UGC NET Paper 1 : Memory Based 27th June Shift -2 Topic Based Questions

Q1. Which activity best demonstrates the 'Apply' level in Bloom's taxonomy?
(a) Memorizing a poem
(b) Interpreting a graph
(c) Solving a math word problem
(d) Critiquing a policy document
Ans.(c)
Sol. The Apply level involves using learned material in new situations. Solving a word problem applies mathematical concepts to a real-life context, making it a classic example of application.
Information Booster:
- Application involves execution of known knowledge.
- Common verbs: *solve, demonstrate, use, compute*.

Additional Knowledge:
- Bloom emphasized that teaching for application helps learners retain concepts better.
- Case studies, simulations, role play are excellent application-level activities.

Q2. Arrange the stages of Piaget's theory of cognitive development in ascending order?
(a) Concrete operational stage
(b) Pre-operational stage
(c) Sensorimotor stage
(d) Formal operation stage
Choose the correct answer from the options given below:
(a) B, C, D, A
(b) C, B, A, D
(c) A, B, C, D
(d) D, C, A, B
Ans.(b)
Sol. The correct order of Piaget's stages of cognitive development in ascending order is: (b) C, B, A, D
- Sensorimotor stage (C): This is the first stage, typically occurring from birth to around 2 years old. During this stage, infants and toddlers learn about the world through their sensory perceptions and motor activities.
- Pre-operational stage (B): This stage usually spans from about 2 to 7 years old. Children in this stage begin to use symbols (such as language and drawings) to represent objects, but their thinking is still egocentric and lacks logical operations.
- Concrete operational stage (A): This stage typically occurs from around 7 to 11 years old. During this stage, children begin to think more logically, understand conservation, and grasp concrete concepts.

- Formal operational stage (D): This is the final stage, usually beginning around 11 years old and continuing into adulthood. In this stage, individuals can think abstractly, use hypothetical reasoning, and engage in deductive thinking.

So, the correct order is Sensorimotor (C), Pre-operational (B), Concrete operational (A), and Formal operational (D).

Q3. Which of the following teaching models, the learner is mostly self directed and is responsible for his or her own learning?

(a) Andragogical model

(b) Pedagogy model

(c) Flip-classroom model

(d) Reflective teaching model

Sol. The andragogical model focuses on adult learning, where the learner is self-directed and takes responsibility for their own learning process. In this model, the teacher acts as a facilitator or guide, providing resources and support rather than delivering structured content. This approach emphasizes the learner's prior experiences, readiness to learn, and intrinsic motivation to achieve specific goals.

Information booster

- Andragogy is highly suited for adult learners with a focus on autonomy.
- Pedagogy is structured and directed by teachers for dependent learners.
- Flipped classrooms blend independent preparation with guided practice.
- Reflective teaching improves teaching strategies rather than learner independence.

Additional Knowledge:

- (b) Pedagogy Model: Suitable for young learners who rely on teacher guidance. Teachers plan and deliver content systematically, focusing on foundational knowledge and skills.
- (c) Flip-Classroom Model: Learners engage with instructional content (videos, readings) before class, making in-class time interactive. While it fosters independent preparation, it is not fully self-directed.
- (d) Reflective Teaching Model: Centers on the teacher's self-evaluation to enhance their teaching effectiveness, often through peer feedback or personal reflection, rather than learner-directed processes.

Q4. Match the LIST-I with LIST-II:

LIST-I (Disciplines)	LIST-II (Theorists)
A. Biology	I. Auguste Comte
B. Sociology	II. Harold J. Laski
C. Economics	III. Noam Chomsky
D. Linguistics	IV. Charles Darwin

Choose the correct answer from the options given below:

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

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

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

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

Sol. The correct match between disciplines and theorists is as follows:
Biology is associated with Charles Darwin (IV), who is known for his theory of evolution.
Sociology is associated with Auguste Comte (I), considered the father of sociology and positivism.
Economics is linked with Harold J. Laski (II), who made contributions to political theory and economics.
Linguistics is associated with Noam Chomsky (III), a revolutionary figure in the field of linguistics known for his theory of generative grammar.

Information Booster:
Charles Darwin (Biology) is famous for his theory of natural selection and evolutionary biology, which changed our understanding of life on Earth.
Auguste Comte (Sociology) is regarded as the founder of sociology and the advocate of the positivist approach, focusing on societal laws and the scientific study of human behavior.
Harold J. Laski (Economics) was a British economist and political theorist known for his work on the relationship between the state and individual rights.
Noam Chomsky (Linguistics) is a major figure in linguistics, developing the theory of generative grammar and significantly influencing the study of language and syntax.

Q5. Match the following research purposes (List-I) with the most suitable research method (List-II):

List-I (Research Purpose)	List-II (Research Method)
A. To study educational reforms over decades	1. Action Research
B. To understand differences in student outcomes between countries	2. Comparative Research
C. To improve teaching practice in a specific classroom	3. Historical Research
D. To triangulate data for robust findings	4. Mixed Methods Research

Options:
(a) A-3, B-2, C-1, D-4
(b) A-2, B-3, C-4, D-1
(c) A-1, B-4, C-2, D-3
(d) A-4, B-1, C-3, D-2

Ans.(a)

Sol.

- Studying reforms over decades (A) requires historical research for analyzing changes across time.
- Understanding differences in outcomes between countries (B) suits comparative research focused on cross-national analyses.
- Improving classroom teaching (C) is ideal for action research involving practitioners in immediate contexts.
- Triangulating data (D) is the hallmark of mixed methods research that combines multiple data types for thorough insights.

Information Booster:

- Historical research informs policy decisions.
- Comparative research facilitates cross-cultural understanding.
- Action research enhances practice and empowers educators.
- Mixed methods increase validity and contextual relevance.

Q6. Which one of the following is excluded from the list of communication barriers?
(a) Physical
(b) Semantics
(c) Philosophical
(d) Psychological
Sol. Philosophical is excluded from the list of communication barriers. The common barriers to communication include physical, semantics, psychological, and several other practical obstacles, but philosophical differences are not typically categorized as a barrier in communication studies.

Q7. Which of the following channels of Swayam Prabha are under IGNOU, New Delhi?
(a) Channel 4
(b) Channel 7
(c) Channel 15
(d) Channel 12
(e) Channel 20
Choose the correct answer from the options given below:
(a) A and E only
(b) C and D only
(c) B, C, and E only
(d) A, B, and D only
Ans.(b)
Sol. To determine which channels are managed by IGNOU under the Swayam Prabha initiative:
1. Channel 15 (C): Managed by IGNOU, it focuses on educational topics such as open learning, science, and other interdisciplinary subjects.
2. Channel 12 (D): Also managed by IGNOU, this channel emphasizes distance learning materials and programs for various levels of education.

Therefore, the correct channels under IGNOU management are Channel 15 (C) and Channel 12 (D).
Information Booster:
1. Swayam Prabha: Comprises 34 DTH educational channels, offering free access to educational content 24/7.
2. IGNOU's Contribution: IGNOU manages select channels to provide distance education materials, open learning content, and support to learners in remote areas.
3. CEC/UGC Contribution: Manages channels focusing on undergraduate programs in arts, commerce, science, and other disciplines.
4. NPTEL's Role: Focuses on engineering, technology, and science education through its managed channels.

Additional Knowledge:
- Channel 4 (A): Managed by CEC/UGC, not IGNOU.·
- Channel 7 (B): Managed by CEC/UGC, not IGNOU.· Channel 20 (E): Managed by NPTEL, not IGNOU.

Q8. The Rigveda is a collection of 1,028 hymns divided into _____ mandalas.
(a) 7
(b) 10
(c) 9
(d) 14
Ans.(b)
Sol. The Rigveda, the oldest Vedic text and one of the most important scriptures of ancient India, contains 1,028 hymns (suktas). These hymns are organized into 10 books, known as Mandalas. These mandalas vary in age and length and are dedicated to various deities like Agni, Indra, Varuna, and Soma.
Information Booster:
- Mandala 2 to 7 are known as the Family Books, attributed to specific priestly families.
- Mandala 1 and 10 are the youngest and largest, containing philosophical and social hymns.
- The Rigveda was composed in Vedic Sanskrit around 1500–1200 BCE.
- It reflects the early Vedic society, including social structure, religious beliefs, and rituals.
- Agni, Indra, and Soma are among the most worshipped deities in the Rigveda.
- The hymns are mostly meant for ritual recitations and yajnas (sacrifices).

Q9. Find the next number in the number series:
48, 24, 72, 36, 108,?

(a) 115
(b) 121
(c) 110
(d) 54
Ans.(d)
Sol. First Sequence (Odd positions):
48, 72, 108
- 48 × 1.5 = 72
- 72 × 1.5 = 108

So, **odd-positioned terms are multiplied by 1.5** each time.
Second Sequence (Even positions):
24, 36, ?
- 24 × 1.5 = 36
- 36 × 1.5 = **54**

So the next number is 54 in the series
Hence correct option is (d)

Q10. At what percent of compound interest per annum. a sum of money will double in 14 years?
(a) 4%
(b) 5%
(c) 6%
(d) 6.5%

Ans.(c)

Sol.

Let the principal amount be P and the rate of interest be $r\%$.

Using the compound interest formula:

$A - P\left(1 + \frac{r}{100}\right)^{14}$

Since the amount doubles in 14 years:

$2P = P\left(1 + \frac{r}{100}\right)^{14}$

Divide both sides by P :

$2 - \left(1 + \frac{r}{100}\right)^{14}$

Take the 14th root of both sides:

$1 + \frac{r}{100} - 2^{1/14}$

Now, calculate $2^{1/14} \approx 1.05$

$\Rightarrow \frac{r}{100} - 0.05$

$\Rightarrow r - 5$

Correct answer is (b) 5%.

Q11. Two numbers are in the ratio of 6:7. If 12 is added to each of the numbers, their ratio becomes 7:8. Find the two numbers.

(a) 72, 84

(b) 84, 96

(c) 84, 98

(d) 96,84

Ans.(a)

Sol.

Given:

Two numbers are in the ratio of 6:7. If 12 is added to each of the numbers, their ratio becomes 7:8.

Solution:

Let the two numbers be $6x$ and $7x$

After adding 12 to each, the ratio becomes:

$\frac{6x + 12}{7x + 12} - \frac{7}{8}$

Cross-multiplying:

$8(6x + 12) - 7(7x + 12)$

$48x + 96 - 49x + 84$

Solving the equation:

$96 - 84 - 49x - 48x$

$12 - x$

So, the two numbers are:

$6x - 6 \times 12 - 72$

$7x - 7 \times 12 - 84$

Correct answer is 72 and 84

Q12. In a certain coding scheme, the word 'SCHOLAR' is coded as 'TEKSQGY'. In the same coding scheme, the word 'GREEN' will be coded as:
(a) ITGGP
(b) HTHIS
(c) EPCGP
(d) JUHHQ
Sol. To determine the correct answer, let's analyze the pattern in the transformation of SCHOLAR → TEKSQGY step by step.
Step 1: Analyze the transformation for each letter:

S	C	H	O	L	A	R
T	E	K	S	Q	G	Y

From the analysis, each letter is shifted forward in the alphabet by an increasing number of positions based on its position in the word.
1. S → T: Shift forward by +1.
2. C → E: Shift forward by +2.
3. H → K: Shift forward by +3.
4. O → S: Shift forward by +4.
5. L → Q: Shift forward by +5.
6. A → G: Shift forward by +6.
7. R → Y: Shift forward by +7.
Step 2: Apply the same pattern to "GREEN":

G	R	E	E	N
+1	+2	+3	+4	+5

1. G → H: Shift forward by +1.
2. R → T: Shift forward by +2.
3. E → H: Shift forward by +3.
4. E → I: Shift forward by +4.
5. N → S: Shift forward by +5.
Thus, GREEN is coded as HTHIS.

Q13. XYZ Home Finance offers the best financial product in the country because, like a family member and a good friend, XYZ Home Finance fulfills your need to have your own sweet home. Which of the following fallacies is committed in this argument?
(a) Ad Populum
(b) Ad Hominem
(c) Hasty Generalization
(d) Red Herring
Sol. The fallacy committed in this argument is Ad Populum. This fallacy appeals to emotions, making the argument persuasive by likening the company to a family member or friend, rather than offering any logical evidence of why XYZ Home Finance offers the best financial product. The statement attempts to sway the audience's opinion by appealing to common sentiments of trust and familiarity rather than providing a substantive argument based on the product's merits.
Information Booster:
1. Ad Populum Fallacy: Also known as "bandwagon appeal," it tries to persuade by appealing to popular emotions or feelings rather than logical reasoning.
2. Emotional Appeal: Emotional rhetoric is used instead of factual evidence.
3. Logical Fallacies: Misleading or false reasoning that detracts from the validity of the argument.
4. Advertising Tactics: Commonly used in marketing to create positive associations with products.
5. Objective Evidence: Logical arguments should rely on verifiable data and evidence rather than emotional manipulation.
6. Consumer Psychology: Such appeals are designed to create trust, even if the trust is not based on objective performance data.

Q14. Which of the following statements are included in the inferential process for inferring fire from the perception of smoke as per Nyaya Philosophy.
A. That hill has fire (Pratijna)
B. Since it has smoke (Hetu)
C. Wherever there is fire, there is smoke, eg kitchen (Udaharana)
D. That hill which is smokey, must have fire too (Upanaya)
E. Therefore the hill has fire (Nigamana)
Choose the correct answer from the options given below:
(a) A, B and C only
(b) A, B, D and E only
(c) C, D and E only
(d) A and B only
Sol. The correct statements included in the Nyaya Philosophy inferential process for inferring fire from smoke are:
- A. Pratijna (Proposition): That hill has fire—This is the initial proposition or claim.
- B. Hetu (Reason): Since it has smoke—This is the reason provided, linking smoke as the cause of fire.
- D. Upanaya (Application): That hill which is smoky must have fire too—The specific application of the general rule (relationship between fire and smoke) to the current situation (the hill).
- E. Nigamana (Conclusion): Therefore the hill has fire—This is the final conclusion drawn from the inferential process.

Information Booster:

- C. Udaharana (Example): "Wherever there is fire, there is smoke, e.g., kitchen" is part of the inferential example (Udaharana), but Udaharana is not included in the answer choice (b). Hence, it's excluded here.

Nyaya inferential structure:

1. Pratijna (Proposition): The hill has fire.
2. Hetu (Reason): Because there is smoke.
3. Udaharana (Example): In a kitchen, wherever there is fire, there is smoke.
4. Upanaya (Application): Applying the example to the hill, which has smoke.
5. Nigamana (Conclusion): Therefore, the hill has fire.

Additional Knowledge:

- The Nyaya inferential process involves a logical sequence of propositions leading from observation (smoke) to conclusion (fire).
- The reasoning process in Nyaya is very systematic and is used as a tool to establish valid knowledge through inference.

Q15. 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.

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.

Q16. In inductive approach theory generated out of is
(a) Simple observation
(b) Research done
(c) Field notes
(d) Another theory
Sol. Research done: Inductive reasoning involves collecting and analyzing data to identify patterns and develop a theory based on these observations. It starts with specific observations or research findings and builds towards broader generalizations or theories.

Q17. What can be claimed of a Deductive argument correctly?
A. If the premises are true, then the conclusion is probably true.
B. If the premises are true, then the conclusion must be true.
C. It is unlikely for the premises to be true and the conclusion false.
D. The conclusion follows necessarily from the premises.
E. It is impossible for all the premises to be true and the conclusion false.
Choose the correct answer from the options given below:
(a) A, B and C only
(b) A and C only
(c) B, D and E only
(d) A, D and E only
Sol. In a deductive argument, the relationship between the premises and the conclusion is such that if the premises are true, the conclusion must also be true. This is a defining feature of deductive reasoning. Therefore, the following can be claimed about a deductive argument:

- B. If the premises are true, then the conclusion must be true. In a valid deductive argument, the truth of the premises guarantees the truth of the conclusion.
- D. The conclusion follows necessarily from the premises. In deductive reasoning, the conclusion is a necessary outcome of the premises.
- E. It is impossible for all the premises to be true and the conclusion false. This is the key characteristic of a valid deductive argument—if the premises are true, the conclusion cannot be false.

Information booster:

1. A. If the premises are true, then the conclusion is probably true: This statement describes inductive reasoning, where the conclusion is probable but not guaranteed.
2. C. It is unlikely for the premises to be true and the conclusion false: This also reflects inductive reasoning, where the relationship between premises and conclusion is strong but not certain.

Additional Knowledge:

- Deductive reasoning guarantees the truth of the conclusion if the premises are true, making the argument valid.
- Inductive reasoning provides probable conclusions based on the premises, but the conclusion is not necessarily true even if the premises are.
- A valid deductive argument is one where the conclusion logically follows from the premises.
- A sound deductive argument is valid and has true premises, guaranteeing the truth of the conclusion.

Q18. If the statement "Some rectangles are not squares" is given as true, then according to the square of opposition which of the following statements can by immediately inferred to be false?
(a) All rectangles are squares.
(b) Some rectangles ae squares.
(c) No rectangles are squares.
(d) Some squares are not rectangles.
Ans.(a)
Sol. The Square of Opposition is a diagram representing the relations between four categorical propositions. According to this framework, if it's stated that "Some rectangles are not squares," we're acknowledging the existence of rectangles that do not conform to the definition of squares (rectangles with equal sides). This immediately contradicts the universal affirmative statement that "All rectangles are squares," as it's logically impossible for both statements to be true simultaneously. The given statement highlights particularity and negation, directly opposing the absolute inclusivity suggested by "All rectangles are squares." Therefore, if "Some rectangles are not squares" is true, then the statement "All rectangles are squares" must be false, as it fails to account for the existence of non-square rectangles, thus directly violating the principles of logical consistency and the specific relational dynamics outlined in the Square of Opposition.

Q19. 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%

Q19. If M and N represent the average marks obtained by all the six students together in subject C and E, respectively, then (M, N) =_____.
(a) (112, 56.5)
(b) (114, 55)
(c) (115, 56)
(d) (116, 54.5)

Ans.(d)

Sol. Marks obtained in subject C,

- By Anil = 88/100 × 150 = 132
- Arman = 84/100 × 150 = 126
- Arpit = 78/100 × 150 = 117
- Gaurav = 96/100 × 150 = 144
- Gurjit = 68/100 × 150 = 102
- Priya = 50/100 × 150 = 75
- M = (132 + 126 + 117 + 144 + 102 + 75)/6=696/6 = 116

Marks obtained in subject E,

- Anil = 56/100 × 75 = 42
- Arman = 92/100 × 75 = 69
- Arpit = 72/100 × 75 = 54
- Gaurav = 84/100 × 75 = 63
- Gurjit = 68/100 × 75 = 51

By Priya = 64/100 × 75 = 48

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

Q20. Marks obtained by Gaurav are _____% more than that of Gurjit in all the six subjects together. (rounded off to two digits after decimal)

(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 × 100 =27.35

Q21. How many marks did Anil get in all the six subjects together?
(a) 396
(b) 463
(c) 558
(d) 496
Sol. Anil's marks in,
Subject A = 66% of 150 =66/100 × 150 = 99
Subject B = 75% of 100 =75/100 × 100 = 75
Subject C = 88% of 150 =88/100 × 150 = 132
Subject D = 56% of 125 = 56/100 × 125 = 70
Subject E = 56% of 75 = 56/100 × 75 = 42
Subject F = 90% of 50 = 90/100 × 50 = 45
Marks scored in all the six subjects = (99 + 75 + 132 + 70 + 42 + 45) = 463

Q22. What is the different between the average marks obtained in subjects A and E by all the six students together?
(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

Q23. Total marks obtained in all the six subjects together is more than 490 by exactly _____ students.
(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

Q24. What is the full form of HTTPS and CD-ROM?
(a) HTTPS - HyperText Transfer Protocol Secure; CD-ROM - Compact Digital Read-Only Memory
(b) HTTPS - HyperText Transfer Protocol Secure; CD-ROM - Compact Disc Read-Only Memory
(c) HTTPS - Hyper Transfer Protocol Secure; CD-ROM - Central Disc Read-Only Memory
(d) HTTPS - HyperText Transfer Protocol Secure; CD-ROM - Central Digital Read-Only Memory
Ans.(b)

- HTTPS stands for HyperText Transfer Protocol Secure, which is a protocol used for secure communication over a computer network, particularly the internet.
- CD-ROM stands for Compact Disc Read-Only Memory, which is a type of optical disc used to store data that can only be read and not written or modified.

Information Booster:

1. HTTPS provides a secure version of the standard HTTP protocol, ensuring that the communication between a web browser and a website is encrypted and secure. It uses SSL/TLS protocols for encryption.
2. CD-ROM was once a common format for storing software, music, and data, but its usage has declined with the rise of flash drives, cloud storage, and digital downloads.
3. The key difference between CD-ROM and other types of discs (like CD-RW or DVD-R) is that the data on a CD-ROM is permanent and cannot be modified or erased.
4. HTTPS is widely used for online transactions, email services, and any situation where privacy and security are a concern. It's indicated in a URL by the "https://" prefix, often accompanied by a padlock icon in the browser.

Q25. Which one of the following pollutants is responsible for acid rain formation?
(a) CH_4 (Methane)
(b) C_6H_6 (Benzene)
(c) SO_2 (Sulphur dioxide)
(d) CO (carbon monoxide)

Ans.(c)

Sol. Acid rain is primarily caused by the release of sulfur dioxide (SO2) and nitrogen oxides (NOx) into the atmosphere. When these gases react with water vapor, oxygen, and other chemicals in the atmosphere, they form sulfuric acid (H2SO4) and nitric acid (HNO3), which then fall to the ground as acid rain.

Information booster: Methane (CH4), benzene (C6H6), and carbon monoxide (CO) are not significant contributors to acid rain formation. Therefore, the correct answer is (c) SO2 (Sulphur dioxide).

Q26. Which Sustainable Development Goal (SDG) aims to reduce inequalities within and among countries?

(a) SDG 5

(b) SDG 10

(c) SDG 16

(d) SDG 1

Ans.(b)

Sol. The correct answer is SDG 10 – Reduced Inequalities. This goal focuses on reducing inequality within and among countries by empowering and promoting the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic status.

SDG 10 addresses both domestic and global dimensions of inequality. It recognizes that inequality threatens long-term social and economic development and undermines efforts to reduce poverty. The goal calls for:

Ensuring equal opportunities.

Reducing outcome inequalities by eliminating discriminatory laws, policies, and practices.

Facilitating orderly, safe, and responsible migration and mobility of people.

Improving the regulation and monitoring of global financial markets and institutions.

The emphasis is also on enhancing representation for developing countries in decision-making in global international economic and financial institutions, and on adopting fiscal, wage, and social protection policies that progressively achieve greater equality.

Q27. Under the Paris Agreement, countries by the end of this century will strive to limit the global temperature rise above pre-industrial level to:

(a) 1.5°C

(b) 2.5°C

(c) 3°C

(d) 4°C

Ans.(a)

Sol. Under the Paris Agreement, signed in 2015, countries around the world committed to limiting the global temperature rise above pre-industrial levels to well below 2°C and to strive to limit the rise to 1.5°C. This was agreed upon as an essential measure to reduce the impacts of climate change and to keep the world as safe as possible from extreme climate conditions.

- The goal of 1.5°C is part of the broader effort to prevent catastrophic climate change impacts, such as extreme weather events, sea-level rise, and loss of biodiversity.

Information booster

1. The Paris Agreement is a legally binding international treaty on climate change.
2. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France on 12 December 2015.
3. The agreement entered into force on 4 November 2016.
4. Its main goal is to limit the increase in global average temperature to well below 2°C above pre-industrial levels.
5. The agreement also aims to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
6. World leaders have emphasized the need to limit global warming to 1.5°C by the end of this century.
7. The UN's Intergovernmental Panel on Climate Change (IPCC) warns that exceeding the 1.5°C threshold could lead to more frequent and severe climate change impacts, such as droughts, heatwaves, and heavy rainfall.
8. To stay within the 1.5°C target, greenhouse gas emissions must peak before 2025 and decrease by 43% by 2030.

Q28. Which of the following universities were established in the same year of 1916?
(A) Bombay University
(B) Banaras Hindu University
(C) Mysore University
(D) S.N.DT Women University
(E) Punjab University
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), (C) and (E) Only

Ans.(b)

Sol. The universities established in the year 1916 are Banaras Hindu University (B), Mysore University (C), and S.N.D.T. Women's University (D). Banaras Hindu University (BHU) was founded by Pandit Madan Mohan Malaviya in 1916 as a premier institution aimed at promoting education and culture in India. The University of Mysore was also established in 1916, becoming the first university in the erstwhile princely state of Mysore, now Karnataka. Similarly, S.N.D.T. Women's University was founded by Dr. Dhondo Keshav Karve in 1916 to promote women's education in India.

Information Booster:

Bombay University (A): Founded in 1857, it is one of the oldest universities in India and was not established in 1916.

Punjab University (E): Originally established in 1882 in Lahore (now in Pakistan), it was re-established in Chandigarh, India, after partition but was not founded in 1916.

Q29. The Kothari Commission (1963–64) suggested spending _____ of national income on education.
(a) 3 percent
(b) 6 percent
(c) 7 percent
(d) 9 percent
Ans.(b)
Sol. The Kothari Commission (1964–66), officially known as the National Education Commission, emphasized the importance of education for national development. One of its key recommendations was that 6% of the national income should be allocated to education. This was a significant proposal to ensure universal education, improve quality, and address the growing demands of literacy and higher education.
Despite this recommendation, India has struggled to achieve this goal, with the expenditure on education often hovering below the suggested percentage. The commission's vision was to make education accessible, equitable, and inclusive, which required adequate financial support.
Information Booster
1. Kothari Commission's Role: It was a landmark in Indian education policy formulation, laying the foundation for the National Policy on Education (1968).
2. Universal Education: The commission stressed the importance of universal elementary education and secondary education to reduce dropout rates.
3. Vocationalization: It proposed introducing vocational education at the secondary level to align education with employment.
4. Common School System: Advocated for the concept of a common school system to reduce disparities in education.
5. Expenditure on Education: The recommendation of 6% expenditure on education is still a benchmark for policy discussions today.

Q30. According to NEP 2020 more HEIs shall be established and developed in underserved regions to ensure full:
(a) Access, Equity and Inclusion
(b) Accountability, Equality and Integration
(c) Assessment, Equivalence and Identity
(d) Autonomy, Effectiveness and Implication
Ans.(a)
Sol. The National Education Policy (NEP) 2020 emphasizes establishing more Higher Education Institutions (HEIs) in underserved regions to ensure full access, equity, and inclusion.