likely to be a period of rest for consolidation of the developmental progress achieved till then. In advancing further, therefore, the development turn back and then moves forward again in a spiral pattern.

Q7. Identify the non-parametric tests used in statistical analysis.

- (a) Chi-square test
- (b) z-test
- (c) Pearson correlation
- (d) t-test

Ans.(a)

Sol. Non-parametric tests are statistical tests that do not assume a specific probability distribution for the data. They are used when data does not meet the assumptions of normality, homogeneity of variance, or when dealing with ordinal and categorical data.

1. Chi-square test – Correct (Non-parametric test)
 - o The Chi-square test is a non-parametric test used to analyze categorical (nominal) data.
 - o It evaluates whether observed frequencies differ from expected frequencies in contingency tables.
 - o Used in goodness-of-fit tests and tests for independence in categorical data analysis.

Information Booster

1. z-test – Incorrect (Parametric test)
 - o The z-test is a parametric test used for comparing sample means when the population variance is known and the sample size is large ($n > 30$).
2. Pearson correlation – Incorrect (Parametric test)
 - o The Pearson correlation is a parametric test that measures the linear relationship between two continuous variables assuming normal distribution.
 - o If data does not meet normality assumptions, a Spearman rank correlation (non-parametric) is used instead.
3. t-test – Incorrect (Parametric test)
 - o The t-test is a parametric test used to compare the means of two groups when the population variance is unknown and the sample size is small ($n < 30$).
 - o Independent t-tests and paired t-tests assume normal distribution.

Q8. Identify the parametric tests used for statistical analysis.

- (A) t-test
- (B) H-test
- (C) F-test
- (D) U-test

Choose the correct answer from the options given below :

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

Ans.(d)

Sol. Parametric tests are statistical tests that assume the underlying data follows a certain distribution, typically a normal distribution, and they rely on parameters like mean and standard deviation.

t-test (A): A parametric test used to compare the means of two groups to determine if they are significantly different from each other.

F-test (C): Another parametric test used to compare variances between groups or to test the overall significance in ANOVA.

On the other hand:

H-test (B), also known as the Kruskal-Wallis H test, is a non-parametric test used for comparing medians across multiple groups.

U-test (D), also known as the Mann-Whitney U test, is a non-parametric test used to compare differences between two independent groups when the data does not follow a normal distribution.

Information Booster:

1. t-test: Used for comparing means between two groups, assuming data follows a normal distribution.
2. F-test: Employed in comparing variances or analyzing variance in ANOVA.
3. Parametric tests: Assume data follows a specific distribution (usually normal).
4. Non-parametric tests: Used when the assumption of normal distribution is violated.

Q9. Which of the following are different types of ethnography?

- A. Classical ethnography
- B. Mainstream ethnography
- C. Post-modern ethnography
- D. Private ethnography
- E. Expressive ethnography

Choose the correct answer from the options given below:

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

Ans.(c)

Sol. Ethnography is a diverse field of research with multiple approaches tailored to studying cultures, behaviors, and social interactions. The types of ethnography mentioned in the question are evaluated as follows:

1. A. Classical Ethnography:

True. Classical ethnography involves traditional, immersive, long-term studies of societies and cultures, typically using fieldwork and participant observation.

3. D. Private Ethnography:

True. Focuses on personal, intimate, or confidential spaces, often exploring micro-level cultural experiences or private lives.

4. E. Expressive Ethnography:

True. Explores creative and performative aspects of culture, such as art, music, rituals, and other forms of expression.

Information Booster:

1. Classical Ethnography: Involves detailed, immersive studies using traditional fieldwork techniques.
2. Post-modern Ethnography: Challenges traditional objectivity, emphasizing researcher reflexivity and alternative narratives.
3. Private Ethnography: Examines personal or intimate cultural spaces.
4. Expressive Ethnography: Focuses on artistic and performative cultural expressions.

Additional Knowledge:

1. B. Mainstream Ethnography:

False. "Mainstream ethnography" is not a recognized type. The term lacks specificity and alignment with established ethnographic approaches.

Q10. In the light of Format for Action Research, pick the correct order:

- A. Interpretation
- B. Results
- C. Introduction, Objectives, Methodology
- D. Suggestions
- E. Intervention and Impact of Interventions

Choose the correct answer from the options given below:

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

Ans.(c)

Sol. The correct sequence for Action Research follows this order:

C: Introduction, Objectives, Methodology

- Sets the stage by identifying the research problem (e.g., low student engagement in science classes)
- Clearly states objectives (e.g., improve engagement through hands-on experiments)
- Outlines research design and methods (e.g., classroom observations, student surveys)

B: Results (Baseline Data / Pre-Intervention Findings)

- Presents baseline data showing the current situation
- Example: "Pre-intervention surveys showed only 40% of students actively participated"
- Establishes the need for intervention by quantifying the problem

E: Intervention and Impact

- Describes specific actions taken (e.g., implemented weekly lab experiments)
- Reports immediate observable effects (e.g., "Participation increased to 65% during interventions")
- Connects actions to the initial problem identified

A: Interpretation

- Analyzes whether objectives were met
- Example: "While engagement improved, some students still struggled with complex concepts"
- Links results back to original goals and research questions

D: Suggestions

- Provides practical recommendations based on findings
- Example: "Incorporate more visual aids for complex topics"
- Suggests directions for future research or implementation.

Q11. Given below are two statements:

Statement I: In historical research. external criticism is necessary to establish the authenticity of data.

Statement II: Various tests of authenticity are there in historical research but there is no need to use them.

In the light of the above statements, choose the correct answer from the options given below:

- (a) Both Statement I and Statement II are true
- (b) Both Statement I and Statement II are false
- (c) Statement I is true but Statement II is false
- (d) Statement I is false but Statement II is true

Ans.(c)

Sol. 1. Statement I is true: External criticism is a critical process in historical research. It is used to determine the authenticity of historical sources by examining their physical characteristics, such as the age, authorship, and origin of documents or artifacts. This process ensures the credibility of the data being used.

2. Statement II is false: While various tests of authenticity exist in historical research, they are essential and must be applied rigorously. Ignoring these tests compromises the validity and reliability of historical findings.

Information Booster 1. External vs. Internal Criticism:

External: Validates the physical authenticity of sources.

Internal: Evaluates the credibility and meaning of the content.

2. Common Authenticity Tests:

Paleography: Study of ancient writing.

Provenance: Determining the origin or ownership history of a document.

Chemical analysis: Testing ink, paper, or materials for dating.

3. Importance: Ensures historical narratives are based on genuine and credible evidence.

Q12. Mass media mostly operate in

- (a) Personal Sphere
- (b) Bureaucratic sphere
- (c) Public Sphere
- (d) Ethical Sphere

Ans.(c)

Sol. The public sphere is a realm of social life where individuals can come together to freely discuss and identify societal problems, and through that discussion, influence political action. Mass media play a crucial role in shaping public opinion and facilitating these discussions. They provide a platform for individuals to express their views, exchange ideas, and engage in debates about various issues of public concern.

Q13. One of the barriers to reception in communication is

- (a) Environmental stimulus
- (b) Open mindedness
- (c) Message brevity
- (d) Language orderliness

Ans.(a)

Sol. Environmental stimulus refers to external distractions or interferences that can act as a barrier to effective communication. These stimuli include noise, poor lighting, uncomfortable seating, or any external factor that disrupts the receiver's ability to focus on and process the message. Such environmental barriers can hinder the reception of the message and its intended meaning.

Information Booster: 1. Environmental barriers are one of the most common disruptions in communication.

2. Effective communication requires minimizing such distractions through proper planning and organization of the communication environment.

3. Barriers can also include technological issues, such as poor internet connectivity in online communication.

4. Noise management and comfortable settings improve message reception.

5. Environmental barriers are often addressed in organizational and educational settings through infrastructure and technology upgrades.

Additional Knowledge:

- (b) Open mindedness: Incorrect. Open mindedness facilitates communication by reducing psychological resistance.
- (c) Message brevity: Incorrect. Brevity often enhances communication by ensuring clarity and conciseness.
- (d) Language orderliness: Incorrect. Well-ordered language aids in clarity and understanding rather than acting as a barrier.

Q14. Types of communication distance on a continuum of ethnocentrism in sequence are:

- (A) Indifference
- (B) Avoidance
- (C) Disparagement
- (D) Equality
- (E) Sensitivity

Choose the correct answer from the options given below:

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

Ans.(b)

Sol. The correct sequence in terms of communication distance on a continuum of ethnocentrism is Equality (D), Sensitivity (E), Indifference (A), Avoidance (B), Disparagement (C). This arrangement reflects a progression from lower to higher ethnocentrism.

Information Booster:

Equality refers to accepting and valuing other cultures equally to one's own.

Sensitivity involves an understanding and empathetic approach toward cultural differences.

Indifference reflects a lack of interest or concern for cultural differences, often showing neutrality.

Avoidance indicates a tendency to distance oneself from other cultures to avoid interaction.

Disparagement represents an extreme form of negative attitude toward other cultures, often characterized by hostility.

Q15. The Shannon and Weaver mathematical model of communication was based on a linear system of:

- (a) Print communication
- (b) Electronic communication
- (c) New communication
- (d) Traditional communication

Ans.(b)

Sol. The Shannon and Weaver mathematical model of communication was based on a linear system of electronic communication.

The Shannon and Weaver model, introduced in 1948, is one of the earliest models of communication and was developed to improve technical communication, specifically electronic communication.

Q16. Identify the correct sequence of the elements of communication set by Aristotle:

- (A) Speech
- (B) Speaker
- (C) Audience
- (D) Occasion
- (E) Effect

Choose the correct answer from the options given below:

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

Ans.(d)

Sol. Aristotle's model of communication is one of the earliest and most famous communication models, often known as the Rhetorical Model. The elements in the model are as follows:

Speaker (B): The person who is delivering the message or speech.

Speech (A): The message or content of the communication.

Occasion (D): The context or setting in which the communication takes place.

Audience (C): The people receiving the message.

Effect (E): The impact or outcome of the communication on the audience.

Q17. Arrange the following programming languages according to their generations in ascending order:

- A. Machine language
- B. High level language
- C. Assembly language
- D. Very high level language

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

Ans.(d)

Sol. The programming languages are arranged according to their generations as follows:

A. Machine language: This is the first generation language and the most basic, consisting of binary code (0s and 1s) that is directly understood by the computer's hardware.

C. Assembly language: This is a second-generation language, using mnemonics that correspond to machine language instructions.

B. High-level language: This is a third-generation language (3GL), such as C, C++, or Java, that is closer to human language and abstracted from the hardware.

D. Very high-level language: This is a fourth-generation language (4GL), such as SQL which is even more abstracted and focused on problem-solving and applications, rather than programming logic.

Information Booster:

1. Machine language is the most basic and primitive language consisting of binary code, directly executed by the computer's CPU.
2. Assembly language is a low-level language that uses symbolic instructions that are translated to machine code through an assembler.
3. High-level languages allow for more abstraction, enabling developers to write programs that are easier to understand and closer to human languages.
4. Very high-level languages go even further, focusing on problem-solving rather than the specifics of computer architecture or programming logic.

Q18. The languages that Ramanujan tried to bring to limelight in Indological studies is: Read the given passage and answer the following questions

A. K. Ramanujan was one of those thinkers, like Freud (whom he greatly, though not uncritically, admired), who so transform our way of looking at a subject that we are in danger of undervaluing their contribution, since we have come to take for granted precisely what they taught us, as we view the subject through their eyes. At a time when the American Indo-logical establishment regarded native Indian scholars merely as sources of information about language and texts, like the raw fiber that were taken from India to be processed in British mills, but seldom as scholars who might have their own ideas about how to process those texts, Raman taught them all how to weave a theory, a folktale, a poem, a book. Raman taught them all how to weave a theory, a folktale, a poem, a book. Long before it was politically respectable, let alone politically correct, to study the works of women or of 'illiterate' peasants, Raman valued their poetry, their stories and their counter-systems. At a time when Indian literature meant Sanskrit, and Sanskrit meant Greek and Latin, Raman arrived in Chicago to join Edward C. Dimock and the other 'founding fathers' in proclaiming to the world the relevance of Tamil and Bengali and the other mother tongues. Without so much as raising his gentle voice, he blazed a great path through the centre of Indological studies. He gave us so many new paradigms that no Indologist can now think about India without thinking through his thoughts.

- (a) Greek and Latin
- (b) Only Sanskrit
- (c) Tamil, Bengali and other mother tongues
- (d) French and German

Ans.(c)

Sol. A.K. Ramanujan emphasized the significance of Tamil, Bengali, and other regional languages in Indological studies, challenging the traditional dominance of Sanskrit and classical languages like Greek and Latin.

Q19. Ramanujan emphasised on: Read the given passage and answer the following questions

A. K. Ramanujan was one of those thinkers, like Freud (whom he greatly, though not uncritically, admired), who so transform our way of looking at a subject that we are in danger of undervaluing their contribution, since we have come to take for granted precisely what they taught us, as we view the subject through their eyes. At a time when the American Indo-logical establishment regarded native Indian scholars merely as sources of information about language and texts, like the raw fiber that were taken from India to be processed in British mills, but seldom as scholars who might have their own ideas about how to process those texts, Raman taught them all how to weave a theory, a folktale, a poem, a book. Raman taught them all how to weave a theory, a folktale, a poem, a book. Long before it was politically respectable, let alone politically correct, to study the works of women or of 'illiterate' peasants, Raman valued their poetry, their stories and their counter-systems. At a time when Indian literature meant Sanskrit, and Sanskrit meant Greek and Latin, Raman arrived in Chicago to join Edward C. Dimock and the other 'founding fathers' in proclaiming to the world the relevance of Tamil and Bengali and the other mother tongues. Without so much as raising his gentle voice, he blazed a great path through the centre of Indological studies. He gave us so many new paradigms that no Indologist can now think about India without thinking through his thoughts.

- (a) The criticism on the British mills
- (b) Creating controversies in American Indological Studies
- (c) A path through Indological Studies
- (d) The study of Western languages only

Ans.(c)

Sol. Ramanujan created a transformative path in Indological studies by valuing diverse sources, including women's poetry and folk traditions, without raising controversies or limiting his scope to Western languages.

Q20. Who were the 'Founding Fathers' that Ramanujan joined in Chicago? Read the given passage and answer the following questions

A. K. Ramanujan was one of those thinkers, like Freud (whom he greatly, though not uncritically, admired), who so transform our way of looking at a subject that we are in danger of undervaluing their contribution, since we have come to take for granted precisely what they taught us, as we view the subject through their eyes. At a time when the American Indo-logical establishment regarded native Indian scholars merely as sources of information about language and texts, like the raw fiber that were taken from India to be processed in British mills, but seldom as scholars who might have their own ideas about how to process those texts, Raman taught them all how to weave a theory, a folktale, a poem, a book. Raman taught them all how to weave a theory, a folktale, a poem, a book. Long before it was politically respectable, let alone politically correct, to study the works of women or of 'illiterate' peasants, Raman valued their poetry, their stories and their counter-systems. At a time when Indian literature meant Sanskrit, and Sanskrit meant Greek and Latin, Raman arrived in Chicago to join Edward C. Dimock and the other 'founding fathers' in proclaiming to the world the relevance of Tamil and Bengali and the other mother tongues. Without so much as raising his gentle voice, he blazed a great path through the centre of Indological studies. He gave us so many new paradigms that no Indologist can now think about India without thinking through his thoughts.

- (a) British Mill Owners
- (b) American Indo-logical establishment leaders
- (c) Edward C. Dimock and others
- (d) Greek and Latin scholars

Ans.(c)

Sol. In Chicago, Ramanujan collaborated with Edward C. Dimock and other pioneering Indologists who expanded the scope of Indian studies beyond classical Sanskrit to include regional languages and folk traditions.

Q21. What did Ramanujan teach in America? Read the given passage and answer the following questions

A. K. Ramanujan was one of those thinkers, like Freud (whom he greatly, though not uncritically, admired), who so transform our way of looking at a subject that we are in danger of undervaluing their contribution, since we have come to take for granted precisely what they taught us, as we view the subject through their eyes. At a time when the American Indo-logical establishment regarded native Indian scholars merely as sources of information about language and texts, like the raw fiber that were taken from India to be processed in British mills, but seldom as scholars who might have their own ideas about how to process those texts, Raman taught them all how to weave a theory, a folktale, a poem, a book. Raman taught them all how to weave a theory, a folktale, a poem, a book. Long before it was politically respectable, let alone politically correct, to study the works of women or of 'illiterate' peasants, Raman valued their poetry, their stories and their counter-systems. At a time when Indian literature meant Sanskrit, and Sanskrit meant Greek and Latin, Raman arrived in Chicago to join Edward C. Dimock and the other 'founding fathers' in proclaiming to the world the relevance of Tamil and Bengali and the other mother tongues. Without so much as raising his gentle voice, he blazed a great path through the centre of Indological studies. He gave us so many new paradigms that no Indologist can now think about India without thinking through his thoughts.

- (a) Process raw fibers in British mills
- (b) Weave theories, folktales, poems and books
- (c) Only Sanskrit literature
- (d) Only English Literature

Ans.(b)

Sol. Ramanujan was known for his ability to interweave various disciplines, combining theories, folktales, and poetry, and presenting them in a cohesive, scholarly framework.

Q22. Who is A. K. Ramanujan compared to in the text? Read the given passage and answer the following questions

A. K. Ramanujan was one of those thinkers, like Freud (whom he greatly, though not uncritically, admired), who so transform our way of looking at a subject that we are in danger of undervaluing their contribution, since we have come to take for granted precisely what they taught us, as we view the subject through their eyes. At a time when the American Indo-logical establishment regarded native Indian scholars merely as sources of information about language and texts, like the raw fiber that were taken from India to be processed in British mills, but seldom as scholars who might have their own ideas about how to process those texts, Raman taught them all how to weave a theory, a folktale, a poem, a book. Raman taught them all how to weave a theory, a folktale, a poem, a book. Long before it was politically respectable, let alone politically correct, to study the works of women or of 'illiterate' peasants, Raman valued their poetry, their stories and their counter-systems. At a time when Indian literature meant Sanskrit, and Sanskrit meant Greek and Latin, Raman arrived in Chicago to join Edward C. Dimock and the other 'founding fathers' in proclaiming to the world the relevance of Tamil and Bengali and the other mother tongues. Without so much as raising his gentle voice, he blazed a great path through the centre of Indological studies. He gave us so many new paradigms that no Indologist can now think about India without thinking through his thoughts.

- (a) Chomsky
- (b) Sigmund Freud
- (c) Brunvand
- (d) British Mill Owners

Ans.(b)

Sol. Ramanujan is compared to Freud in the text for his transformative perspective and the way he reshaped the understanding of Indological studies, much like Freud did in psychology.

Q23. The difference between the compound interest and simple interest on Rs.10,000/- for 3 years at 10% per annum is

- (a) 310
- (b) 300
- (c) 200
- (d) 430

Ans.(a)

Sol. Given P = Rs. 10000, r = 10% and n = 3 years

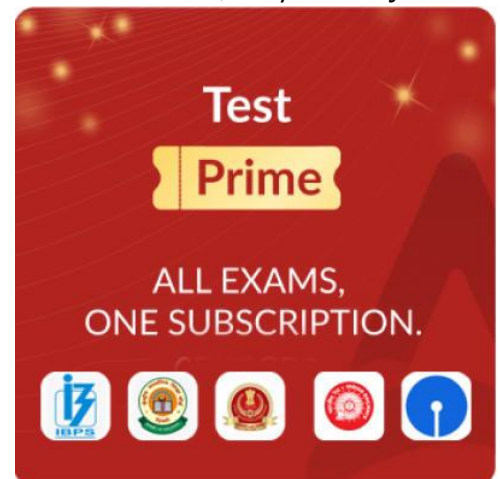
$$C.I = 10000[(1+10/100)^3 - 1]$$

$$C.I = 10000[(11/10)^3 - 1]$$

$$C.I = 10(121+100+110) = 3310$$

$$S.I = (10000 \times 3 \times 10)/100 = 3000$$

$$C.I-S.I = 3310-3000=Rs. 310$$



Test Prime

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Q24. The ratio of water and milk in a 27 litre mixture is 5:4. Find the quantity of water to be added to the mixture in order to make the ratio of water and milk as 3:1.

- (a) 12 litres
- (b) 15 litres
- (c) 21 litres
- (d) 36 litres

Ans.(c)

Sol. Let the water and milk be $5x$ and $4x$ respectively,

$$5x + 4x = 27$$

$$9x = 27$$

$$x = 3$$

Hence, water = 15 litres and milk = 12 litres.

According to the question,

Let the quantity of water added be m litres.

$$(15 + m) / 12 = 3 / 1$$

$$15 + m = 36$$

$$m = 21$$

Q25. Statement I: According to Classical Indian Logicians, all fallacies are material fallacies.

Statement II: According to Classical Indian Logicians, fallacies could be purely formal as well as purely informal.

In light of the above statements, choose the most appropriate answer from the options given below:

Given below are 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.(d)

Sol. Statement I: "According to Classical Indian Logicians, all fallacies are material fallacies." (Incorrect, Classical Indian Logicians (like the Naiyayikas) recognize both formal and material fallacies.

They categorize fallacies under Hetvabhasa (fallacies of reason), which include:

Formal fallacies (errors in logical structure)

Material/informal fallacies (errors due to content, relevance, etc.)

Statement II: "According to Classical Indian Logicians, fallacies could be purely formal as well as purely informal." (Correct,

This aligns with Nyaya theory, where fallacies can be due to form (structure) or content (substance).

For example, the Hetvabhasas like Savyabhichara (inconclusive reason) are formal, while Asiddha (unproven reason) is informal.

Correct Answer: (D) Statement I is incorrect but Statement II is correct.

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 of the following is incorrect claim in the context of Vyapti?

- (a) For Cārvākas, it is possible to ascertain that smoke is invariably and universally attended with fire all the time.
- (b) For Buddhists, the universal relation between smoke and fire can be ascertained even without examining all the possible cases.
- (c) For Vedāntins, Vyapti between smoke and fire is known to co-exist and at the same time it is never known not to accompany smoke.
- (d) For Naiyyāyikas, it is neither easy nor necessary for the formation of a universal proposition to ascertain any relation of causality or identity between the two phenomena.

Ans.(a)

Sol. For Cārvākas, it is possible to ascertain that smoke is invariably and universally attended with fire all the time:

Incorrect Claim. Cārvākas reject inference as a valid means of knowledge (Pramāṇa) and deny the possibility of establishing Vyapti.

According to them, universal relations like smoke and fire cannot be ascertained because they rely only on direct perception (Pratyakṣa).

Vyapti (Invariable Concomitance):

It is the universal and invariable relation between two entities, such as smoke and fire, where the presence of one (smoke) necessarily indicates the presence of the other (fire).

It is central to inferential reasoning in Indian philosophy.

Information Booster:

Cārvākas:

Rely on perception (Pratyakṣa) alone and reject inference, thus denying the concept of Vyapti.

Buddhists:

Accept inference and derive Vyapti through observation of specific instances and logical reasoning.

Vedāntins:

Consider Vyapti to be established through consistent experience of co-existence.

Naiyyāyikas:

View Vyapti as the result of repeated observation (Anvaya-Vyatireka) rather than causality or identity.

Q28. Which of the following are the orders of signification in communication?

- A. Denotation
- B. Connotation
- C. Myth
- D. Credibility
- E. Attribution

Choose the correct answer from the options given below:

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

Ans.(a)

Sol. The correct answer is:

- (a) A, B, and C only

In the study of semiotics within communication, the orders of signification refer to the levels at which signs (like words, images, sounds) convey meaning. These include:

- A. Denotation: This is the first order of signification and refers to the literal, dictionary definition of a sign. It's the most direct and explicit meaning of a sign.
- B. Connotation: This is the second order of signification and involves the cultural, emotional, or associative meanings that are linked to a sign beyond its literal definition. Connotations are subjective and vary across different cultures and social groups.
- C. Myth: This refers to the broader, often ideological messages that a sign can convey. In semiotic terms, myth is a cultural story or concept that goes beyond even connotations to embed deeper social meanings into the sign.

D. Credibility and E. Attribution do not fall under the typical categories of signification in semiotics. Credibility relates more to the reliability or believability of a source or message, and attribution deals with the source or origin of a message, neither of which are levels of meaning in signs themselves.

Q29. Which of the following corresponds to hetu (reason) according to classical Indian Logicians?

- (a) Therefore this hill has fire
- (b) Because it has smoke.
- (c) this hill has fire
- (d) This hill has smoke which is invariably associated with fire

Ans.(b)

Sol. In classical Indian logic, particularly as expounded in the Nyaya school of philosophy, *hetu* refers to the reason or the basis for inferring a conclusion. In the context of the example provided, "Because it has smoke" functions as the *hetu* or reason for inferring the presence of fire on the hill.

Information Booster: 1. The *Nyaya* system of Indian philosophy provides a systematic method of reasoning, emphasizing the structure of valid inference.

2. Key elements of *anumana* (inference):

Pratijna (Proposition): What is to be proved.

Hetu (Reason): The logical basis for the proposition.

Udaharana (Example): A supporting instance demonstrating the universal rule (*vyapti*).

Upanaya (Application): Application of the general rule to the specific case.

Nigamana (Conclusion): Restatement of the proposition as proven.

Q30. The cost price of an article is 95% of its selling price. Find the percentage of profit or loss.

- (a) 5% loss
- (b) 5% profit
- (c) 5.26% profit
- (d) 5.5% loss

Ans.(c)

Sol. Given:

CP = 95% of SP

Let SP = 100 (assume for simplicity)

Then, CP = 95

Formula:

Profit = SP – CP

Profit% = (Profit / CP) × 100

Solution:

SP = 100

CP = 95

Profit = 100 – 95 = 5

Profit% = (5 / 95) × 100 = 5.26%

Final Answer:

(C) 5.26% profit

Q31. Given below are two statements:

Statement I: Cache memory is volatile memory and is much slower than Random Access Memory (RAM)

Statement II: CDs, DVDs and Magnetic Tapes are all optical media devices,

In the light of the above statements. choose the correct answer from the options given below:

- (a) Both Statement I and Statement II are true
- (b) Both Statement I and Statement II are false
- (c) Statement I is true but Statement II is false
- (d) Statement I is false but Statement II is true

Ans.(b)

Sol. Statement I is false: Cache memory is volatile, but it is much faster than RAM, not slower. Statement II is false: CDs and DVDs are optical media, but magnetic tapes are not. Magnetic tapes use magnetic storage technology, not optical.

Information Booster:

1. Cache memory is a small, high-speed memory located close to the CPU, used to store frequently accessed data.
2. Optical media refers to storage devices like CDs and DVDs that use laser technology to read and write data.

Additional Knowledge:

Magnetic tapes are typically used for long-term storage and backups and are slower than optical or solid-state storage.

Q32. Which of the following is an example of a non-impact printer?

- (a) Dot Matrix
- (b) Daisy Wheel
- (c) Line
- (d) Laser

Ans.(d)

Sol. Non-impact printers are those that do not require direct contact with the paper to produce an image or text. The process is done without any striking mechanism, unlike impact printers which physically strike the paper to create text (like dot matrix or daisy wheel printers).

- Dot Matrix: This is an impact printer, as it uses a print head that strikes an ink ribbon to form characters on paper.
- Daisy Wheel: This is also an impact printer, as it uses a wheel with pre-formed characters that strikes an ink ribbon against the paper to produce text.
- Line: This is typically an impact printer too, where a line of text is printed by the physical striking of the paper.
- Laser: Laser printers are non-impact printers. They use laser technology to form an image on a drum that is transferred to the paper using toner, with no direct contact between the printer head and the paper.

Information Booster:

1. Non-Impact Printers:

- o Laser printers are one of the most common non-impact printers, known for producing high-quality prints quickly and quietly without physical contact with the paper.
- o Inkjet printers are another popular non-impact printing technology that sprays tiny droplets of ink onto paper.

2. Impact Printers:

- o Dot Matrix and Daisy Wheel printers involve a mechanical action where the print head physically strikes an ink ribbon, making noise and leaving a mark on the paper.
- o These printers are typically slower and produce lower-quality prints compared to non-impact printers.

Q33. Which of the following statements about email address spoofing are TRUE?

- A. E-mail address spoofing is copying an email to other staff.
- B. E-mail address spoofing is used for hacking.
- C. E-mail address spoofing is the forgery of an email header or sender information.
- D. E-mail address spoofing is sending a joke email to other staff.

Choose the correct answer from the options given below:

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

Ans.(b)

Sol. E-mail address spoofing is copying an email to other staff (A): False: Email address spoofing is not about copying emails. It involves altering the sender's information to make it appear as though the email is from a different source.

E-mail address spoofing is used for hacking (B): True: Spoofing can be a technique used in phishing attacks, which are often aimed at hacking or deceiving recipients into divulging sensitive information.

E-mail address spoofing is the forgery of an email header or sender information (C): True: This is a correct definition of email spoofing. The goal is to deceive the recipient by making the email appear to come from a trusted source.

E-mail address spoofing is sending a joke email to other staff (D): False: While joke emails might be sent internally among staff, they do not involve altering the sender's information, which is a key aspect of spoofing.

Correct Answer: (b) B and C only

B is true because email spoofing can be used for hacking.

C is true because spoofing involves forgery of the sender information.

Q34. Which of the following pollutants is considered as a surrogate for eye irritation?

- (a) Nitrogen dioxide
- (b) Sulphur dioxide
- (c) Carbon monoxide
- (d) Ozone

Ans.(d)

Sol. Ozone is considered a surrogate for eye irritation, as it is a strong oxidant that affects the mucous membranes, including the eyes, causing irritation. Ozone is a major component of photochemical smog, which is responsible for eye and respiratory irritation, especially in polluted urban areas.

Information Booster:

1. Ozone (O₃): A key component of smog, causing irritation to eyes, throat, and lungs.
2. Photochemical smog: Formed when pollutants like nitrogen oxides and VOCs react with sunlight, leading to the formation of ozone.
3. Eye irritation: Often linked to exposure to smog and pollutants, especially in urban environments.
4. Air quality: Ozone levels are monitored as part of assessing air pollution, as high levels can exacerbate respiratory issues.

Q35. Which of these is NOT a Sustainable Development Goal (SDG) ?

- (a) Climate Action
- (b) Quality Education
- (c) Employment to everyone
- (d) Zero Hunger

Ans.(c)

Sol. The correct answer is (c) Employment to everyone. While employment is an important element of sustainable development, "Employment to everyone" is not the title of any of the 17 Sustainable Development Goals (SDGs). The SDGs are a set of global objectives adopted by the United Nations in 2015 as part of the 2030 Agenda to eradicate poverty, protect the planet, and promote peace and prosperity.

Employment is addressed under SDG 8: Decent Work and Economic Growth, which promotes sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all. However, the specific goal is not titled "Employment to everyone", nor does it promise universal employment, which would be overly idealistic given global economic complexities.

In contrast:

- (a) Climate Action – SDG 13, focuses on taking urgent action to combat climate change.
- (b) Quality Education – SDG 4, ensures inclusive and equitable quality education and promotes lifelong learning.
- (d) Zero Hunger – SDG 2, aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture.

Information Booster:

The 17 SDGs were adopted in 2015 and are to be achieved by 2030.

SDG 8 addresses employment but is titled "Decent Work and Economic Growth", not "Employment to everyone."

SDGs use specific, measurable language and are structured with 169 associated targets.

Goals such as Zero Hunger, Quality Education, and Climate Action are officially designated SDGs.

Employment-related indicators under SDG 8 include youth employment, gender parity, and labor rights. Global employment targets are also aligned with economic productivity, innovation, and entrepreneurship.

SDG 8 aims at reducing informal employment and supporting job creation through policy innovation.

Q36. What is the following statement is correct regarding world earth day 2023?

I. The theme of world earth day 2023 is Invest in Our Planet.

II. The Earth Day is celebrated on April 22 every year.

- (a) Only II
- (b) Only I
- (c) Neither I nor II
- (d) Both I and II

Ans.(d)

Sol. The correct answer is: (d) Both I and II

Explanation:

Earth Day is celebrated globally on April 22 every year to demonstrate support for environmental protection. In 2023, the official theme of Earth Day was "Invest in Our Planet", which focused on building a sustainable, equitable future through climate-focused policies, innovation, and investments.

Information Booster

- Earth Day was first celebrated in 1970 in the United States.
- It is coordinated globally by EARTHDAY.ORG, which works with over 150 countries.
- The day promotes actions against climate change, pollution, and deforestation.
- Events include tree planting, clean-up drives, climate action campaigns, and education programs worldwide.

Q37. UGC was established on the recommendation of-

- (a) University Education Commission
- (b) Higher Education Commission
- (c) Ministry of Education
- (d) Planning Commission

Ans.(a)

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

Q38. NITI Aayog is a/an

- (a) Statutory body of GOI
- (b) Autonomous body of GOI
- (c) Advisory body to GOI
- (d) Executive body of GOI

Ans.(c)

Sol. NITI Aayog (National Institution for Transforming India) was established in 2015, replacing the Planning Commission. It functions primarily as an advisory body to the Government of India (GOI), providing strategic and technical advice on economic and policy matters. NITI Aayog plays a crucial role in policy formulation and encourages cooperative federalism by involving states in the policy-making process.

Unlike statutory bodies, which are established through an act of Parliament, NITI Aayog was formed by a resolution of the Union Cabinet and is neither autonomous nor a statutory body. It collaborates with various ministries and state governments to foster growth and implement schemes effectively. Although it has an executive function, its primary role is advisory.

Information Booster: 1. NITI Aayog's Purpose: Aims to provide policy inputs and strategic planning for the country's development, focusing on sustainable growth.

2. Think Tank Role: Serves as the principal think tank of the Government of India, giving direction to policies and programs.

3. Difference from Planning Commission: NITI Aayog replaced the Planning Commission's centralized planning approach with a more participative model involving states.

4. Cooperative Federalism: It works to foster cooperative federalism by encouraging states to participate in policy-making.

5. Composition: Led by the Prime Minister as chairperson, with a vice-chairperson and full-time members who contribute to strategic advice.
6. Major Initiatives: NITI Aayog has introduced initiatives like the Atal Innovation Mission (AIM), Sustainable Development Goals (SDGs) localization, and ranking of states on health, education, and water indices.

Q39. Pick the correctly matched pairs:

- A. AICTE - Teacher Education
- B. ICSSR - Social Science Research
- C. NMC - Medical Education
- D. NCTE - Technical Education
- E. RCI - Special Education

Choose the correct answer from the options given below:

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

Ans.(d)

Sol.

- B. ICSSR - Social Science Research: This is correct. The Indian Council of Social Science Research (ICSSR) is responsible for promoting and supporting social science research in India.
- C. NMC - Medical Education: This is correct. The National Medical Commission (NMC) is responsible for regulating medical education and medical professionals in India.
- E. RCI - Special Education: This is correct. The Rehabilitation Council of India (RCI) is an apex body for regulating and monitoring training in the field of special education.

Information Booster:

1. ICSSR is a major institution supporting research and development in the social sciences across India, funding research projects, and providing fellowships.
2. The NMC ensures the maintenance of high standards in medical education and regulates the medical curriculum and licensing of practitioners.
3. RCI plays a key role in promoting education and professional training for individuals with disabilities and ensures the quality of special education programs in India.

Additional Information:

- A. AICTE - Teacher Education: The All India Council for Technical Education (AICTE) is responsible for the regulation of technical education, not teacher education.
- D. NCTE - Technical Education: The National Council for Teacher Education (NCTE) regulates teacher education in India, not technical education.

Q40. According to the NEP 2020, bagless days are introduced for students in which grades?

- (a) Grades 1-3
- (b) Grades 4-5
- (c) Grades 6-8
- (d) Grades 9-12

Ans.(c)

Sol. As per NEP 2020, students in Grades 6-8 are encouraged to engage in bagless days. During these days, students participate in practical, hands-on learning activities like vocational training, internships, and skill development, which help promote a holistic education.

Information Booster:

Bagless days provide an opportunity for students to step away from traditional classroom settings and engage in practical, real-world experiences, helping them develop critical life skills.

The NEP 2020 emphasizes vocational education starting from Grades 6-8, giving students an early exposure to various career paths and skill development.

The focus is on reducing academic pressure by offering students the chance to explore their interests and talents through activities like internships, crafts, and vocational training.

These initiatives aim to bridge the gap between theory and practice, ensuring that students not only learn academic subjects but also develop practical, employable skills.

The skills learned during bagless days include teamwork, leadership, communication, and problem-solving.

Q41. This is NOT a recommendation of Mudaliar Commission

- (a) The regional language or mother tongue should be the medium of instruction.
- (b) In place of cramming and verbalism, activity method should be adopted.
- (c) An All India Council of Education should be set up for co-ordination between the centre and the states.
- (d) First degree course should be of 3 years duration after higher secondary or one year pre-university plus matriculation.

Ans.(c)

Sol. An All India Council of Education should be set up for co-ordination between the centre and the states is NOT a recommendation of Mudaliar Commission

Q42. The committee headed by Radhakrishna recommended

- (a) The initiation of Regulatory Policy for Microfinance Institutions
- (b) The creation of Project EShakti
- (c) the initiation of the National Rural Livelihood Mission
- (d) the creation of RRBs

Ans.(c)

Sol. The committee headed by Radhakrishna recommended: (c) the initiation of the National Rural Livelihood Mission

Q43. Arrange the following university in sequential order of their position according to their medal tally.

- (A) Punjabi University
- (B) Jain University
- (C) Gurunanak dev University
- (D) Kurther University
- (E) Punjab University

Choose the correct answer from the options given below:

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

Ans.(c)

Sol. The correct option is (c)

- Punjab University (E) has the highest medal tally.
- Gurunanak Dev University (C) comes next in the sequence.
- Jain University (B) follows Gurunanak Dev University.
- Punjabi University (A) is next in line.
- Kurthar University (D) has the lowest medal tally among the listed universities.

Q44. Which of the following universities were established in the year 1916?

- A. Osmania University
- B. S.N.D.T. Women's University
- C. University of Mysore
- D. Patna University
- E. Banaras Hindu University

Select the correct answer from the options below:

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

Ans.(b)

Sol. The correct answer is (b) Only B, C and E. The universities that were established in the year 1916 include:

B. S.N.D.T. Women's University: Founded in 1916, it is the first women's university in India, located in Mumbai, Maharashtra.

C. University of Mysore: Established in 1916 in the princely state of Mysore (now Karnataka), it was among the first universities in India outside the British-controlled territories.

E. Banaras Hindu University (BHU): Founded in 1916 by Pandit Madan Mohan Malaviya in Varanasi, Uttar Pradesh, BHU is one of the largest and most prestigious universities in India.

Explanation of Other Options: • Osmania University: Established later in 1918 in Hyderabad, Telangana.
Patna University: Established in 1917 in Bihar.

Information Booster: 1. S.N.D.T. Women's University: Known for being the first institution focused solely on women's education in India.

2. University of Mysore: Pioneered higher education in Karnataka, supporting diverse fields of study.

3. Banaras Hindu University: Known for its role in Indian independence and national education movements.

4. Osmania University: Prominent for its Urdu medium education and established in 1918.

5. Patna University: Established in 1917, it is one of the oldest universities in Bihar.

Q45. In a certain code language, 'PACE' is coded as 2561925. How will 'BALL' be coded in the same language?

- (a) 2112144
- (b) 91196144
- (c) 41144144
- (d) 41116121

Ans.(c)

Sol. Given:

'PACE' → 2561925

We will break this into letters and analyze the pattern.

Letters in PACE:

P – A – C – E

Their positions in the alphabet:

P = 16

A = 1

C = 3

E = 5

But the code is: 2561925

Let's break the code in parts:

Actually:

P = 16 → $16 \times 16 = 256$ → 256

A = 1 → $1 \times 1 = 1$ → 1

C = 3 → $3 \times 3 = 9$ → 9

E = 5 → $5 \times 5 = 25$ → 25

So,

P A C E

→ 256 1 9 25

→ Together: 2561925

Now code 'BALL'

Letters in BALL:

B = 2

A = 1

L = 12

L = 12

Now square each:

B = 2 → $2^2 = 4$

A = 1 → $1^2 = 1$

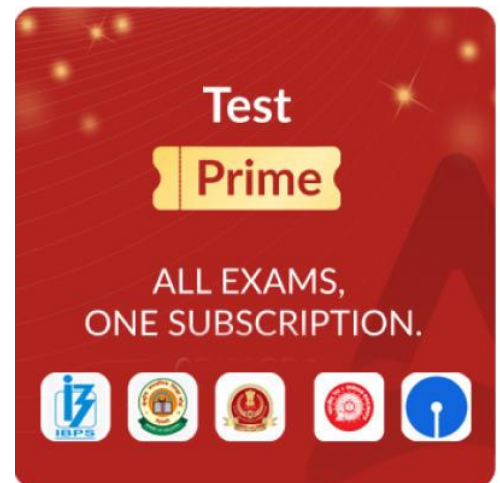
L = 12 → $12^2 = 144$

L = 12 → $12^2 = 144$

Now put together:

4 1 144 144 → Final code = 41144144

Final Answer: 41144144



Q46. If M and N represent the average marks obtained by all the six students together in subject C and E, respectively, then (M, N) = _____.

Read the passage answer the following questions.

The following table shows the percentage of marks obtained by six different student students in six different subjects A-F of MCA programme in a University, along with the maximum marks in each subject (shown in brackets). Based on the data in the table, answer the questions that follow.

Student-wise Percentage of Marks in Six Subjects

- (a) (112, 56.5)
(b) (114, 55)
(c) (115, 56)
(d) (116, 54.5)

Ans.(d)

Sol. Marks obtained in subject C,

$$\text{By Anil} = 88/100 \times 150 = 132$$

$$\text{Arman} = 84/100 \times 150 = 126$$

$$\text{Arpit} = 78/100 \times 150 = 117$$

$$\text{Gaurav} = 96/100 \times 150 = 144$$

$$\text{Gurjit} = 68/100 \times 150 = 102$$

$$\text{Priya} = 50/100 \times 150 = 75$$

$$M = (132 + 126 + 117 + 144 + 102 + 75)/6 = 696/6 = 116$$

Marks obtained in subject E,

$$\text{Anil} = 56/100 \times 75 = 42$$

$$\text{Arman} = 92/100 \times 75 = 69$$

$$\text{Arpit} = 72/100 \times 75 = 54$$

$$\text{Gaurav} = 84/100 \times 75 = 63$$

$$\text{Gurjit} = 68/100 \times 75 = 51$$

$$\text{By Priya} = 64/100 \times 75 = 48$$

$$N = (42 + 69 + 54 + 63 + 51 + 48)/6 = 327/6 = 54.5$$

Q47. Marks obtained by Gaurav are _____% more than that of Gurjit in all the six subjects together.
(rounded off to two digits after decimal)

Read the passage answer the following questions.

The following table shows the percentage of marks obtained by six different student students in six different subjects A-F of MCA programme in a University, along with the maximum marks in each subject (shown in brackets). Based on the data in the table, answer the questions that follow.

Student-wise Percentage of Marks in Six Subjects

Students	Subjects (Maximum Marks)					
	A (150)	B (100)	C (150)	D (125)	E (75)	F (50)
Anil	66%	75%	88%	56%	56%	90%
Arman	82%	76%	84%	96%	92%	88%
Arpit	76%	66%	78%	88%	72%	70%
Gaurav	90%	88%	96%	76%	84%	86%
Gurjit	64%	70%	68%	72%	68%	74%
Priya	48%	56%	50%	64%	64%	58%

- (a) 27.5
(b) 24.52
(c) 29.45
(d) 28.15

Ans.(a)

Sol. Gaurav's marks in

Subject A = 90% of 150 = 135

Subject B = 88% of 100 = 88

Subject C = 96% of 150 = 144

Subject D = 76% of 125 = 95

Subject E = 84% of 75 = 63

Subject F = 86% of 50 = 43

Total marks of gaurav in all the 6 subjects = 568

Gurjit's marks in

Subject A = 64% of 150 = 96

Subject B = 70% of 100 = 70

Subject C = 68% of 150 = 102

Subject D = 72% of 125 = 90

Subject E = 68% of 75 = 51

Subject F = 74% of 50 = 37

Total marks of gurjit in all the 6 subjects = 446

Difference = 568 - 446 = 122

Percentage = $122/446 \times 100 = 27.35$

Q48. How many marks did Anil get in all the six subjects together?

Read the passage answer the following questions.

The following table shows the percentage of marks obtained by six different student students in six different subjects A-F of MCA programme in a University, along with the maximum marks in each subject (shown in brackets). Based on the data in the table, answer the questions that follow.

Student-wise Percentage of Marks in Six Subjects

Students	Subjects (Maximum Marks)					
	A (150)	B (100)	C (150)	D (125)	E (75)	F (50)
Anil	66%	75%	88%	56%	56%	90%
Arman	82%	76%	84%	96%	92%	88%
Arpit	76%	66%	78%	88%	72%	70%
Gaurav	90%	88%	96%	76%	84%	86%
Gurjit	64%	70%	68%	72%	68%	74%
Priya	48%	56%	50%	64%	64%	58%

(a) 396

(b) 463

(c) 558

(d) 496

Ans.(b)

Sol. Anil's marks in,

Subject A = 66% of 150 = $66/100 \times 150 = 99$

Subject B = 75% of 100 = $75/100 \times 100 = 75$

Subject C = 88% of 150 = $88/100 \times 150 = 132$

Subject D = 56% of 125 = $56/100 \times 125 = 70$

Subject E = 56% of 75 = $56/100 \times 75 = 42$

Subject F = 90% of 50 = $90/100 \times 50 = 45$

Marks scored in all the six subjects = $(99 + 75 + 132 + 70 + 42 + 45) = 463$

Q49. What is the different between the average marks obtained in subjects A and E by all the six students together?

Read the passage answer the following questions.

The following table shows the percentage of marks obtained by six different student students in six different subjects A-F of MCA programme in a University, along with the maximum marks in each subject (shown in brackets). Based on the data in the table, answer the questions that follow.

Student-wise Percentage of Marks in Six Subjects

Students	Subjects (Maximum Marks)					
	A (150)	B (100)	C (150)	D (125)	E (75)	F (50)
Anil	66%	75%	88%	56%	56%	90%
Arman	82%	76%	84%	96%	92%	88%
Arpit	76%	66%	78%	88%	72%	70%
Gaurav	90%	88%	96%	76%	84%	86%
Gurjit	64%	70%	68%	72%	68%	74%
Priya	48%	56%	50%	64%	64%	58%

(a) 48

(b) 50

(c) 52

(d) 54

Ans.(c)

Sol. Marks obtained in subject A

By Anil = 66% of 150 = 99

Arman = 82% of 150 = 123

Arpit = 76% of 150 = 114

Gaurav = 90% of 150 = 135

Gurjit = 64% of 150 = 96

By Priya = 48% of 150 = 72

Average marks in A = $(99 + 123 + 114 + 135 + 96 + 72)/6 = 639/6 = 106.5$

Marks obtained in subject E

Anil = 56% of 75 = 42

Arman = 92% of 75 = 69

Arpit = 72% of 75 = 54

Gaurav = 84% of 75 = 63

Gurjit = 68% of 75 = 51

Priya = 64% of 75 = 48

Average marks in E = $(42 + 69 + 54 + 63 + 51 + 48)/6 = 327/6 = 54.5$

Difference = $106.5 - 54.5 = 52$

Q50. Total marks obtained in all the six subjects together is more than 490 by exactly _____ students.

Read the passage answer the following questions.

The following table shows the percentage of marks obtained by six different student students in six different subjects A-F of MCA programme in a University, along with the maximum marks in each subject (shown in brackets). Based on the data in the table, answer the questions that follow.

Student-wise Percentage of Marks in Six Subjects

Students	Subjects (Maximum Marks)					
	A (150)	B (100)	C (150)	D (125)	E (75)	F (50)
Anil	66%	75%	88%	56%	56%	90%
Arman	82%	76%	84%	96%	92%	88%
Arpit	76%	66%	78%	88%	72%	70%
Gaurav	90%	88%	96%	76%	84%	86%
Gurjit	64%	70%	68%	72%	68%	74%
Priya	48%	56%	50%	64%	64%	58%

- (a) two
(b) three
(c) four
(d) five

Ans.(b)

Sol. Anil's marks in

Subject A = 66% of 150 = 99

Subject B = 75% of 100 = 75

Subject C = 88% of 150 = 132

Subject D = 56% of 125 = 70

Subject E = 56% of 75 = 42

Subject F = 90% of 50 = 45

Total marks of anil = 463

Arman's marks in

Subject A = 82% of 150 = 123

Subject B = 76% of 100 = 76

Subject C = 84% of 150 = 126

Subject D = 96% of 125 = 120

Subject E = 92% of 75 = 69

Subject F = 88% of 50 = 44

Total marks of arman = 558

Arpit's marks in

Subject A = 76% of 150 = 114

Subject B = 66% of 100 = 66

Subject C = 78% of 150 = 117

Subject D = 88% of 125 = 110

Subject E = 72% of 75 = 54

Subject F = 70% of 50 = 35

Total marks of arpit = 496

Gaurav's marks in

Subject A = 90% of 150 = 135

Subject B = 88% of 100 = 88

Subject C = 96% of 150 = 144

Subject D = 76% of 125 = 95

Subject E = 84% of 75 = 63

Subject F = 86% of 50 = 43

Total marks of gaurav = 568

Gurjit's marks in

Subject A = 64% of 150 = 96

Subject B = 70% of 100 = 70

Subject C = 68% of 150 = 102

Subject D = 72% of 125 = 90

Subject E = 68% of 75 = 51

Subject F = 74% of 50 = 37

Total marks of gurjit = 446

Priya's marks in

Subject A = 48% of 150 = 72

Subject B = 56% of 100 = 56

Subject C = 50% of 150 = 75

Subject D = 64% of 125 = 80

Subject E = 64% of 75 = 48

Subject F = 58% of 50 = 29

Total marks of priya = 360

