

CTET Paper-II Maths & Science Answer Key (07 July 2024)

Q.1 Sensitive periods are those time periods during which certain_____ are especially important for course of 'normal' development.
Answer the following questions by selecting the correct/most appropriate options.

- A. environmental factors
- B. hereditary factors
- C. genetic predispositions
- D. ethnic factors

Answer: A

Sol:

Sensitive periods are specific times in development when environmental factors have a particularly strong influence on the normal development of certain skills or abilities. These periods are critical for learning and development.

Q.2 Constructivist teaching leads to_____ learning by students.
Answer the following questions by selecting the correct/most appropriate options.

- A. rote
- B. receptive
- C. discovery
- D. meaningless

Answer: C

Sol:

Constructivist teaching emphasizes discovery learning, where students actively engage in exploring, questioning, and understanding concepts through hands-on experiences and critical thinking. This approach encourages students to construct their own understanding and knowledge of the world, promoting deeper learning and retention.

Q.3 Rama is a teacher who is implementing Vygotsky's theory in her classroom and she assigns her students to work in groups to complete a challenging task. During the task, one student struggles to understand a key concept. What would be the most effective way for Rama to help this student?
Answer the following questions by selecting the correct/most appropriate options.

- A. Assign a different task to the student that is better suited to her abilities.
- B. Work through the problem with the student and providing guidance and feedback as needed while involving other group members.
- C. Provide the student with the answer to the problem so the group can move on.
- D. Encourage the student to try to solve the problem on her own.

Answer: B

Sol:

According to Vygotsky's theory, scaffolding is crucial in supporting students as they learn new concepts. By working through the problem with the student and providing guidance, Rama can help the student build understanding and skills. Involving other group members promotes collaborative learning, aligning with Vygotsky's emphasis on social interaction as a key component of cognitive development.

Q.4 How does setting mastery goals impact a student's motivation and views of ability?
Answer the following questions by selecting the correct/most appropriate options.

- A. It often implies enhanced extrinsic motivation and belief in the entity view of ability.
- B. It often implies enhanced extrinsic motivation and belief in the incremental view of ability.
- C. It often implies enhanced intrinsic motivation and belief in the entity view of ability.
- D. It often implies enhanced intrinsic motivation and belief in the incremental view of ability.

Answer: D

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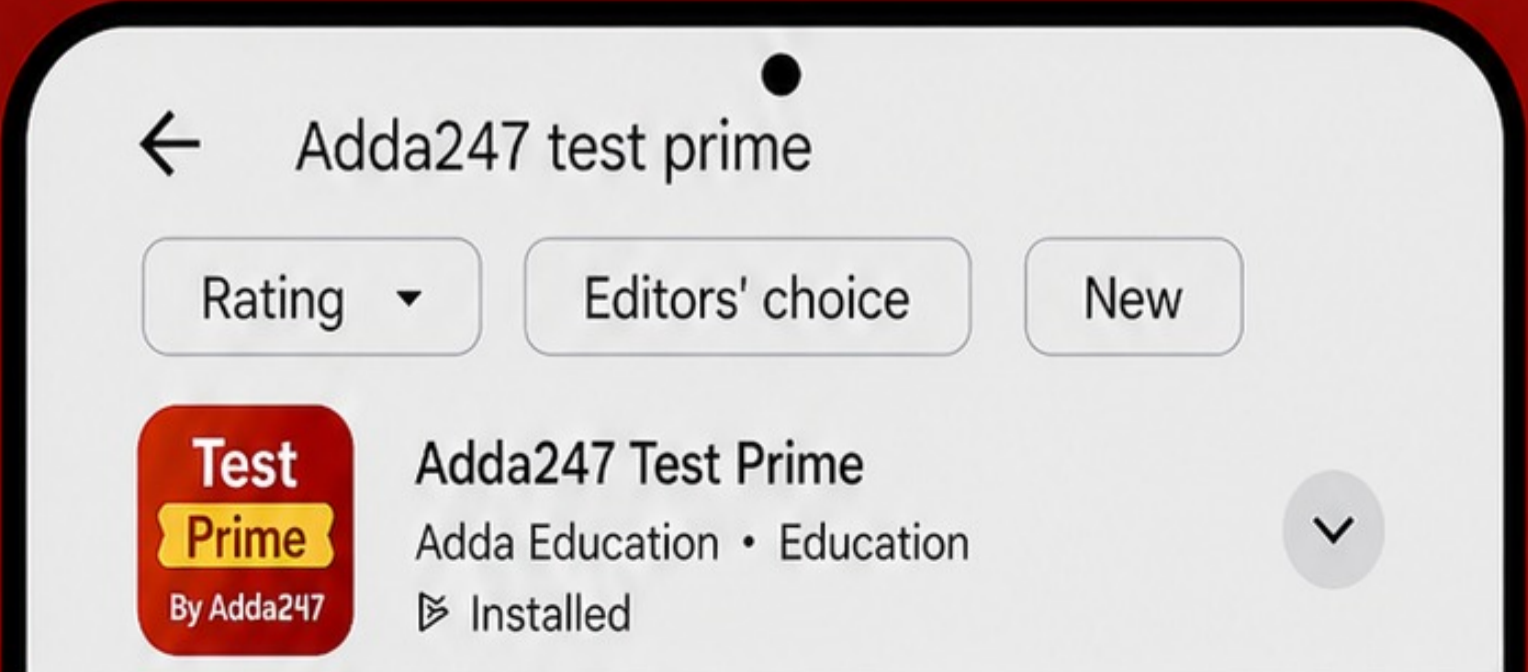
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Sol:

It often implies enhanced intrinsic motivation and belief in the incremental view of ability. Setting mastery goals focuses on learning, understanding, and improving one's skills, which fosters intrinsic motivation. Students who adopt mastery goals typically believe that their abilities can grow with effort and persistence, aligning with the incremental view of ability. This mindset encourages a positive attitude towards challenges and a resilience in the face of setbacks.

Q.5 A key commonality in Piaget and Vygotsky's theories is:

Answer the following questions by selecting the correct/most appropriate options.

- A. Involvement and engagement of children in their own learning.
- B. The role of culture in the cognitive processes.
- C. Their views of relationship between language and thought.
- D. Focus on stage-like progression in children's development.

Answer: A

Sol:

Both Piaget and Vygotsky emphasized the importance of active involvement and engagement of children in their own learning processes. Piaget's theory of cognitive development focuses on how children construct knowledge through interaction with their environment, while Vygotsky's theory highlights the role of social interaction and scaffolding in learning. Both theorists agree that children are active participants in their learning, exploring, and interacting with their surroundings to develop cognitive skills.

Q.6 Assertion A: Teachers should respect the individual difference among learners and adapt their teaching to cater to needs of all students.

Reason R: Collaboration, group works and interactions among students should be avoided while teaching a class of diverse learners.

Choose the correct option.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: A

Sol:

Teachers should respect individual differences among learners and adapt their teaching strategies to meet the needs of all students. This approach is fundamental to inclusive education. However, Reason R is false because collaboration, group work, and interactions among students are beneficial in a diverse classroom. These activities promote social skills, peer learning, and a deeper understanding of the material. Therefore, while Assertion A is true, Reason R does not support it and is incorrect.

Q.7 Which of the following hinders the participation of students with visual impairment in classroom?

Answer the following questions by selecting the correct/most appropriate options.

- A. raised-line drawings and maps
- B. tactile models of graphic materials
- C. electronically formatted lecture transcriptions
- D. printed textbooks and notes

Answer: D

Sol:

Printed textbooks and notes are not accessible to students with visual impairments unless they are converted into accessible formats such as Braille, audio, or electronic text. Therefore, they hinder participation in the classroom.

Q.8 Assertion A: Teachers should give lot of opportunities to children for experimentation and discuss examples and non-examples.

Reason R: A constructive way of dealing with misconceptions in children is to provide counter examples.

Choose the correct option.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: C

Sol:

Both A and R are true and R is the correct explanation of A. This statement is correct because providing opportunities for experimentation and discussing examples and non-examples helps children explore and understand concepts deeply. Counter examples specifically help in rectifying misconceptions, reinforcing correct understanding by contrasting incorrect notions.

- Q.9** Assertion A: Teachers should encourage debates, discussions and collaborations among students.
Reason R: Knowledge production is an inactive process and engagement in group activities hinders meaningful learning.
Choose the correct option.
Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: A

Sol:

Engaging students in debates, discussions, and collaborations promotes active learning and deeper understanding. The reason provided is false because knowledge production is an active process, and group activities enhance meaningful learning rather than hinder it.

- Q.10** According to Lev Vygotsky what is the relationship between language and thought?
Answer the following questions by selecting the correct/most appropriate options.

- A. Language and thought are independent of each other
- B. Language and thought are complex interrelated processes of development
- C. Language does not shape thought
- D. Thought shapes language

Answer: B

Sol:

Lev Vygotsky proposed that language and thought are deeply interconnected and develop together. He believed that social interaction, particularly through language, plays a crucial role in cognitive development. According to Vygotsky, language is a primary tool of intellectual adaptation and shapes thought processes. Thought and language influence each other, and this relationship evolves over time, becoming more complex as children grow. This view contrasts with theories that treat language and thought as separate or hierarchical processes.

- Q.11** In progressive education children are perceived as:
Answer the following questions by selecting the correct/most appropriate options.

- A. Knowledgeable and meaning-makers
- B. Vulnerable and in need of protection
- C. Innocent and dependent
- D. Compliant and capable of only consuming knowledge

Answer: A

Sol:

Progressive education views children as knowledgeable and meaning-makers, capable of constructing their own understanding through exploration, experience, and interaction with their environment. This philosophy supports student-centered learning, critical thinking, and active participation, recognizing the inherent potential and creativity of each child.

Q.12 In order to develop critical thinking among students a teacher should:

Answer the following questions by selecting the correct/most appropriate options.

- A. give questions that involve inference and explanations.
- B. avoid questions which need inference and analysis.
- C. ask only those questions which carry single answers.
- D. discourage the students from asking doubts and questions.

Answer: A

Sol:

Give questions that involve inference and explanations. This approach encourages students to think critically, as they must analyze information, draw conclusions, and articulate their reasoning. Critical thinking skills are essential for problem-solving and understanding complex concepts.

Q.13 Feedback to the students in a classroom is most effective when:

Answer the following questions by selecting the correct/most appropriate options.

- A. It focuses on what the child cannot do rather than what they can do.
- B. It centres around tests and exams at the end of the year.
- C. It assigns comparative ranks to the students.
- D. It occurs during as well as after the learning activity.

Answer: D

Sol:

Effective feedback is continuous and timely, occurring during and after the learning activity. This approach helps students understand their progress and areas for improvement in real-time, fostering an ongoing learning process. Timely feedback can guide students toward better performance and understanding, reinforcing positive behaviors and correcting misunderstandings promptly.

Q.14 Jean Piaget's theory of cognitive development implicates that:

Answer the following questions by selecting the correct/most appropriate options.

- A. Curriculum should be designed keeping children's age-group and stage in mind.
- B. Focus of teaching should be the outcome of the activity instead of the process of thinking.
- C. Behaviour should be conditioned using rewards and punishments.
- D. Concepts should be taught in a sequence of complex to simple.

Answer: A

Sol:

Jean Piaget's theory emphasizes that cognitive development occurs in stages, and each stage is characterized by different abilities and ways of thinking. Therefore, the curriculum should be designed to align with the developmental stage and age group of children, ensuring that the content and teaching methods are appropriate for their cognitive abilities.

Q.15 Assertion A: Schools should function within frameworks which assess the finished product and learning outcomes.

Reason R: Learning is tightly sequential and hierarchical.

Choose the correct option.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: B

Sol:

Both A and R are false. The assertion that schools should only function within frameworks that assess the finished product and learning outcomes is limiting, as it overlooks the importance of the learning process itself. Additionally, the reason that learning is tightly sequential and hierarchical is also incorrect. Learning can be non-linear, with students often revisiting and integrating knowledge in various ways rather than following a strict sequence.

Q.16 Which of the following is a correctly matched pair?

Answer the following questions by selecting the correct/most appropriate options.

- A. Formative assessment: determining what the students can do before and after the class
- B. Summative assessment: involves paper-pencil tests as well as detailed accounts of non-written behaviours
- C. Criterion-referenced assessment: includes mastery of specific topics
- D. Norm-references assessment: compares performance to that of peers

Answer: D

Sol:

Norm-referenced assessment: compares performance to that of peers. Norm-referenced assessments evaluate a student's performance in relation to the performance of a larger group. This type of assessment ranks students, typically placing them on a bell curve to see where they stand in comparison to their peers.

Q.17 A teacher asks herself- "How can I provide experiences that require students to classify different types of objects in the environment and analyse their classification schemes?" which intelligence is she trying to promote in students?

Answer the following questions by selecting the correct/most appropriate options.

- A. Naturalistic Intelligence
- B. Bodily-Kinesthetics Intelligence
- C. Linguistic Intelligence
- D. Inter-personal Intelligence

Answer: A

Sol:

Naturalistic intelligence involves the ability to recognize, classify, and categorize various elements in nature, such as plants, animals, and weather patterns. It is closely related to observing and understanding the natural world, making it relevant when students are required to classify different types of objects and analyze their classification schemes. The teacher's focus on providing such experiences aims to develop students' naturalistic intelligence.

Q.18 Inclusive classrooms"

Answer the following questions by selecting the correct/most appropriate options.

- A. Are meant to offer differentiated instructions as per individual differences.
- B. Aim to remove all kinds of differences among the children.
- C. Recognize that every child will learn at the same rate and at the same time.
- D. Is an educational program offered to cater to the needs of 'special children'.

Answer: A

Sol:

Are meant to offer differentiated instructions as per individual differences. Inclusive classrooms are designed to accommodate the diverse learning needs of all students, ensuring that each child receives appropriate support and instruction. This approach recognizes and values individual differences, promoting equality and participation for all students.

Q.19 Which method did Lawrence Kohlberg used to study moral development of children?

Answer the following questions by selecting the correct/most appropriate options.

- A. Conducting observations of children during play
- B. Experimental method
- C. Quantitative research approach
- D. Posing moral dilemmas to children and analyzing responses

Answer: D

Sol:

Lawrence Kohlberg studied moral development by posing moral dilemmas to children and analyzing their responses. This qualitative approach allowed him to explore the reasoning behind their moral decisions and understand the stages of moral development.

Q.20 Which of the following correctly describes 'culturally responsive teaching' to cater to diverse groups of students?

- I. Intentional
- II. Adaptive
- III. Differentiated
- IV. Standardized

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: A

Sol:

Culturally responsive teaching involves being intentional in recognizing and valuing students' cultural backgrounds, being adaptive in teaching methods to meet the diverse needs of students, and differentiating instruction to ensure all students can access and engage with the curriculum. Standardization, which implies uniformity, does not align with the principles of culturally responsive teaching, which emphasizes flexibility and responsiveness to students' cultural contexts.

Q.21 Sunita, a 12 year old girl, shows exceptional musical ability. Both her parents are accomplished signers, and they send her for classes for voice training after school. Her capabilities are most likely to be the result of an interaction between.

Answer the following questions by selecting the correct/most appropriate options.

- A. heredity and environment
- B. gender identity and genetic make-up
- C. growth and maturation
- D. nutrition and discipline

Answer: A

Sol:

Sunita's exceptional musical ability is likely the result of both genetic inheritance (heredity) from her accomplished singer parents and the environment, which includes her voice training classes and supportive family background. This interaction of heredity and environment shapes her musical talents.

Q.22 Assertion A: During adolescence the pressure to conform to gender expectations and follow conventions of femininity or masculinity increases.

Reason R: Gender and gender roles are determined biologically.

Choose the correct option.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: A

Sol:

Adolescents face increased pressure to conform to gender norms, but gender and gender roles are socially constructed, not determined biologically. Therefore, the reason provided does not correctly explain the assertion.

Q.23 According to Jean Piaget, how are children different from adults?

Answer the following questions by selecting the correct/most appropriate options.

- A. Children's thinking is qualitatively different from that of adults.

- B. Children's thinking is quantitatively different from that of adults.
- C. Children are dependent on adults while adults are independent.
- D. Adults are much more knowledgeable than children.

Answer: A

Sol:

Jean Piaget's theory of cognitive development posits that children think differently from adults. Children's thinking is qualitatively different, meaning they process and understand the world in fundamentally different ways. Piaget identified distinct stages of cognitive development, each characterized by unique ways of thinking. This qualitative difference is a cornerstone of Piaget's work, highlighting that children are not just less knowledgeable than adults, but their cognitive processes are structured differently.

Q.24 You are a teacher who wants to help your students develop metacognitive skills. Which of the following strategies is most likely to foster this type of thinking?

Answer the following questions by selecting the correct/most appropriate options.

- A. Providing students with summarized notes for assignments.
- B. Assigning homework that requires memorization and recall.
- C. Giving students marks instead of qualitative feedback on their performance.
- D. Encouraging students to reflect on their own learning and thinking processes.

Answer: D

Sol:

Encouraging students to reflect on their own learning and thinking processes is crucial for developing metacognitive skills. Metacognition involves awareness and control over one's learning and cognitive processes. By reflecting on what they know, how they learn, and what strategies are effective, students can become more self-regulated learners. This reflection helps them to plan, monitor, and evaluate their learning, which is essential for lifelong learning and academic success.

Q.25 Which of the following statement is correct about 'Autism'?

Answer the following questions by selecting the correct/most appropriate options.

- A. Autism is caused solely by environmental factors.
- B. Autism can be cured and improves with age.
- C. All autistic people have at least one exceptional skill.
- D. Autism is a neuro-developmental disorder.

Answer: D

Sol:

Autism is a neuro-developmental disorder characterized by challenges with social interaction, communication, and restricted, repetitive behaviors. It is not caused solely by environmental factors, cannot be cured, and not all autistic individuals have exceptional skills.

Q.26 Which of the following question promotes analytical thinking?

Answer the following questions by selecting the correct/most appropriate options.

- A. What is the total population of India?
- B. What are the various causes of increase of population in India?
- C. The capital city of India is_____.
- D. How many States are there in India?

Answer: B

Sol:

What are the various causes of increase of population in India? promotes analytical thinking because it requires students to analyze multiple factors and their relationships, rather than recalling a fact or performing a straightforward calculation. Analytical thinking involves breaking down complex information, examining cause and effect, and understanding interconnections, which is crucial for deep learning and critical thinking.

Q.27 Which learning strategy involves children teaching others what they have learned?
Answer the following questions by selecting the correct/most appropriate options.

- A. Expository teaching
- B. Reciprocal teaching
- C. Conditioned learning
- D. Rote learning

Answer: B

Sol:

Reciprocal teaching is a learning strategy where students take turns teaching and learning from each other, reinforcing their understanding and knowledge through the process of teaching their peers.

Q.28 Assertion A: In Asian cultures which stress social harmony, expressions of 'anger' are discouraged and 'shame' is encouraged.
Reason R: Emotions are subjective and do not play any role in learning.
Choose the correct option.
Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is the correct explanation of A.
- D. Both A and R are true but R is not the correct explanation of A.

Answer: A

Sol:

A is true but R is false. The assertion that in Asian cultures, expressions of 'anger' are discouraged and 'shame' is encouraged is correct as it reflects cultural norms focusing on social harmony. However, the reason that emotions are subjective and do not play any role in learning is false. Emotions significantly influence learning by affecting motivation, memory, and cognitive processes.

Q.29 Students struggling with dyslexia can be taught to read:
Answer the following questions by selecting the correct/most appropriate options.

- A. By giving long and complex passages.
- B. Through association method of conditioning.
- C. Through systematic phonological training.
- D. By providing higher grade level reading texts.

Answer: C

Sol:

Students with dyslexia benefit from systematic phonological training, which helps them understand the relationship between sounds and letters, thereby improving their reading skills. Long and complex passages or higher-grade level texts would not be suitable, and conditioning methods are not typically effective for reading difficulties.

Q.30 Change and stability in emotions, personality and social relationship together constitute:
Answer the following questions by selecting the correct/most appropriate options.

- A. Psychosocial development
- B. Cognitive development
- C. Personality development
- D. Emotional development

Answer: A

Sol:

Psychosocial development encompasses the changes and consistency in an individual's emotions, personality, and social relationships over time. This concept, introduced by Erik Erikson, highlights how social experiences and crises at different stages of life influence personality and emotional growth, integrating both change and stability aspects.

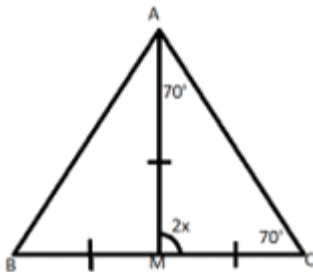
Q.31 M is a point on side AB of a triangle ABC such that $AM = BM = CM$. if angles A and B respectively x and 70° , then the value of $(3x+25^\circ)$ is equal to:
Answer the following questions by selecting the correct/most appropriate options.

- A. 100°
- B. 115°
- C. 70°
- D. 85°

Answer: D

Sol:

given $AM = BM = CM$
Angle A = x and B = 70°
 $\angle A + \angle B + \angle C = 180^\circ$



$$2x + 70^\circ + 70^\circ = 180^\circ$$

$$2x = 180^\circ - 140^\circ = 40^\circ$$

$$x = 20^\circ$$

$$3x + 25^\circ = 3 \times 20^\circ + 25^\circ = 85^\circ$$

Q.32 The height and base radius of right circular cylinder are 9cm and 6cm respectively. If the base radius becomes half and height increases by 3cm, then which of the following describes the new volume of the cylinder?

Answer the following questions by selecting the correct/most appropriate options.

- A. The new volume will be thrice the original volume.
- B. The new volume will be one-third the original volume.
- C. The new volume will be twice the original volume.
- D. The new volume will be half the original volume.

Answer: B

Sol:

N/A

Q.33 Which of the following statement is NOT correct with respect to Rubrics as a tool of assessment

Answer the following questions by selecting the correct/most appropriate options.

- A. Rubrics consist of a clear performance target for students.
- B. Rubrics make evaluation more subjective.
- C. Rubric has a fixed scale.
- D. Rubric has a list of characteristics describing performance for each point on the scale.

Answer: B

Sol:

N/A

Q.34 How many natural numbers between 1 and 500 are divisible by each of the number 3, 5 and 7?

Answer the following questions by selecting the correct/most appropriate options.

- A. 5
- B. 6
- C. 3
- D. 4

Answer: D

Sol:

105, 210,315,420

Q.35 A sum invested at 10% p.a. for 2 years become Rs.3,267, when the interest is compounded annually. What will be the simple interest on the same sum at the same rate in 2½ years?
Answer the following questions by selecting the correct/most appropriate options.

- A. Rs.675
- B. Rs.700
- C. Rs.625
- D. Rs.650

Answer: A

Sol:

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

$$3267 = P \left(1 + \frac{10}{100}\right)^2$$

$$3267 = P \times 1.21$$

$$P = 2700$$

$$S.I = (2700 \times 10 \times 2.5)/100 = 67500/100 = \text{Rs.675}$$

Q.36 The ratio of two numbers is 3:7 and their LCM is 630. Then, sum of the LCM and HCF of these numbers is:
Answer the following questions by selecting the correct/most appropriate options.

- A. 600
- B. 660
- C. 30
- D. 300

Answer: B

Sol:

the ratio of two number = 3:7 and LCM = 630

$$21x = 630$$

$$x = 30 = \text{HCF}$$

$$\text{LCM} + \text{HCF} = 630 + 30 = 660$$

Q.37 Two parallel lines are intersected by a transversal and the two interior angles so formed on the same side of the transversal are $(2x+15^\circ)$ and $(3x-20^\circ)$. Then, the value of $(4x+6^\circ)$ is:
Answer the following questions by selecting the correct/most appropriate options.

- A. 148°
- B. 146°
- C. 154°
- D. 150°

Answer: C

Sol:

$$2x+15^\circ+3x-20^\circ=180^\circ$$

$$5x=185^\circ$$

$$x=37^\circ$$

$$4x+6^\circ=4 \times 37^\circ+6^\circ=154^\circ$$

Q.38 Which of the following is NOT an indicator of creativity in Mathematics?

Answer the following questions by selecting the correct/most appropriate options.

- A. Students use multiple and alternate problem solving strategies.
- B. Students can pose questions.
- C. Students use convergent thinking in different contexts.
- D. Students are able to think flexibly.

Answer: C

Sol:

N/A

Q.39 Arrange the following statements according to ascending levels of geometrical thinking as per Van- Hiele's theory of geometrical learning.

- I. Identification of properties of geometrical shapes
- II. Classification of different shapes
- III. Finding relationship between the properties of geometrical shapes
- IV. Identification of geometrical shapes as the are

Choose the correct option:

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: D

Sol:

N/A

Q.40 Which of the following NOT true?

Answer the following questions by selecting the correct/most appropriate options.

- A. The expression $(x^2+10x+25)$ cannot be simplified further
- B. The value of the variable in an equation which satisfy the equation is called a solution of the equation
- C. $3+4\times 5$ is not a mathematical expression
- D. Operations of multiplication can be done on mathematical expressions

Answer: A

Sol:

N/A

Q.41 A trader buys 12 fans for Rs.24,000. He marks each fan at 5% above the cost price. If he sells all fans by giving 10% discount on the marked price, then his overall profit (in Rs.)is:

Answer the following questions by selecting the correct/most appropriate options.

- A. 3200
- B. 3500
- C. 2700
- D. 3000

Answer: D

Sol:

Total Cost Price = Rs. 24,000 , Number of Fans = 12
Cost Price per Fan = Total Cost Price / Number of Fans = $24,000 / 12 = \text{Rs. } 2,000$
Increase in Price = 25% of Cost Price
Increase per Fan = $\text{Rs. } 2,000 \times 25/100 = \text{Rs. } 500$
Marked Price per Fan = Cost Price per Fan + Increase = $2,000 + 500 = \text{Rs. } 2,500$
Selling Price per Fan Discount = 10% of Marked Price
Discount per Fan = $\text{Rs. } 2,500 \times 10/100 = \text{Rs. } 250$

Selling Price per Fan = Marked Price per Fan – Discount = 2,500 - 250 = Rs. 2,250

Total Profit- Profit per Fan = Selling Price - Cost Price

Profit per Fan = Rs. 2,250 - Rs. 2,000 = Rs. 250

Total Profit = Profit per Fan x Number of Fans = Rs. 250 x 12 = Rs. 3,000

Q.42 $\frac{(a-b+c)^2 - (a-b-c)^2}{b-a}$ is equal to:

Answer the following questions by selecting the correct/most appropriate options.

- A. -4c
- B. 2c
- C. b-c
- D. c-a

Answer: A

Sol:

$$[(a-b+c)^2 - (a-b-c)^2] / (b-a)$$

$$[(a-b+c+a-b-c)(a-b+c-a+b+c)] / (b-a) = 2(a-b)(2c) / (b-a) = -4c$$

Q.43 The value of $52 \times 3 \div 4 + \sqrt{441} \div 7 \times 3 + 5 - 32 \div 8 \times 12$ is:

Answer the following questions by selecting the correct/most appropriate options.

- A. 15
- B. 21
- C. 0
- D. 5

Answer: D

Sol:

$$52 \times \frac{3}{4} + \frac{\sqrt{441}}{7} \times 3 + 5 - \frac{32}{8} \times 12 = 39 + 9 + 5 - 48 = 5$$

Q.44 The domain of learning that deals with attitudes and values of known as:

Answer the following questions by selecting the correct/most appropriate options.

- A. Affective domain
- B. Psychomotor domain
- C. Knowledge domain
- D. Cognitive domain

Answer: A

Sol:

Affective Domain: This domain deals with emotions, feelings, values, and attitudes related to learning. It encompasses a student's interest, motivation, and disposition towards the subject matter.

Psychomotor Domain: This domain focuses on developing physical or manual skills. It involves coordination, dexterity, and manipulation of objects. This could be anything from learning to play an instrument to performing a scientific experiment.

Cognitive Domain: This domain focuses on the mental skills involved in learning, such as knowledge acquisition, comprehension, application, analysis, synthesis, and evaluation. It's essentially the "thinking" part of learning.

Q.45 Area of a right triangle is 240cm². If its one side to than the hypotenuse is 30cm, then perimeter (in cm) of the triangle is:

Answer the following questions by selecting the correct/most appropriate options.

- A. 92
- B. 100
- C. 80
- D. 84

Answer: C

Sol:

$$\text{Area of triangle} = \frac{1}{2}(30)(a)$$

$$240 = \frac{1}{2}(30)(a)$$

$$a = 16$$

$$b^2 = 900 + 256 = 1156$$

$$b = 34$$

$$\text{Perimeter of triangle} = 30 + 16 + 34 = 80$$

Q.46 Which of the following does not imply the meaning of assessment?

Answer the following questions by selecting the correct/most appropriate options.

- A. It helps to diagnose individual differences.
- B. It is a procedure to gather information of student's performance.
- C. It is evaluation.
- D. It helps to label the students.

Answer: D

Sol:

N/A

Q.47 PQRS is a parallelogram whose diagonals PR and QS intersect at a point O such that $OP = (x+7)$ cm, $OQ = (x+y)$ cm, $OR = 20$ cm and $OS = 16$ cm. Then, value of $(7y+5)$ (in cm) is:

Answer the following questions by selecting the correct/most appropriate options.

- A. 26
- B. 28
- C. 21
- D. 23

Answer: A

Sol:

In parallelogram PQRS
 $OP = OR$
 $x+7 = 20$
 $x = 13$ cm
 $OQ = OS$
 $x+y = 16$
 $13+y = 16$
 $y = 16-13 = 3$
 $(7y+5) = 7 \times 3 + 5 = 26$

Q.48 At upper primary stage, as per NCERT, which of the following topics have NOT been included under number system?

Answer the following questions by selecting the correct/most appropriate options.

- A. Exponents and Powers
- B. Square roots and cube roots
- C. Complex Numbers
- D. Fractions

Answer: C

Sol:

N/A

Q.49 Which of the following statements is least appropriate regarding the proofs in mathematics?

Answer the following questions by selecting the correct/most appropriate options.

- A. It can help the students to validate their own reasoning.
- B. Proofs are built on intuitive knowledge and not reasoning.
- C. It explains why a particular mathematical result must be true.
- D. It helps to reveal the connections and provide insights into the underlying structure of mathematics.

Answer: B

Sol:

N/A

Q.50 According to National Curriculum Framework 2005 which of the following process is least important in mathematics?

Answer the following questions by selecting the correct/most appropriate options.

- A. Finding short-cuts in mathematics.
- B. Generalizing a mathematical formula.
- C. Solving day to day problems.
- D. Understating when and how a mathematical technique is to be used.

Answer: A

Sol:

finding short-cuts in mathematics.

Q.51 D is a point on side Ab of a ΔABC such that CD is the bisector of $\angle ACB$. If $\angle A = 50^\circ$ and $\angle B = 70^\circ$, then $\angle ADC$ is equal to:

Answer the following questions by selecting the correct/most appropriate options.

- A. 70°
- B. 100°
- C. 30°
- D. 50°

Answer: B

Sol:

Since the sum of angles in a triangle is always 180° , we have:

$$\text{Angle A} + \text{Angle B} + \text{Angle C} = 180^\circ \quad 50^\circ + 70^\circ + \text{Angle C} = 180^\circ \quad \text{Angle C} = 180^\circ - 120^\circ \quad \text{Angle C} = 60^\circ$$

Step 2: Use the angle bisector property

Since CD is the bisector of angle C, it divides angle C into two equal angles:

$$\text{Angle ACD} = \text{Angle BCD} = 60^\circ / 2 = 30^\circ$$

Step 3: Find the measure of angle ADC

Now, consider triangle ACD. We know two of its angles:

$$\text{Angle ACD} = 30^\circ \text{ and } \text{Angle A} = 50^\circ$$

Using the fact that the sum of angles in a triangle is 180° , we can find angle ADC:

$$\text{Angle ADC} = 180^\circ - (\text{Angle ACD} + \text{Angle A}) \quad \text{Angle ADC} = 180^\circ - (30^\circ + 50^\circ) \quad \text{Angle ADC} = 180^\circ - 80^\circ \quad \text{Angle ADC} = 100^\circ$$

Therefore, angle ADC is equal to 100° .

Q.52 Marks obtained by some students of a class are 36, 37, 31, 42, 23, 38, 17, 18, 35, 25, 29 and 35.

The difference of the mean and the range of the data is:

Answer the following questions by selecting the correct/most appropriate options.

- A. 5.5
- B. 6.0
- C. 4.5
- D. 5.0

Answer: A

Sol:

$36+37+31+42+23+38+17+18+35+25+29+35=366$
 Mean = $366/12 = 30.5$
 Range=Maximum mark–Minimum mark= $42-17=25$
 Difference=Mean–Range= $30.5-25=5.5$

Q.53 If x is the least number which must be added to 955 to make it a perfect square, then value of $3x+2$ is equal to:
 Answer the following questions by selecting the correct/most appropriate options.

- A. 11
- B. 5
- C. 20
- D. 14

Answer: C

Sol:

$955+6 = 961$ this is perfect square number
 $x = 6$ then $3x+2 = 3(6)+2 = 20$

Q.54 Perimeter of a quadrilateral ABCD is 120cm. if $BC = 48\text{cm}$, $CD = 17\text{cm}$, $AD = 40\text{cm}$ and $\angle A = \angle B = 90^\circ$, then area of quadrilateral ABCD (in cm^2) is:
 Answer the following questions by selecting the correct/most appropriate options.

- A. 720
- B. 750
- C. 660
- D. 690

Answer: C

Sol:

$AB+BC+CD+DA=120$
 $AB+48+17+40=120$
 $AB=15\text{ cm}$
 Area = $(1/2) \times (AD + BC) \times AB$
 Area = $(1/2) \times (40 + 48) \times 15$
 Area = $(1/2) \times 88 \times 15 = 660\text{ cm}^2$

Q.55 If $(2x+5y)^2-5(2x+5y)-14=(2x+5y+p)(2x+5y+q)$, then the value of $(p+q)$ is:
 Answer the following questions by selecting the correct/most appropriate options.

- A. 9
- B. -5
- C. 7
- D. -14

Answer: B

Sol:

$(2x+5y)^2-5(2x+5y)-14=(2x+5y+p)(2x+5y+q)$
 Let $(2x+5y) = z$
 $z^2-5z-14=(z+p)(z+q)$
 $z^2-5z-14 = z^2+(p+q)z+pq$
 $-5=p+q$ and $-14=pq$

Q.56 The number of faces (F), edges (E) and vertices (V) of a polyhedron are 7, 15 and x , respectively.
 Then, the value of $(2F+3E-4x)$ is:
 Answer the following questions by selecting the correct/most appropriate options.

- A. 18

- B. 17
- C. 20
- D. 19

Answer: D

Sol:

$$V - E + F = 2$$

use Euler's formula to find x

$$x - 15 + 7 = 2$$

$$x = 10$$

$$2F + 3E - 4x = 2(7) + 3(15) - 4(10) = 19$$

Q.57 The sum of the largest and smallest fractions among $\frac{6}{7}$, $2\frac{3}{5}$, $\frac{3}{8}$ and $2\frac{8}{15}$ is:

Answer the following questions by selecting the correct/most appropriate options.

- A. $2\frac{7}{35}$
- B. $2\frac{39}{40}$
- C. $2\frac{9}{35}$
- D. $2\frac{37}{40}$

Answer: B

Sol:

$$2\frac{3}{5} + \frac{3}{8} = 2 + \frac{3}{5} + \frac{3}{8} = 2 + \left(\frac{24+15}{40}\right) = 2\frac{39}{40}$$

Q.58 A teacher distributed different type of triangle shaped paper cuttings to the learners and tells them to measure and tabulate the angles in order to find the sum of angles. He tells them to note the result in each case.

This method of teaching is an example of:

Answer the following questions by selecting the correct/most appropriate options.

- A. Deductive method
- B. Analytical approach
- C. Discovery method
- D. Teacher centred approach

Answer: C

Sol:

Discovery Method-The discovery method is a student-centered approach where learners are encouraged to explore, ask questions, and discover new information and insights on their own, often through experiments or problem-solving tasks.

Analytical Method-The analytical method involves breaking down complex information or concepts into smaller, more manageable parts to understand them better. It focuses on analyzing and interpreting data or phenomena.

Teacher-Centered Method-Efficient for covering a large syllabus within a limited time.Provides clear structure and expectations.Can be less effective for fostering critical thinking and creativity.May not address individual learning needs and styles.

Deductive Method-The deductive method is a teaching and learning approach where the educator presents the general principles or theories first, followed by specific examples and applications. It typically moves from a general idea to a specific conclusion.

Q.59 Arun is three years older than Varun. Eight years ago, $\frac{5}{6}$ th of Arun's age exceeded $\frac{3}{5}$ th of Varun's age by 6 years. If the present age of Varun is x years, then the value of x can be determined by solving the equation:

Answer the following questions by selecting the correct/most appropriate options.

- A. $\frac{3}{5}(x + 5) - \frac{5}{6}(x - 8) = 6$
- B. $\frac{3}{5}(x + 3) - \frac{5}{6}(x - 8) = 6$
- C. $\frac{5}{6}(x - 5) - \frac{3}{5}(x - 8) = 6$
- D. $\frac{5}{6}(x - 8) - \frac{3}{5}(x - 5) = 6$

Answer: C

Sol:

varun's age = x year

Arun's age = x+3

According to question

$$\frac{5}{6}(x - 5) - \frac{3}{5}(x - 8) = 6$$

Q.60 In a pie chart, the marks obtained by a students in Mathematics, Science, Social Science, Hindi and English are respectively represented by sectors of central angles 90° , 80° , 65° , 75° and 50° . If the total marks obtained by the students were 540, then what is the difference of the marks obtained by him/her in Mathematics and English?

Answer the following questions by selecting the correct/most appropriate options.

- A. 40
- B. 30
- C. 60
- D. 50

Answer: C

Sol:

$$\text{Difference of the marks mathematics and English} = (90^\circ - 50^\circ) \times \frac{540}{360} = 60$$

Q.61 Which of the following is not caused due to excessive use of fertilizer and pesticides?

Answer the following questions by selecting the correct/most appropriate options.

- A. Eutrophication
- B. Bio-magnification
- C. Soil erosion
- D. Nitrification

Answer: C

Sol:

Soil erosion is primarily caused by water, wind, and tillage, rather than the excessive use of fertilizers and pesticides. Eutrophication (a) is caused by nutrient runoff from fertilizers leading to excessive growth of algae in water bodies. Bio-magnification (b) occurs when pesticides accumulate in organisms and move up the food chain. Nitrification (d) is a natural microbial process of converting ammonia into nitrates in the soil, which can be influenced but not primarily caused by the use of fertilizers.

Q.62 Which of the following is/are true regarding scientific investigation?

- A. Results are not influenced by procedure.
- B. Social context may influence conclusions in any investigation.
- C. Data and evidence are same.
- D. There is no universal scientific method.

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: D

Sol:

Social context may influence conclusions in any investigation (B), as social, cultural, and economic factors can shape scientific interpretation. There is no universal scientific method (D); while the scientific method generally involves hypothesis, experimentation, observation, and conclusion, its application can vary widely across different scientific fields and contexts.

Q.63 Which of the following activities is best suited to develop inductive reasoning?
Answer the following questions by selecting the correct/most appropriate options.

- A. verify laws of reflection experimentally
- B. solve numerical problems based on law of reflection
- C. asking students to state laws of reflection
- D. asking students to measure angle of reflection for various cases of angle of incidence in a plan mirror

Answer: D

Sol:

Inductive reasoning involves observing specific instances and drawing general conclusions. Measuring the angle of reflection for various angles of incidence allows students to observe a pattern and derive the law of reflection.

Information Booster:

Inductive reasoning: Deriving general principles from specific observations.

Reflection laws: Can be discovered through practical measurements and observations.

Q.64 Read the statements given below and choose the correct options:
Assertion A: The filament of an incandescent bulb is made up of tungsten.
Reason R: Tungsten has low resistance and high melting point.
Answer the following questions by selecting the correct/most appropriate options.

- A. A is true and R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is correct explanation of A.
- D. Both A and R are true but R is not correct explanation of A.

Answer: A

Sol:

The filament of an incandescent bulb is made of tungsten (A) because tungsten has a very high melting point, allowing it to withstand high temperatures without melting. However, the reason (R) is incorrect because tungsten actually has a relatively high electrical resistance. This high resistance is what causes it to heat up and emit light when an electric current passes through it.

Q.65 Three identical holes are punched at different level (heights) in a plastic bottle. The bottle is filled with water. Which of the following statements is true regarding the flow of water from the holes ?

- A. Water from lowest hole comes out with greatest force
- B. Water from highest hole come out with greatest force
- C. Water from all holes comes out with equal force
- D. Water from lowest hole falls at maximum distance
- E. Water from highest hole falls at maximum distance
- F. Water from all holes falls at same distance

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: B

Sol:

Water from the lowest hole comes out with the greatest force (A) due to higher water pressure at greater depth. Water from the lowest hole also falls at the maximum distance (D) because it exits with more force.

Information Booster:

Water pressure: Increases with depth due to the weight of the water above.

Flow force: Greater at lower levels where pressure is higher.

Q.66 A. Metal oxides are basic in nature.
B. Air expands on heating.
C. Lime water turns milky on passing carbondioxide.
D. Sodium hydroxide and hydrochloric acid neutralize each other.

If observation is represented by O and inference by I, which of the following statements is correct?

Answer the following questions by selecting the correct/most appropriate options.

- A. O-C; I-A, B, D
- B. O-A, B; I-B, C
- C. O-C, D; I-A, B
- D. O-B, C; I-A, D

Answer: A

Sol:

Observation (O): A direct measurement or sensory experience, such as seeing lime water turn milky when carbon dioxide is passed through it.

Inference (I): A logical conclusion based on observations, such as deducing that air expands when heated.

O-C (Lime water turns milky on passing carbon dioxide) is a direct observation based on the reaction between lime water and carbon dioxide, forming calcium carbonate.

I-A (Metal oxides are basic in nature) is an inference drawn from a different experiment involving metal oxides, not directly from observation C.

I-B (Air expands on heating) can be inferred based on heating experiments, though it may not be directly related to a specific observation here.

I-D (Sodium hydroxide and hydrochloric acid neutralize each other) is inferred from the reaction of an acid and a base.

Q.67 Which of the following statements is/are true?

- A. Self-pollination takes place only in bisexual flowers.
 - B. Bisexual flowers can pollinate both by self and cross pollination.
- Answer the following questions by selecting the correct/most appropriate options.
- (a) Both A and B are false.
 - (b) Both A and B are true.
 - C. A is true and B is false.
 - D. A is false and B is true.

Answer: D

Sol:

Self-pollination can also occur in unisexual flowers under certain conditions, making statement A false. Bisexual flowers can indeed undergo both self and cross pollination, making statement B true.

Q.68 The purpose of divergent questions in science classroom can be:

- A. to promote critical thinking
- B. to discern between students
- C. to develop communication
- D. to identify gifted students
- E. to identify alternate conceptions
- F. to appreciate subjectivity in science

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: C

Sol:

Divergent Questions are open-ended questions that allow for multiple answers and encourage students to think broadly and creatively.

To promote critical thinking: Divergent questions encourage students to think beyond standard answers, allowing for multiple solutions or perspectives. This fosters critical thinking as students must analyze, evaluate, and synthesize information to respond effectively.

To discern between students: Divergent questions can help a teacher understand how different students think and approach problems. The open-ended nature of the questions reveals variations in students' thought processes, thus helping to discern between students in terms of their creativity, reasoning skills, and depth of understanding.

To identify gifted students: Divergent questions often elicit creative and higher-order thinking responses. Students who consistently provide unique, insightful answers may be identified as gifted because they demonstrate advanced reasoning and problem-solving skills.

To identify alternate conceptions: As students respond to divergent questions, they often reveal misconceptions or alternate conceptions they may hold. Teachers can use these responses to address and correct misunderstandings in the learning process.

Hence, we can conclude that (a), (b), (d) and (e) describes the purpose of divergent questions in science classroom.

Q.69 Following table depicts colour changes in acids and bases when various indicators are added:

Indicator	Colour change in acids	Colour change in bases
Turmeric	No change	A
China rose	Dark Pink	B
Phenolphthalein	C	Pink
Methyl orange	D	Pink

A, B, C, D respectively are:

Answer the following questions by selecting the correct/most appropriate options.

- A. reddish, brown, pink, orange, colourless
- B. yellow, orange, pink, colourless
- C. reddish brown, green, colourless, orange
- D. yellow, green, orange, colourless

Answer: C

Sol:

The color changes for the indicators in acids and bases are as follows:

Turmeric:

In acids: No change (stays yellow).

In bases: Changes to reddish brown.

China rose:

In acids: Changes to dark pink.

In bases: Changes to green.

Phenolphthalein:

In acids: Colourless.

In bases: Pink.

Methyl orange:

In acids: Red or orange.

In bases: Pink or yellow.

Therefore, the correct matching is:

- A (Turmeric in bases) = Reddish brown.
- B (China rose in bases) = Green
- C (Phenolphthalein in acids) = Colourless
- D (Methyl orange in acids) = Red or orange

Information Booster:

Turmeric: A natural indicator that remains yellow in acids and turns reddish-brown in bases.

China rose: Turns dark pink in acids and green in bases.

Phenolphthalein: A synthetic indicator that is colorless in acidic solutions and turns pink in basic solutions.

Methyl orange: Turns red/orange in acidic solutions and yellow in basic solutions, though it appears as orange in the table context.

Q.70 Identify the mirrors on the basis of information given in the following table:

Mirror	Nature of image	Size of image
A	Virtual and erect	Same as object
B	Real and inverted	Same as object
C	Real and inverted	Enlarged
D	Virtual and erect	Diminished

Answer the following questions by selecting the correct/most appropriate options.

- A. A-Plane mirror, B-Concave, C-Concave, D-Convex
- B. A-Concave, B-Plane, C-Convex, D-Concave
- C. A-Plane, B-Convex, C-Concave, D-Convex
- D. A-Convex, B-Concave, C-Convex, D-Concave

Answer: A

Sol:

A plane mirror creates a virtual and erect image of the same size as the object. A concave mirror can produce a real, inverted image of the same size (B) or an enlarged image (C). A convex mirror produces a virtual and erect diminished image (D).

Information Booster:

Plane mirror: Reflects an image with the same size and orientation.

Concave mirror: Can magnify or invert depending on object distance.

Convex mirror: Always produces a diminished, erect virtual image.

Q.71 Which of the following factors are responsible for generation and flow of winds on the earth

- A. Uneven heating of the earth
- B. Uneven heating of the oceans
- C. Distance between earth and sun
- D. Gravitational force on the earth

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: A

Sol:

Winds are primarily generated due to the uneven heating of the earth (A) and the oceans (B). The differential heating causes pressure differences, leading to the movement of air from high to low-pressure areas, creating wind.

Q.72 Sunita drops a piece of potassium metal in a beaker of cold water and notes down the observations.

Which of the following observation is not correct?

Answer the following questions by selecting the correct/most appropriate options.

- A. Hydrogen gas is evolved.
- B. Pop sound is heard.
- C. Potassium reacts violently with water.
- D. It is endothermic reaction.

Answer: D

Sol:

The reaction of potassium with water is exothermic, meaning it releases heat. Potassium reacts violently with water, producing hydrogen gas and a pop sound due to the rapid release of hydrogen.

Q.73 Assertion A: It is recommended that acid should be added to water for diluting the acid and not vice-versa.

Reason R: Dilution of acid is a highly exothermic reaction.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is correct explanation of A.
- D. Both A and R are true but R is not correct explanation of A.

Answer: C

Sol:

It is recommended to add acid to water for safety because the dilution process is highly exothermic. Adding water to acid can cause the mixture to splatter and potentially cause burns or other injuries.

Information Booster:

Exothermic reaction: Releases heat, making the dilution of acids potentially dangerous.

Safety procedure: Adding acid to water minimizes the risk of splashing and ensures safer dilution.

Q.74 A gender responsive pedagogy in science entails.

- A. Use of gender sensitive language
- B. Engaging students in examining stereotypes
- C. Making gender based groups
- D. Using differentiated instruction and assessment

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: A

Sol:

A gender-responsive pedagogy in science involves using gender-sensitive language (A) to avoid reinforcing stereotypes and engaging students in examining stereotypes (B) to promote critical thinking about gender roles. This approach encourages inclusivity and equity in the classroom.

Q.75 Which of the following statements is/are true regarding Rainwater harvesting?

- A. It conserves ground water.
- B. It reduces local flooding.
- C. It creates drainage problems.
- D. It can be used for irrigation of crops.

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: A

Sol:

Rainwater harvesting conserves ground water (A) by replenishing aquifers. It reduces local flooding (B) by capturing runoff and directing it to storage or recharge areas. Additionally, harvested rainwater can be used for irrigation of crops (D), reducing dependency on conventional water sources.

Q.76 Assertion A: The ceilings of cinema halls and concert halls are generally curved.

Reason R: Sound waves after striking a curved surface get reflected in all directions.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is correct explanation of A.
- D. Both A and R are true but R is not correct explanation of A.

Answer: C

Sol:

The ceilings of cinema halls and concert halls are generally curved to ensure sound waves are reflected evenly in all directions, enhancing sound distribution and acoustics.

Information Booster:

Acoustics: The study of sound and how it behaves in different environments.

Curved surfaces: Used to manage sound reflection and absorption for optimal auditory experience.

Q.77 Which of the following is true regarding scientific laws?

Answer the following questions by selecting the correct/most appropriate options.

- A. They can't be challenged.
- B. They provide reasoning for physical phenomena.
- C. They describe relationship between observable phenomena.
- D. They are formed from scientific theories.

Answer: C

Sol:

Scientific laws describe relationships between observable phenomena and are typically expressed mathematically. They are empirical generalizations based on repeated observations and experiments.

Q.78 An odometer in a car measures:

Answer the following questions by selecting the correct/most appropriate options.

- A. average speed of the car
- B. acceleration of the car
- C. distance travelled by the car

D. instantaneous speed of the car

Answer: C

Sol:

An odometer measures the distance traveled by a car, tracking the total mileage covered over time.

Information Booster:

Average speed: Total distance divided by total time, not measured by an odometer.

Acceleration: The rate of change of velocity, measured by an accelerometer.

Instantaneous speed: Speed at a particular moment, measured by a speedometer.

Q.79 The atomic number of A is 13 and the atomic number of B is 17. The chemical formula of the compound formed from A and B could be:
Answer the following questions by selecting the correct/most appropriate options.

- A. AB₂
- B. AB
- C. A₃B
- D. AB₃

Answer: D

Sol:

Chemical Bonding and Valency

The atomic number of A is 13, meaning A is Aluminum (Al) with the electronic configuration 2, 8, 3. This means Aluminum has a valency of 3.

The atomic number of B is 17, meaning B is Chlorine (Cl) with the electronic configuration 2, 8, 7. This means Chlorine has a valency of 1.

In forming a compound, the total positive charge must balance the total negative charge.

Aluminum (Al) can lose 3 electrons to form Al³⁺ ions.

Chlorine (Cl) can gain 1 electron to form Cl⁻ ions.

To balance the charges, 1 Aluminum ion (Al³⁺) will need 3 Chlorine ions (Cl⁻) to form a neutral compound.

Thus, the chemical formula of the compound will be AlCl₃.

(d) AB₃

Q.80 Which of the following characterizes human circulatory system?
Answer the following questions by selecting the correct/most appropriate options.

- A. closed, single circulation
- B. closed, double circulation
- C. open, single circulation
- D. open, double circulation

Answer: B

Sol:

The human circulatory system is characterized by being closed (blood flows within vessels) and having double circulation (blood passes through the heart twice in one complete circuit - pulmonary and systemic circulation).

Q.81 Which of the following illustrates 'science as inquiry'?
Answer the following questions by selecting the correct/most appropriate options.

- A. List five uses of coconut tree
- B. Observe the types of venation in various leaves
- C. Classify the given plants into herbs, shrubs and trees
- D. Explore factors which affect the rate of germination in gram seeds

Answer: D

Sol:

Exploring factors that affect the rate of germination in gram seeds involves conducting experiments, making observations, and drawing conclusions, which are fundamental aspects of scientific inquiry.

Q.82 Read the statements given below and choose the correct option:

Assertion A: The rate of breathing in aquatic animals is slower than land animals.

Reason R: Presence of large amounts of dissolved oxygen affects rate of breathing of aquatic animals.

Answer the following questions by selecting the correct/most appropriate options.

- A. A is true but R is false.
- B. Both A and R are false.
- C. Both A and R are true and R is correct explanation of A.
- D. Both A and R are true but R is not correct explanation of A.

Answer: B

Sol:

The assertion (A) that the rate of breathing in aquatic animals is slower than land animals is false. Aquatic animals generally have a higher rate of breathing to compensate for the lower concentration of oxygen in water compared to air. The reason (R) is also false because the presence of large amounts of dissolved oxygen would typically decrease the breathing rate, but in natural conditions, dissolved oxygen levels are lower in water than in air, necessitating faster breathing in aquatic animals.

Q.83 Which of the following is not a feature of alternate conceptions in science?

Answer the following questions by selecting the correct/most appropriate options.

- A. Ideas are developed from observable features.
- B. Ideas do not demonstrate cause and effect reasoning.
- C. Ideas are stable.
- D. Ideas are resistant to change.

Answer: B

Sol:

Alternate conceptions in science often do demonstrate cause and effect reasoning, though it may be incorrect. These ideas are typically developed from observable features, are stable, and resistant to change.

Information Booster:

Alternate conceptions: Misconceptions or preconceptions that students hold about scientific concepts.

Cause and effect reasoning: Even incorrect alternate conceptions often follow a logical cause and effect pattern.

Stability and resistance: Such ideas are stable and resistant to change even when confronted with conflicting evidence.

Q.84 An object floats with 1/4 th part of its volume outside the liquid when put in liquid A and 3/4 th part of its volume outside the liquid when put in liquid B. which of the following statements is true?

Answer the following questions by selecting the correct/most appropriate options.

- A. Density of liquid B is greater than density of liquid A.
- B. The densities of liquid cannot be compared on the basis of above information.
- C. Density of liquid A is greater than density of liquid B.
- D. Both liquids have same density.

Answer: A

Sol:

Let V be the total volume of the object and ρ_0 be the density of the object.

For liquid A: 1/4 V is outside the liquid, so 3/4 V is inside the liquid.

Using Archimedes' principle:

$$\rho_A \cdot \frac{3}{4} V = \rho_0 \cdot V \text{ implying } \rho_A = \frac{3}{4} \rho_0$$

For liquid B: 3/4 V is outside the liquid, so 1/4 V is inside the liquid.

$$\text{Using Archimedes' principle: } \rho_B \cdot \frac{1}{4} V = \rho_0 \cdot V \text{ implying } \rho_B = 4 \rho_0$$

$$\text{Comparing densities: } \rho_A = \frac{3}{4} \rho_0 \text{ and } \rho_B = 4 \rho_0$$

Since 4 (density of liquid B) is greater than 3/4 (density of liquid A), the correct statement is:

Density of liquid B is greater than density of liquid A.

Q.85 Read the following statements and choose the correct option:

S1- Photosynthesis is endothermic reaction.

S2- Respiration is exothermic reaction.

Answer the following questions by selecting the correct/most appropriate options.

- A. S1 is true and S2 is false.
- B. S1 is false and S2 is true.
- C. Both S1 and S2 are true.
- D. Both S1 and S2 are false.

Answer: C

Sol:

Photosynthesis is an endothermic reaction as it requires energy from sunlight to convert carbon dioxide and water into glucose and oxygen.

Respiration is an exothermic reaction as it releases energy by breaking down glucose in the presence of oxygen.

Information Booster:

Endothermic reaction: Absorbs energy (e.g., photosynthesis).

Exothermic reaction: Releases energy (e.g., respiration).

Photosynthesis: Occurs in plants, converting solar energy into chemical energy.

Respiration: Occurs in all living organisms to release energy for cellular processes.

Q.86 The colour of flame depends on:

(A) Nature of combustible substance

(B) Oxygen supply

(C) Temperature of the surroundings

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: A

Sol:

The color of a flame depends on the nature of the combustible substance (I) and the oxygen supply (II). Different substances burn with different colors, and varying the oxygen supply can change the temperature and color of the flame.

Information Booster:

Nature of combustible substance: Different elements and compounds produce distinct flame colors.

Oxygen supply: Affects combustion temperature and flame color. More oxygen generally results in a hotter, blue flame.

Q.87 Discussion on socio-scientific issues in class helps in:

- A. developing argumentative skills in learners
- B. developing multiple perspectives on an issue
- C. encouraging citizen science activities
- D. appreciating the role of society in development of science

Answer the following questions by selecting the correct/most appropriate options.

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

Answer: D

Sol:

Socio-scientific issues are complex, real-world problems that involve both scientific and societal aspects. These issues are grounded in scientific principles, research, and understanding. They often require scientific knowledge to address and solve.

Discussion on socio-scientific issues in class helps in:

- (a) Developing argumentative skills in learners: Engaging in discussions about socio-scientific issues helps students learn how to argue and present their viewpoints effectively.
- (b) Developing multiple perspectives on an issue: These discussions expose students to different viewpoints and help them understand various aspects of a topic.
- (c) Encouraging citizen science activities: Discussing these issues can motivate students to participate in science-related activities that benefit the community.

Q.88 A class VII teacher plans to identify alternate conceptions of students in the topic 'Adaptations in plants and animals'. Which of the following sets of strategies is best suited for this purpose
Answer the following questions by selecting the correct/most appropriate options.

- A. Diagnostic questionnaire, interview, drawings
- B. Project, checklist, drawings
- C. Drawings, checklist, interview
- D. Portfolio, group discussion, diagnostic questionnaire

Answer: A

Sol:

A diagnostic questionnaire can help the teacher identify students' initial conceptions. Interviews allow for deeper exploration of students' thinking, and drawings can visually reveal students' understanding and misconceptions about adaptations in plants and animals.

Q.89 Which of the following statement is not true regarding conduction of heat?
Answer the following questions by selecting the correct/most appropriate options.

- A. Conduction does not take place in gases.
- B. All materials do not allow heat to flow through them in same way.
- C. Conduction is faster in solids than liquids.
- D. Two objects should be in contact with each other for heat flow.

Answer: A

Sol:

Conduction can occur in gases, though it is less efficient compared to solids and liquids due to the greater distance between particles in a gas. The other statements are true as materials have different thermal conductivities, conduction is generally faster in solids due to tightly packed molecules, and contact is necessary for conduction.

Q.90 Two sperms of a man fuse with two eggs of a woman. The twins formed are:
Answer the following questions by selecting the correct/most appropriate options.

- A. may be identical or fraternal
- B. always conjoint.
- C. identical
- D. fraternal

Answer: D

Sol:

The correct answer is that the twins formed by the fusion of two sperms with two eggs may be fraternal (dizygotic) or, in rare cases, may be identical (monozygotic) if one of the fertilized eggs splits after fertilization. Typically, when two sperms fertilize two eggs, the twins are fraternal. However, the identical scenario can happen if one of the fertilized eggs splits early after fertilization, leading to identical twins.

Q.91 संध्या सुंदरी किस तरह के आकाश से उतर रही है?
निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:
दिवसावसान का समय,
मेघमय आसमान से उतर रही है
वह संख्या सुंदरी परी-सी
धीरे-धीरे-धीरे।
तिमिरांचल में चंचलता का नहीं कहीं आभास,
मधुर मधुर हैं दोनों उसके अधर-
कितु जरा गंभीर नहीं है उनमें हास-विलास
हँसता है तो केवल तारा एक
गुँथा हुआ उन घुँघराले काले-काले बालों से
हृदयराज की रानी कावह करता है अभिषेक।

- A. चंद्रमा की रोशनी से भरे आकाश से
- B. सूर्य लालिमा से भरे आकाश से
- C. तारों भरे आकाश से

D. बादलों से भरे आकाश से

Answer: D

Sol:

पद्यांश के अनुसार, संध्या सुंदरी मेघमय (बादलों से भरे) आकाश से उतर रही है।

Q.92 'हृदयराज की रानी' किसके लिए प्रयुक्त हुआ है?

निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

दिवसावसान का समय,

मेघमय आसमान से उतर रही है

वह संख्या सुंदरी परी-सी

धीरे-धीरे-धीरे।

तिमिरांचल में चंचलता का नहीं कहीं आभास,

मधुर मधुर हैं दोनों उसके अधर-

किंतु जरा गंभीर नहीं है उनमें हास-विलास

हँसता है तो केवल तारा एक

गुँथा हुआ उन घुँघराले काले-काले बालों से

हृदयराज की रानी कावह करता है अभिषेक।

A. संध्या

B. तिमिर

C. मेघ

D. आकाश

Answer: A

Sol:

'हृदयराज की रानी' संध्या के लिए प्रयुक्त हुआ है, जो संध्या सुंदरी का ही एक अन्य रूप है।

Q.93 'दिवसावसान' का संधि विच्छेद है:

निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

दिवसावसान का समय,

मेघमय आसमान से उतर रही है

वह संख्या सुंदरी परी-सी

धीरे-धीरे-धीरे।

तिमिरांचल में चंचलता का नहीं कहीं आभास,

मधुर मधुर हैं दोनों उसके अधर-

किंतु जरा गंभीर नहीं है उनमें हास-विलास

हँसता है तो केवल तारा एक

गुँथा हुआ उन घुँघराले काले-काले बालों से

हृदयराज की रानी कावह करता है अभिषेक।

A. दिवसा + वसान

B. दिवस + आवसान

C. दिवस + अवसान

D. दिवा + अवसान

Answer: C

Sol:

'दिवसावसान' का संधि विच्छेद है 'दिवस + अवसान'।

Q.94 पद्यांश में किस का चित्रण हुआ है?

निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

दिवसावसान का समय,

मेघमय आसमान से उतर रही है

वह संख्या सुंदरी परी-सी

धीरे-धीरे-धीरे।

तिमिरांचल में चंचलता का नहीं कहीं आभास,

मधुर मधुर हैं दोनों उसके अधर-

किंतु जरा गंभीर नहीं है उनमें हास-विलास
हँसता है तो केवल तारा एक
गुँथा हुआ उन घुँघराले काले-काले बालों से
हृदयराज की रानी कावह करता है अभिषेक।

- A. वेदना का
- B. प्रेमभाव का
- C. प्रकृति का
- D. नवचेतना का

Answer: C

Sol:

पद्यांश में संध्या सुंदरी के माध्यम से प्रकृति का चित्रण किया गया है।

- Q.95** किसके हँसने की बात की गई है?
निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:
दिवसावसान का समय,
मेघमय आसमान से उतर रही है
वह संख्या सुंदरी परी-सी
धीरे-धीरे-धीरे।
तिमिरांचल में चंचलता का नहीं कहीं आभास,
मधुर मधुर हैं दोनों उसके अधर-
किंतु जरा गंभीर नहीं है उनमें हास-विलास
हँसता है तो केवल तारा एक
गुँथा हुआ उन घुँघराले काले-काले बालों से
हृदयराज की रानी कावह करता है अभिषेक।

- A. संध्या
- B. आकाश
- C. मेघ
- D. तारा

Answer: D

Sol:

पद्यांश में तारा के हँसने की बात की गई है, जो संध्या सुंदरी के घुँघराले काले बालों में गुँथा हुआ है।

- Q.96** . पद्यांश में किस अलंकार का प्रयोग अधिक मुखरित है?
निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:
दिवसावसान का समय,
मेघमय आसमान से उतर रही है
वह संख्या सुंदरी परी-सी
धीरे-धीरे-धीरे।
तिमिरांचल में चंचलता का नहीं कहीं आभास,
मधुर मधुर हैं दोनों उसके अधर-
किंतु जरा गंभीर नहीं है उनमें हास-विलास
हँसता है तो केवल तारा एक
गुँथा हुआ उन घुँघराले काले-काले बालों से
हृदयराज की रानी कावह करता है अभिषेक।

- A. यमक
- B. मानवीकरण
- C. अतिशयोक्ति
- D. अनुप्रास

Answer: B

Sol:

पद्यांश में संध्या, तारा, और मेघ को मानवीय गुण दिए गए हैं, जो मानवीकरण अलंकार का प्रयोग है।

Q.97 'समाज के बदतर होने की स्थिति' वाक्य में रेखांकित शब्द का अर्थ है:

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विश्रुखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताज़ा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. अत्यधिक बुरा
- B. दुराचारी
- C. अभिमानी
- D. बेईमानी

Answer: A

Sol:

बदतर का अर्थ है अत्यधिक बुरा। इस संदर्भ में, "समाज के बदतर होने की स्थिति" का मतलब है कि समाज की स्थिति बहुत ही खराब हो गई है।

Q.98 गद्यांश के अनुसार साहित्य में किस तरह की चिंता झलकती है?

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विश्रुखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताज़ा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. नए सिद्धान्तों के बनने की
- B. सामाजिक विघटन की
- C. समाज के आधुनिक होने की
- D. मूल्यों के बिखरने की

Answer: D

Sol:

गद्यांश में स्पष्ट किया गया है कि साहित्य में समाज के टूटते-बिखरते मूल्यों की चिंता बनी रहती है।

Q.99 कौन-सा साहित्य कालजयी साहित्य बन पाता है?

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विश्रुखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताज़ा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. जो मानवीय सत्य की व्याख्या करे।
- B. जो बिखरते सिद्धान्तों की चिंता करे।
- C. जो पाठकों का मनोरंजन करे।
- D. जो समाज का दर्पण हो।

Answer: A

Sol:

गद्यांश के अनुसार, वही साहित्य कालजयी बन पाता है जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो।

Q.100 'विश्वास' शब्द का अर्थ है:

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विश्रुखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताज़ा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका

साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. तत्वज्ञान संबंधी
- B. निश्चित धारणा
- C. विश्वमय
- D. विश्व से संबंधित नियम

Answer: B

Sol:

विश्वास का अर्थ है निश्चित धारणा, जो किसी पर पूर्ण विश्वास प्रकट करती है।

Q.101 'विशृंखलित' में प्रत्यय है:

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विशृंखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. इत
- B. खलित
- C. लित
- D. त

Answer: A

Sol:

विशृंखलित शब्द में 'इत' प्रत्यय है, जिससे यह शब्द बना है।

Q.102 साहित्यकारों ने समाज की किस स्थिति की पहचान करने का प्रयास किया है?

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विशृंखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. उन्नतशील समाज
- B. बिखरता हुआ समाज
- C. विकास की ओर अग्रसर समाज
- D. पतन की ओर जाता हुआ समाज

Answer: D

Sol:

गद्यांश के अनुसार, साहित्यकारों ने समय-समय पर पतन की ओर जाते हुए समाज की स्थिति को पहचाना है।

Q.103 'कालजयी' से तात्पर्य है:

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विशृंखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. काल विशेष की सही व्याख्या करता हो।
- B. अल्प काल तक रहने वाला।
- C. जो काल विशेष में बँधा हुआ हो।
- D. हर काल में प्रासंगिक हो।

Answer: D

Sol:

कालजयी का अर्थ है जो हर काल में प्रासंगिक हो, अर्थात् जिसकी महत्वपूर्णता समय के साथ बनी रहे।

Q.104 किस तरह के साहित्यकारों की आवश्यकता हर युग में बनी रहती है?

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विशृंखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. जो समाज को नैतिक बनाते हैं।
- B. जो समाज का विकास करते हैं।
- C. जो समाज को जागरूक करते हैं।
- D. जो समाज का मनोरंजन करते हैं।

Answer: C

Sol:

गद्यांश के अनुसार, ऐसे साहित्यकारों की आवश्यकता हर युग में रहती है जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती हैं और जो समाज को जागरूक करते हैं।

Q.105 समाज को गति कौन प्रदान करता है?

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प का चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। चयन साहित्य और समाज का गहरा संबंध ही है कि साहित्य में समाज के विशृंखलित होते सिद्धांतों और टूटते-बिखरते मूल्यों की चिंता बराबर बनी रहती है। वही साहित्य कालों के बंधन को तोड़कर, उसकी सीमाओं से परे जाकर कालजयी बन पाता है, जिसमें मानवीय सत्य की व्याख्या हो और संवेदनाओं के सहारे आस्था जगाने का प्रयास हो। समय-समय पर साहित्यकारों ने समाज के बदतर होने की स्थिति को पहचाना है। कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ जाते हैं, जिनकी आवश्यकता हर युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को दीप्त करने का दायित्व निभाती चलती हैं। उनका साहित्यकार व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

- A. शिक्षा
- B. साहित्य
- C. विज्ञान
- D. तकनीकी विकास

Answer: B

Sol:

गद्यांश के अनुसार, साहित्य सदैव समाज को निरंतरता और गति प्रदान करता है।

Q.106 भाषागत कार्य जैसे स्वरशैली, तान, बलाघात और लय को क्या कहा जाएगा?

- A. ध्वन्यात्मकता
- B. प्रशासनिक अध्यादेश (प्रेगमेटिक)
- C. काव्य
- D. छंदशास्त्र

Answer: D

Sol:

भाषागत कार्य जैसे स्वरशैली, तान, बलाघात और लय को छंदशास्त्र कहा जाएगा।

Q.107 भाषा के कौन से कौशल ग्राह्य कौशल हैं?

- A. पठन और लेखन
- B. श्रवण और पठन

- C. श्रवण और बोलना
D. बोलना और लेखन

Answer: B

Sol:

भाषा के श्रवण और पठन ग्राह्य कौशल हैं।

Q.108 एक अध्यापक ने बच्चों को रेस्टोरेंट से जुड़ी शब्दसंपदा से परिचित कराने वाला काम दिया। इस पाठ का क्या उद्देश्य होना चाहिए?

- A. अवकाश के दौरान कहीं जाने से संबंधित पाठ्य सामग्री से परिचित करवाना
B. समालोचनात्मक चिंतन विकसित करना
C. शिक्षार्थियों को कोश विषयक सामग्री से परिचित करवाना
D. व्याकरणिक सामग्री से परिचित करवाना

Answer: C

Sol:

शिक्षार्थियों को कोश विषयक सामग्री से परिचित करवाना इस पाठ का उद्देश्य होना चाहिए।

Q.109 भारत में बहुभाषावाद के संदर्भ में अध्यापक के लिए क्या समझना ज़रूरी है?

- A. विविधता भरे समाज में 'एक भाषा' नीति बनानी चाहिए
B. भाषा, अस्मिता और संस्कृति ये भिन्न-भिन्न अस्तित्व रखती हैं
C. सम्प्रेषण से सामाजिक सम्बद्धता स्थापित होती है
D. अल्पसंख्यक भाषाओं को प्रभुत्वशाली भाषाओं में मिला देना चाहिए

Answer: C

Sol:

सम्प्रेषण से सामाजिक सम्बद्धता स्थापित होती है, यह समझना अध्यापक के लिए ज़रूरी है।

Q.110 अधिगम का कौन-सा मत इस बात में विश्वास रखता है कि मौखिक या अमौखिक भाषा आदत निर्माण की प्रक्रिया के माध्यम से आती है?

- A. संज्ञानात्मकवादी
B. अन्तः क्रियात्मकवादी
C. उपयोगितावादी (फंक्शनलिस्ट)
D. व्यवहारवादी (बिहेवियरिस्ट)

Answer: D

Sol:

व्यवहारवादी (बिहेवियरिस्ट) मत इस बात में विश्वास रखता है कि भाषा अधिगम आदत निर्माण की प्रक्रिया के माध्यम से होता है।

Q.111 श्रवण में क्या शामिल है?

- A. विषय के पूर्व ज्ञान का इस्तेमाल करना
B. ध्वनियों की पहचान करना और उनसे अर्थ निकालना
C. ध्वनि सुनना, ध्वनियाँ जैसी हैं, तदनुसार डिकोड करना
D. विषयवस्तु के बारे में अनुमान लगाना

Answer: B

Sol:

श्रवण में ध्वनियों की पहचान करना और उनसे अर्थ निकालना है।

Q.112 अध्यापकों, शिक्षार्थियों और सामग्री पर टैस्ट एवं आकलन का प्रभाव क्या कहलाता है?

- A. कक्षायी प्रभाव
- B. पुनर्बलन
- C. विधि प्रभाव (कार्पस इफेक्ट)
- D. भाषा परीक्षण का प्रभाव (वाशबैक इफेक्ट)

Answer: D

Sol:

अध्यापकों, शिक्षार्थियों और सामग्री पर टैस्ट एवं आकलन का प्रभाव भाषा परीक्षण का प्रभाव (वाशबैक इफेक्ट) कहलाता है।

Q.113 भाषा की कक्षा में एक अध्यापक ने विद्यार्थियों के एक समूह को ग्राहक, प्रापर्टी डीलर, मकानमालिक और किराएदार का अभिनय करने के लिए कहा और शेष विद्यार्थियों से का कि इस अभिनय को देखें और वार्तालाप का आनन्द लें। इस गतिविधि को क्या कहा जाएगा?

- A. अभिनय की कक्षा
- B. निर्देशन
- C. रोलप्ले
- D. ड्रामा

Answer: C

Sol:

भाषा की कक्षा में एक अध्यापक ने विद्यार्थियों के एक समूह को ग्राहक, प्रापर्टी डीलर, मकानमालिक और किराएदार का अभिनय करने के लिए कहा और शेष विद्यार्थियों से का कि इस अभिनय को देखें और वार्तालाप का आनन्द लें। इस गतिविधि को रोलप्ले कहा जाएगा।

Q.114 कक्षा पाँच की भाषा अध्यापक अपनी कक्षा में भाषा शिक्षण के लिए प्रतिदिन अनेक प्रकार की सामग्री जैसे कि समाचारपत्र, भोजन तालिका और रेल यात्रा के टिकट आदि लाती है। वह अधिगम के लिए क्या कर रही है?

- A. वह चाहती है कि उसके विद्यार्थी जीवन की वास्तविक स्थितियों से अंग्रेजी सीखें।
- B. वह विद्यार्थियों में जागरूकता लाना चाहती है।
- C. वह अधिगम को और अधिक वास्तविक तथा उपयोगी बनाने के लिए प्रामाणिक सामग्री का प्रयोग कर रही है।
- D. वह अपने विद्यार्थियों को बहुविध भाषाएँ सीखने में मदद कर रही हैं।

Answer: C

Sol:

अध्यापक अधिगम को और अधिक वास्तविक तथा उपयोगी बनाने के लिए प्रामाणिक सामग्री का प्रयोग कर रही है।

Q.115 भाषा की कक्षा में विद्यार्थी अध्यापक के निर्देशन में समूह बनाकर दिए गए टॉपिक पर एक विज्ञापन प्रस्तुत करते हैं। इस तरीके से भाषा सीखना क्या कहलाता है?

- A. भाषायी खेल
- B. निर्देशन और परमर्श
- C. सहयोगात्मक अधिगम
- D. प्रतियोगिता और प्रतिद्वंद्विता

Answer: C

Sol:

भाषा की कक्षा में विद्यार्थी अध्यापक के निर्देशन में समूह बनाकर दिए गए टॉपिक पर एक विज्ञापन प्रस्तुत करते हैं। इस तरीके से भाषा सहयोगात्मक अधिगम कहलाता है।

Q.116 भारत में भाषाओं के बारे में कौन-सा कथन सही नहीं है?

- A. संस्कृत आधुनिक भारतीय भाषा है
- B. हिंदी भारतीय उप महाद्वीप की लोक भाषा (लिंग्वा फ्रान्का) है
- C. भारत के संविधान के अनुसार अंग्रेजी सह राजकीय भाषा है
- D. भारत के संविधान की आठवीं अनुसूची के अनुसार -22 भाषाएँ हैं

Answer: A

Sol:

संस्कृत आधुनिक भारतीय भाषा है यह कथन सही नहीं है।

Q.117 किसी भी कहानी का समय और स्थान क्या कहलाता है?

- A. कथानक (प्लॉट)
- B. क्लाइमेक्स (अंत)
- C. थीम
- D. सैटिंग

Answer: D

Sol:

किसी भी कहानी का समय और स्थान सैटिंग कहलाता है।

Q.118 विद्यालयों को योगात्मक द्विभाषावाद का अनुसरण करना चाहिए क्योंकि यह _____।

- A. बच्चे की भाषा को तो समुन्नत करता है परन्तु उनकी संस्कृति को नहीं
- B. प्रथम भाषा के विकास में अवरोध पैदा करता है
- C. बच्चे की संस्कृति और भाषा को महत्व देता है
- D. अंग्रेजी शिक्षण को द्वितीय भाषा के रूप में महत्व देता है

Answer: C

Sol:

योगात्मक द्विभाषावाद बच्चे की संस्कृति और भाषा को महत्व देता है, इसलिए विद्यालयों को इसका अनुसरण करना चाहिए।

Q.119 कॉलम में भाषा शिक्षण विधियाँ हैं और कॉलम में उनकी समझ या संबंधि गतिविधियाँ हैं, मिलान करें।

कॉलम A

- A. सम्प्रेषणात्मक भाषा शिक्षण
- B. प्रत्यक्ष विधि
- C. व्याकरण अनुवाद
- D. वैस्ट (West's) की नवीन विधि

कॉलम B

- I. सामाजिक रूप से स्वीकृत और संदर्भ के अनुरूप भाषा
- II. मौन पठन
- III. लिखित साहित्यिक सामग्री
- IV. व्याकरण को आगमनात्मक तरीके से पढ़ाना

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

Answer: C

Sol:

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

- (a) सम्प्रेषणात्मक भाषा शिक्षण - सामाजिक रूप से स्वीकृत और संदर्भ के अनुरूप भाषा
- (b) प्रत्यक्ष विधि - व्याकरण को आगमनात्मक तरीके से पढ़ाना
- (c) व्याकरण अनुवाद - लिखित साहित्यिक सामग्री
- (d) वैस्ट (West's) की नवीन विधि - मौन पठन

Q.120 किसी श्रवण से जुड़ गतिविधि की योजना बनाते समय कौन-सा कारक महत्वपूर्ण नहीं है?

- A. वक्ताओं का जेन्डर (बोलने वाले महिला हैं या पुरुष)
- B. वक्ताओं की संख्या
- C. रिकार्डिंग को थोड़ा सा रोकना (पॉज़ देना)
- D. बोलने की गति

Answer: A

Sol:

वक्ताओं का जेन्डर (बोलने वाले महिला हैं या पुरुष) महत्वपूर्ण कारक नहीं है।

Q.121 The phrase 'courtyards jostling together' implies:

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.
2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.
3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. being one on top of the other
- B. being in close proximity
- C. being very far apart
- D. being in different sizes and dimensions

Answer: B

Sol:

The phrase 'courtyards jostling together' implies being in close proximity. The courtyards are built close to each other to maximize sun exposure in the foothills.

Q.122 What aspect of Tibetan houses as described in the passage is incorrect?

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.
2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.
3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. Roofs are made of mud bricks.
- B. They are solidly built.
- C. Walls are made of mortar and cement.
- D. Tin cans line the window ledges.

Answer: C

Sol:

The incorrect aspect is that walls are made of mortar and cement. The passage states that walls are made of stone up to waist height and finished with mud bricks.

Q.123 Why do the willows and poplars look absurd in the landscape?

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in

the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.

2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.

3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. Because the landscape is generally treeless.
- B. The other trees camouflage them,
- C. They are stunted shrubs.
- D. They have minimum branches and leaves.

Answer: A

Sol:

Willows and poplars look absurd in the landscape because the landscape is generally treeless. The passage highlights that trees are a rarity in the Tibetan highlands.

Q.124 Complete the given word analogy:

Precious: valuable:: ingenious:?

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.

2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.

3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. genuine
- B. practical
- C. theoretical
- D. inventive

Answer: D

Sol:

The analogy "Precious: valuable:: ingenious:?" implies that just as 'precious' is synonymous with 'valuable,' 'ingenious' is synonymous with 'inventive.'

Q.125 Yak dung is used by the Tibetans as a substitute for:

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.

2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.

3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. fire
- B. wood
- C. buildings

D. marigolds

Answer: B

Sol:

Yak dung is used by the Tibetans as a substitute for wood. The passage mentions that wood is a precious commodity, and yak dung is used as an ingenious substitute for solid fuel.

Q.126 Read the following two statements:

Assertion A: Wood and sticks are piled high against the courtyard walls in the houses

Reasoning R: Wood is found in abundance across Tibet

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.
2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.
3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. A and R are both incorrect
- B. A is correct and R is the reason for it.
- C. A is incorrect, but R is correct
- D. A is correct and R is not the reason for it

Answer: D

Sol:

Assertion A is correct; wood and sticks are piled high against the courtyard walls. Reasoning R is not correct; wood is not found in abundance in Tibet, making the assertion correct but not the reason.

Q.127 . Identify the underlined words in the given sentence:

The lack of solid fuel in the shape of wood is not a problem for the Tibetans.

Read the passage given below and answer the questions that follow:

1. Every now and then we would speed through a village line with waving Tibetan children. Their villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down. Small clusters of single and double storey buildings with walk-in courtyards jostled together in the foothills to gain maximum exposure to the sun. the houses looked solid, build for the harsh environment. Walls are made up of stone to waist height and finished off with mud bricks to the roof. Tin cans lined the window ledges, with the bright orange of marigolds in full bloom livening up the black-and-white of the houses.
2. Branches of trees adorned with colorful prayer flags stood high into the wind from the top of the flat roofs. The auspicious blue, white, red, green and yellow colours of the fabrics stood out against the rich blue of the Tibetan sky. Each prayer flag carries a picture of Lungta, the jeweled dragon horse, who carries the owner's prayers up to the divine every time the flag flaps in the wind.
3. the larger village have healthy trees, usually willows or poplars which look quite out of place in the generally treeless landscape. Wood is a precious commodity in the highland areas of Tibet and is never wasted. The few shrubs which grow wild on the hillsides are harvested for use as brushwood and each courtyard wall is piled high with sticks gathered from the mountains to get a fire started. The lack of solid fuel in the shape of wood is not a problem for the Tibetans, who have an ingenious wood substitute: yak dung.

- A. noun, noun
- B. verb, noun
- C. noun, adjective
- D. adjective, noun

Answer: A

Sol:

In the sentence, "lack" is a noun and "wood" is a noun, making the correct identification of parts of speech noun, noun.

Q.128 Having a sweet tooth means :

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
2. To identify the gene, research teams conducted almost identical experiments using mice which have differences in their ability to taste sweet foods. One of the team members said "A sweet taste receptor recognizes the sweet content of food and initiates a cascade of events which signals to the brain that a sweet food has been eaten." He further added. "The same gene exists in humans, so it means that if your parents have a sweet tooth then you probably will as well".
3. he said, "We have always known that some people have a sweeter tooth than others. But it has also been proved that if you are gradually exposed to less sugar, then the body becomes accustomed to less. They will be satisfied with a lower level of sweetness. Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene . "We have produced this gene through evolution because sweet foods in nature are not poisonous, they give us energy. We all need to have some sugar in our diet," claim scientists. US researchers are using this discovery to develop artificial sweeteners without any after-taste.

- A. teeth being sweet to taste
- B. teeth becoming decayed due to sugary, food items
- C. buying sweet food items from shops
- D. being fond of sweets and chocolates

Answer: D

Sol:

Having a sweet tooth means being fond of sweets and chocolates. It refers to a strong liking or craving for sweet foods.

Q.129 Doctors are not in favour of gene therapy because :

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
2. To identify the gene, research teams conducted almost identical experiments using mice which have differences in their ability to taste sweet foods. One of the team members said "A sweet taste receptor recognizes the sweet content of food and initiates a cascade of events which signals to the brain that a sweet food has been eaten." He further added. "The same gene exists in humans, so it means that if your parents have a sweet tooth then you probably will as well".
3. he said, "We have always known that some people have a sweeter tooth than others. But it has also been proved that if you are gradually exposed to less sugar, then the body becomes accustomed to less. They will be satisfied with a lower level of sweetness. Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene . "We have produced this gene through evolution because sweet foods in nature are not poisonous, they give us energy. We all need to have some sugar in our diet," claim scientists. US researchers are using this discovery to develop artificial sweeteners without any after-taste.

- A. People will feel guilty after going through-it.
- B. It will enhance sugar levels in the body.
- C. Sweet foods give energy to the body.
- D. It is poisonous.

Answer: C

Sol:

Doctors are not in favor of gene therapy because sweet foods give energy to the body. The passage mentions that sweet foods in nature are not poisonous and they provide energy, which is necessary for our diet.

Q.130 According to doctors, sweet foods are:

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
2. To identify the gene, research teams conducted almost identical experiments using mice which have differences in their ability to taste sweet foods. One of the team members said "A sweet taste receptor recognizes the sweet content of food and initiates a cascade of events which signals to the brain that a sweet food has been eaten." He further added. "The same gene exists in humans, so it means that if your parents have a sweet tooth then you probably will as well".
3. he said, "We have always known that some people have a sweeter tooth than others. But it has also been proved that if you are gradually exposed to less sugar, then the body becomes accustomed to less. They will be satisfied with a lower level of sweetness. Doctors warn against any

form of gene therapy which seeks to deactivate the sweet gene . "We have produced this gene through evolution because sweet foods in nature are not poisonous, they give us energy. We all need to have some sugar in our diet," claim scientists. US researchers are using this discovery to develop artificial sweeteners without any after-taste.

- A. poisonous
- B. deactivated genes
- C. dangerous
- D. energy boosters

Answer: D

Sol:

According to doctors, sweet foods are energy boosters. The passage highlights that sweet foods provide energy, which is necessary for our diet.

Q.131 The phrase '..... initiates a cascade of events', means:

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
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- A. signals given to the brain
- B. to start a series of occurrences
- C. to put a stop to orderly events
- D. to halt and hinder sequential events

Answer: B

Sol:

The phrase "initiates a cascade of events" means to start a series of occurrences. This implies a sequence of events triggered by an initial action.

Q.132 Read the statements given below:

- (A) Doctors have favoured gene therapy to control sweet gene.
- (B) A sweet taste receptor recognizes the amount of sweetness in food.
- (C) Heredity factors have absolutely no role to play in inheriting the sweet gene.

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
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3. he said, "We have always known that some people have a sweeter tooth than others. But it has also been proved that if you are gradually exposed to less sugar, then the body becomes accustomed to less. They will be satisfied with a lower level of sweetness. Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene . "We have produced this gene through evolution because sweet foods in nature are not poisonous, they give us energy. We all need to have some sugar in our diet," claim scientists. US researchers are using this discovery to develop artificial sweeteners without any after-taste.

- A. B and C are incorrect, A is correct
- B. A, B and C are all incorrect
- C. A and C are incorrect, B is correct
- D. A and B are incorrect, C is correct

Answer: C

Sol:

Statement A is incorrect because doctors are not in favor of gene therapy. Statement C is incorrect because heredity factors do play a role in inheriting the sweet gene. Statement B is correct as per the passage, which states that a sweet taste receptor recognizes the sweet content of food.

Q.133 'Chocoholic' are people:

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
2. To identify the gene, research teams conducted almost identical experiments using mice which have differences in their ability to taste sweet foods. One of the team members said "A sweet taste receptor recognizes the sweet content of food and initiates a cascade of events which signals to the brain that a sweet food has been eaten." He further added. "The same gene exists in humans, so it means that if your parents have a sweet tooth then you probably will as well".
3. he said, "We have always known that some people have a sweeter tooth than others. But it has also been proved that if you are gradually exposed to less sugar, then the body becomes accustomed to less. They will be satisfied with a lower level of sweetness. Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene . "We have produced this gene through evolution because sweet foods in nature are not poisonous, they give us energy. We all need to have some sugar in our diet," claim scientists. US researchers are using this discovery to develop artificial sweeteners without any after-taste.

- A. who are fond of chocolates
- B. who are makers of chocolates
- C. who hate chocolates
- D. who enjoy both chocolates and alcohol

Answer: A

Sol:

'Chocoholics' are people who are fond of chocolates. The term refers to individuals who have a strong liking for chocolate.

Q.134 Identify parts of speech of the underlined words in the given sentence:

'Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene'.

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.
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- A. preposition, noun
- B. conjunction, noun
- C. preposition, adjective
- D. adverb, adjective

Answer: C

Sol:

"Against" is a preposition, and "sweet" is an adjective.

"Against" indicates the relationship between "warn" and "any form of gene therapy."

"Sweet" describes the noun "gene."

Q.135 Complete the given word analogy:

Accustomed: habitual:: initiate:?

Read the passage given below and answer the questions that follow:

1. chocoholics no longer need to feel guilty about their desire for chocolate. They are simply the victim of the genes, scientists have found. The so called "sweet-tooth gene" has been identified by separate teams of researchers and helps explain why some find it harder to resist chocolate bars and cream cakes. It also raises the possibility of designing a drug which could "switch off" the gene and help people resist sugary foods. Children, in particular, risk their health by eating too many sweets and chocolates.

2. To identify the gene, research teams conducted almost identical experiments using mice which have differences in their ability to taste sweet foods. One of the team members said "A sweet taste receptor recognizes the sweet content of food and initiates a cascade of events which signals to the brain that a sweet food has been eaten." He further added. "The same gene exists in humans, so it means that if your parents have a sweet tooth then you probably will as well".

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- A. start off
- B. hinder
- C. halt
- D. complicate

Answer: A

Sol:

The analogy "Accustomed: habitual:: initiate:?" means that "accustomed" is synonymous with "habitual," and similarly, "initiate" is synonymous with "start off."

Q.136 What is a short story which has animals as the main characters and teacher an explicit moral called?

- A. Science Fiction
- B. Travelogue
- C. Fantasy
- D. Fable

Answer: D

Sol:

A short story that features animals as the main characters and teaches an explicit moral is called a fable. Examples include Aesop's fables.

Q.137 Using everyday objects to teach language is called _____.

- A. Teaching aid
- B. Text
- C. Realia
- D. both a and c are correct

Answer: D

Sol:

Realia (c) refers to the use of real, everyday objects in the classroom to teach language. These objects help to create a more engaging and meaningful learning experience by allowing students to interact with tangible items related to the language being learned. Teaching aids (a) are tools or materials used by teachers to facilitate learning, which can include realia. Therefore, both teaching aid and realia are correct terms to describe the use of everyday objects in language teaching.

Q.138 In a second language class, a teacher played audio on 'Health is wealth'. He then distributed handouts and asked the students to tick the correct answer from the given option. The objective of the lesson was to enable the learner:

- A. to listen, to analyse the ideas
- B. to engage the learners with a task
- C. to hear the lesson on health
- D. both a and b are correct

Answer: D

Sol:

The objective of the lesson was twofold: (a) to listen and analyze the ideas presented in the audio, and (b) to engage the learners with a task that reinforces their comprehension and analytical skills. By listening to the audio, students are expected to process and understand the content, while the follow-up task of ticking the correct answers ensures that they are actively engaged with the material and can demonstrate their understanding of the ideas discussed. This approach promotes both critical listening and active participation in the learning process.

Q.139 Assessment done throughout the teaching-learning process to clarify student learning and understanding is called_____.

- A. Assessment in learning
- B. Assessment as learning
- C. Assessment for learning
- D. Assessment of learning

Answer: C

Sol:

Assessment for learning is done throughout the teaching-learning process to clarify student learning and understanding, guiding instruction and providing feedback for improvement.

Q.140 Rita, a government school teacher, uses visual devices and language games to teach English to class VII students. Which principle of teaching is Rita applying?

- A. Principle of motivation and interest
- B. Principle of correlating with life
- C. Principle of natural process
- D. Principle of practice and habit formation

Answer: A

Sol:

Rita is applying the principle of motivation and interest by using visual devices and language games to engage students and make learning more enjoyable.

Q.141 What is NOT true about top-down processing?

- A. Listeners make use to the knowledge of the world
- B. Listeners need to understand every word
- C. Listeners rely on their background knowledge
- D. Listeners make guesses about the intended meaning

Answer: B

Sol:

In top-down processing, listeners do not need to understand every word. They rely on their background knowledge and make guesses about the intended meaning based on context and prior knowledge.

Q.142 When is International Mother Language Day celebrated?

- A. 21st February
- B. 13th April
- C. 1st January
- D. 14th February

Answer: A

Sol:

International Mother Language Day is celebrated on 21st February. This day is observed to promote linguistic and cultural diversity and multilingualism.

Q.143 Creativity in language education is :

- A. classroom activity using new methods of teaching.
- B. classroom material using communicative language teaching.
- C. open-ended classroom tasks which allow for different interpretations and answers
- D. merging elements from different subjects to understand something.

Answer: C

Sol:

Creativity in language education involves open-ended classroom tasks which allow for different interpretations and answers, encouraging students to think divergently and express themselves in unique ways.

Q.144 Which tool is not ideal for formative assessment?

- A. Project
- B. Class presentation
- C. Assignment
- D. Paper pencil test

Answer: D

Sol:

Paper pencil tests are typically used for summative assessments rather than formative assessments, which are ongoing and used to monitor student learning and provide ongoing feedback.

Q.145 Identify the type of email you would write if you were writing to a colleague who is your friend

- A. Business
- B. Correspondence
- C. Informal
- D. Formal

Answer: C

Sol:

If you are writing to a colleague who is your friend, you would write an informal email. The tone and style would be casual and friendly.

Q.146 Learners should be exposed to language, and errors are evidence that learning is taking place is advocated by:

- A. Humanist
- B. Psychoanalyst
- C. Behaviourists
- D. Cognitivist

Answer: D

Sol:

The belief that learners should be exposed to language and that errors are a natural part of the learning process is advocated by Cognitivists. Cognitivist theories emphasize the importance of mental processes in learning. According to cognitivists, making errors is an essential part of learning, as it allows learners to test hypotheses, receive feedback, and refine their understanding of language. This perspective views errors as a positive indication that the learner is actively engaging with the material and attempting to internalize new concepts.

Q.147 Which is a tool that allows for a number of synchronous and asynchronous online teaching opportunities?

- A. Television
- B. Padlet
- C. Textbook
- D. Railway ticket

Answer: B

Sol:

Padlet is a digital tool that allows for both synchronous and asynchronous online teaching opportunities, enabling interactive and collaborative learning experiences.

Q.148 What is NOT true about errors in language learning?

- A. Errors are crucial aspects of the language learning process.
- B. Errors help to understand the process of second language acquisition.
- C. Errors hinder the language learning process.
- D. Errors are not always bad and help in learning.

Answer: C

Sol:

It is not true that errors hinder the language learning process. Errors are a natural part of learning, helping both learners and teachers understand where improvement is needed and facilitating the learning process.

Q.149 Which of the following statements are correct?

- (A) Dyslexia is a reading disorder.
 - (B) Dysgraphia is a writing disorder.
 - (C) Dysgraphia is a reading disorder.
 - (D) Dyslexia is a writing disorder.
- A. Both A and B are correct
B. Both C and D are correct
C. Only A is correct
D. Only B and D are correct

Answer: A

Sol: Dyslexia is a reading disorder, and dysgraphia is a writing disorder. Hence, both A and B are correct.

Q.150 India's language in education policy (Three Language Formula) attempts to promote:

- A. Bilingual education with the focus on Hindi
- B. Mother-tongue based multilingualism
- C. Multi language education
- D. Monolingual education

Answer: B

Sol:

India's Three Language Formula aims to promote mother-tongue based multilingualism, encouraging students to learn their regional language, Hindi, and English, fostering multilingual competence.

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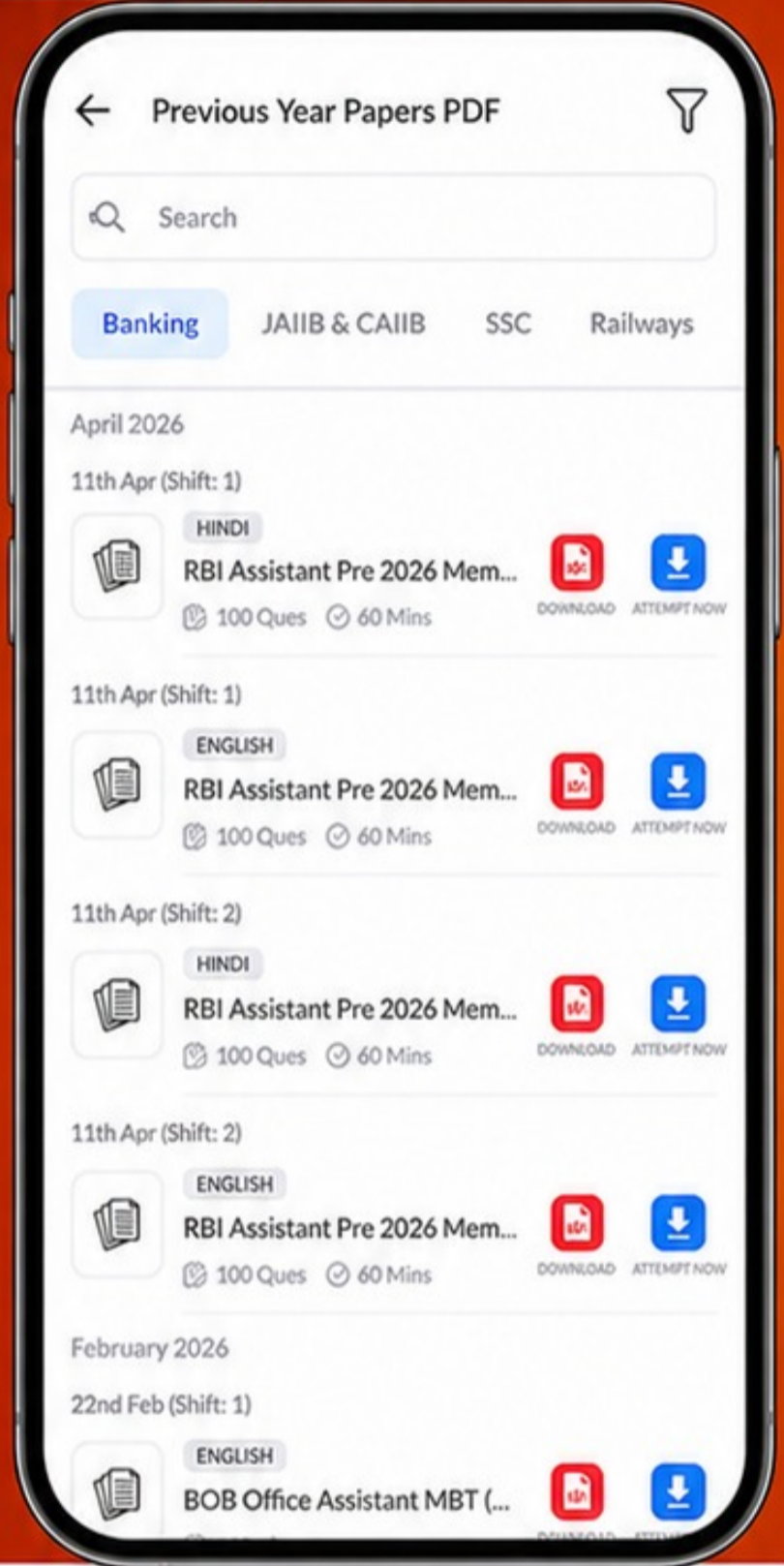
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