

Time: 2 hours 30 mins.

Total Marks: 150

## GENERAL INSTRUCTIONS

1. Read all the instructions on the question paper carefully before you start attempting the questions.
2. 1 mark is awarded to correct answer.
3. Ensure that the question paper code mentioned on the question paper matches the code on your admit card. Make sure you use the correct answer sheet for your paper. The answer sheet will have fields for your personal information, roll number, and other details.
4. Only one response should be marked for each question. If you mark multiple responses for a single question, it might be considered as incorrect.

### Child Development and Pedagogy

**Directions:** Answer the following questions by selecting the correct/most appropriate option.

1. **Assertion (A)** : Teachers should respect the individual differences among learners and adapt their teaching to cater to the needs of all students.  
**Reason (R)** : Collaborations, group work and interactions among students should be avoided while teaching a class of diverse learners.  
Choose the correct option.  
(1) (A) is true but (R) is false.  
(2) Both (A) and (R) are false.  
(3) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
2. A key commonality in Piaget and Vygotsky's theories is:  
(1) Involvement and engagement of children in their own learning.  
(2) The role of culture in the cognitive processes.  
(3) Their views of the relationship between language and thought.  
(4) Focus on stage-like progression in children's development.
3. Which of the following correctly describes 'culturally responsive teaching' to cater to diverse groups of students?  
(i) Intentional (ii) Adaptive  
(iii) differentiated (iv) Standardised  
(1) (i), (ii), (iii) (2) (i), (ii), (iii), (iv)  
(3) (i), (iv) (4) (ii), (iii)
4. According to Jean Piaget how are children different from adults?  
(1) Children's thinking is qualitatively different from that of adults.  
(2) Children's thinking is quantitatively different from that of adults.  
(3) Children are dependent on adults while adults are independent.  
(4) Adults are much more knowledgeable than children.
5. 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 ?  
(1) Providing students with summarised notes for assignments.  
(2) Assigning homework that requires memorisation and recall.  
(3) Giving students marks instead of qualitative feedback on their performance.  
(4) Encouraging students to reflect on their own learning and thinking processes.
6. According to Lev Vygotsky, what is the relationship between language and thought?  
(1) Language and thought are independent of each other.  
(2) Language and thought are complex interrelated processes of development.  
(3) Language does not shape thought.  
(4) Thought shapes language.
7. 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?  
(1) Naturalistic Intelligence  
(2) Bodily-Kinesthetics Intelligence  
(3) Linguistic Intelligence  
(4) Inter-personal Intelligence
8. Feedback to the students in a classroom is most effective when :  
(1) It focuses on what the child cannot do rather than what they can do.  
(2) It centres around tests and exams at the end of the year.  
(3) It assigns comparative ranks to the students.  
(4) It occurs during as well as after the learning activity.
9. 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?  
(1) Assign a different task to the student that is better suited to her abilities.

- (2) Work through the problem with the student and providing guidance and feedback as needed while involving other group members.
- (3) Provide the student with the answer to the Problem so the group can move on.
- (4) Encourage the student to try to solve the problem on her own.
10. Change and stability in emotions, personality and social relationships together constitute :
- (1) Psychosocial development
  - (2) Cognitive development
  - (3) Personality development
  - (4) Emotional development
11. Constructivist teaching leads to ..... learning by students.
- (1) rote
  - (2) receptive
  - (3) discovery
  - (4) meaningless
12. In progressive education children are perceived as :
- (1) Knowledgeable and meaning-makers
  - (2) Vulnerable and in need of protection
  - (3) Innocent and dependent
  - (4) Compliant and capable of only consuming knowledge
13. Jean Piaget's theory of cognitive development implicates that :
- (1) Curriculum should be designed keeping children's age-group and stage in mind.
  - (2) Focus of teaching should be the outcome of the activity instead of the process of thinking.
  - (3) Behaviour should be conditioned using rewards and punishments.
  - (4) Concepts should be taught in a sequence of complex to simple.
14. How does setting mastery goals impact a student's motivation and views of ability?
- (1) It often implies enhanced extrinsic motivation and belief in the entity view of ability.
  - (2) It often implies enhanced extrinsic motivation and belief in the incremental view of ability.
  - (3) It often implies enhanced intrinsic motivation and belief in the entity view of ability.
  - (4) It often implies enhanced intrinsic motivation and belief in the incremental view of ability.
15. **Assertion (A)** : During adolescence the pressures 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.
- (1) (A) is true but (R) is false.
  - (2) Both (A) and (R) are false.
  - (3) Both (A) and (R) are true and (R) is correct explanation of (A).
  - (4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
16. **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.
- (1) (A) is true but (R) is false.
  - (2) Both (A) and (R) are false.
  - (3) Both (A) and (R) are true and (R) is the correct explanation of (A).
  - (4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
17. Which of the following hinders the participation of students with visual impairment in the classroom?
- (1) raised-line drawings and maps.
  - (2) tactile models of graphic materials.
  - (3) electronically formatted lecture transcriptions.
  - (4) printed textbooks and notes.
18. Which of the following is a correctly matched pair?
- (1) Formative assessment: determining what the students can do before and after the class.
  - (2) Summative assessment : involves paper-pencil tests as well as detailed accounts of non written behaviours.
  - (3) Criterion-referenced assessment: includes mastery of specific topics.
  - (4) Norm-references assessment: compares performance to that of peers.
19. Sunita, a 12 year old girl, shows exceptional musical ability. Both her parents are accomplished singers, and they send her to classes for voice training after school. Her capabilities are most likely to be the result of an interaction between :
- (1) heredity and environment
  - (2) gender identity and genetic make-up
  - (3) growth and maturation
  - (4) nutrition and discipline
20. Which method did Lawrence Kohlberg used to study moral development of children?
- (1) Conducting observations of children during play
  - (2) Experimental method
  - (3) Quantitative research approach
  - (4) Posing moral dilemmas to children and analysing responses
21. **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
- (1) (A) is true but (R) is false.
  - (2) Both (A) and (R) are false.
  - (3) Both (A) and (R) are true and (R) is the correct explanation of (A).
  - (4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
22. Which of the following statement is correct about 'Autism'?
- (1) Autism is caused solely by environmental factors.
  - (2) Autism can be cured and improves with age.
  - (3) All autistic people have at least one exceptional skill.
  - (4) Autism is a neuro-developmental disorder.
23. Which learning strategy involves children teaching others what they have learned?
- (1) Expository teaching
  - (2) Reciprocal teaching
  - (3) Conditioned learning
  - (4) Rote learning
24. Sensitive periods are those time periods during which certain ..... are especially important for course of 'normal' development.
- (1) environmental factors
  - (2) hereditary factors

- (3) genetic predispositions  
(4) ethnic factors
25. Students struggling with dyslexia can be taught to read:  
(1) By giving long and complex passages.  
(2) Through association method of conditioning.  
(3) Through systematic phonological training.  
(4) By providing higher grade level reading texts.
26. Which of the following question promotes analytical thinking?  
(1) What is India's total population?  
(2) What are the various causes of increase of population in India?  
(3) The capital city of India is .....  
(4) How many States are there in India?
27. **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 misconception in children is to provide counter examples.  
Choose the correct option.  
(1) (A) is true but (R) is false.  
(2) Both (A) and (R) are false.  
(3) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
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.  
(1) (A) is true but (R) is false.  
(2) Both (A) and (R) are false.  
(3) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(4) Both (A) and (R) are true but (R) is not the correct explanation of (A).
29. In order to develop critical thinking among students a teacher should:  
(1) give questions that involve inferences and explanations.  
(2) avoid questions which need inference and analysis.  
(3) ask only those questions which carry single answers.  
(4) discourage the students from asking doubts and questions.
30. Inclusive classrooms:  
(1) Are meant to offer differentiated instructions as per individual differences.  
(2) Aim to remove all kinds of differences among the children.  
(3) Recognise that every child will learn at the same rate and at the same time.  
(4) Is an educational program offered to cater to the needs of 'special children'.
31. A teacher distributes different types 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:  
(1) Deductive method  
(2) Analytical approach  
(3) Discovery method  
(4) Teacher centered approach
32. 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:  
(1) 18 (2) 17 (3) 20 (4) 19
33. 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:  
(1) 5.5 (2) 6.0 (3) 4.5 (4) 5.0
34. If  $(2x + 5y)^2 - 5(2x + 5y) - 14 = (2x + 5y + p)(2x + 5y + q)$ , then the value of  $(p + q)$  is:  
(1) 9 (2) -5 (3) 7 (4) -14
35. A trader buys 12 fans for ₹24,000. He marks each fan at 25% above the cost price. If he sells all fans by giving 10% discount on the marked price, then his overall profit (₹ in) is:  
(1) 3200 (2) 3500 (3) 2700 (4) 3000
36.  $\frac{(a-b+c)^2 - (a-b-c)^2}{b-a}$  is equal to:  
(1)  $-4c$  (2)  $2c$  (3)  $b-c$  (4)  $c-a$
37. Which of the following is NOT true?  
(1) The expression  $(x^2 + 10x + 25)$  cannot be simplified further.  
(2) The value of the variable in an equation which satisfy the equation is called a solution of the equation.  
(3)  $3 + 4 \times 5$  is not a mathematical expression.  
(4) Operations of multiplication can be done on mathematical expressions.
38. The domain of learning that deals with attitudes and values is known as:  
(1) Affective domain (2) Psychomotor domain  
(3) Knowledge domain (4) Cognitive domain
39. According to National Curriculum Framework 2005 which of the following process is least important mathematics.  
(1) Finding short-cuts in mathematics.  
(2) Generalising a mathematical formula.  
(3) Solving day to day problems.  
(4) Understanding when and how a mathematical technique is to be used.
40. M is a point on side AB of a triangle ABC such that  $AM = BM = CM$ . If angles A and B respectively  $x$  and  $70^\circ$ , then the value of  $(3x + 25^\circ)$  is equal to:  
(1)  $100^\circ$  (2)  $115^\circ$  (3)  $70^\circ$  (4)  $85^\circ$
41. 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:  
(1)  $2\frac{7}{35}$  (2)  $2\frac{39}{40}$  (3)  $2\frac{9}{35}$  (4)  $2\frac{37}{40}$
42. The ratio of two numbers is 3 : 7 and their LCM is 630. Then, sum of the LCM and HCF of these numbers is:  
(1) 600 (2) 660 (3) 30 (4) 300

### Mathematics and Science

**Directions:** Answer the following questions by selecting the correct/most appropriate option.

43. Area of a right triangle is  $240 \text{ cm}^2$ . If its one side other than the hypotenuse is  $30 \text{ cm}$ , then perimeter (in cm) of the triangle is:  
 (1) 92 (2) 100 (3) 80 (4) 84
44. A sum invested at  $10\%$  p.a. for 2 years becomes ₹3,267, when the interest is compounded annually. What will be the simple interest on the same sum at the same rate in  $2\frac{1}{2}$  years?  
 (1) ₹675 (2) ₹700 (3) ₹625 (4) ₹650
45. How many natural numbers between 1 and 500 are divisible by each of the numbers 3, 5 and 7?  
 (1) 5 (2) 6 (3) 3 (4) 4
46. 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:  
 (1)  $148^\circ$  (2)  $146^\circ$  (3)  $154^\circ$  (4)  $150^\circ$
47. In a pie chart, the marks obtained by a student in Mathematics, Science, Social Science, Hindi and English are respectively represented by sectors of central angles  $90^\circ$ ,  $80^\circ$ ,  $65^\circ$ ,  $75^\circ$  and  $50^\circ$ . 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?  
 (1) 40 (2) 30 (3) 60 (4) 50
48. Which of the following does not imply the meaning of assessment?  
 (1) It helps to diagnose individual differences.  
 (2) It is a procedure to gather information of student's performance.  
 (3) It is evaluation.  
 (4) It helps to label the students.
49. Arrange the following statements according to ascending levels of geometrical thinking as per Van-Hiele's theory of geometrical learning.  
 (a) Identification of properties of geometrical shapes.  
 (b) Classification of different shapes.  
 (c) Finding relationship between the properties of geometrical shapes.  
 (d) Identification of geometrical shapes as they are.  
 Choose the correct option:  
 (1) (d), (c), (b), (a) (2) (a), (c), (b), (d)  
 (3) (a), (b), (b), (d) (4) (d), (b), (a), (c)
50. 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:  
 (1) 26 (2) 28 (3) 21 (4) 23
51. 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:  
 (1) 11 (2) 5 (3) 20 (4) 14
52. D is a point on side AB of a  $\triangle ABC$  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:  
 (1)  $70^\circ$  (2)  $100^\circ$  (3)  $30^\circ$  (4)  $50^\circ$
53. At upper primary stage, as per NCERT which of the following topics have NOT been included under number system?  
 (1) Exponents and powers  
 (2) Square roots and cube roots  
 (3) Complex numbers  
 (4) Fractions
54. Perimeter of a quadrilateral ABCD is  $120 \text{ cm}$ . 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  $\text{cm}^2$ ):  
 (1) 720 (2) 750 (3) 660 (4) 690
55. Which of the following statement is least appropriate regarding the proofs in mathematics?  
 (1) It can help the students to validate their own reasoning.  
 (2) Proofs are built on intuitive knowledge and not reasoning.  
 (3) It explains why a particular mathematical result must be true.  
 (4) It helps to reveal the connections and provide insights into the underlying structure of mathematics.
56. Which of the following is NOT an indicator of creativity in Mathematics?  
 (1) Students use multiple and alternate problem solving strategies.  
 (2) Students can pose questions.  
 (3) Students use convergent thinking in different contexts.  
 (4) Students are able to think flexibly.
57. 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:  
 (1)  $\frac{3}{5}(x+5) - \frac{5}{6}(x-8) = 6$   
 (2)  $\frac{3}{5}(x+3) - \frac{5}{6}(x-8) = 6$   
 (3)  $\frac{5}{6}(x-5) - \frac{3}{5}(x-8) = 6$   
 (4)  $\frac{5}{6}(x-8) - \frac{3}{5}(x-5) = 6$
58. Which of the following statement is NOT correct with respect to Rubrics as a tool of assessment?  
 (1) Rubrics consist of a clear performance target for students.  
 (2) Rubrics make evaluation more subjective.  
 (3) Rubrics has a fixed scale.  
 (4) Rubrics has a list of characteristics describing performance for each point on the scale.
59. The height and base radius of a right circular cylinder are  $9 \text{ cm}$  and  $6 \text{ cm}$  respectively. If the base radius becomes half and height increases by  $3 \text{ cm}$ , then which of the following describes the new volume of the cylinder?  
 (1) The new volume will be thrice the original volume.  
 (2) The new volume will be one-third the original volume.  
 (3) The new volume will be twice the original volume.  
 (4) The new volume will be half the original volume.
60. The value of  $52 \times 3 \div 4 + \sqrt{441} \div 7 \times 3 + 5 - 32 \div 8 \times 12$  is:  
 (1) 15 (2) 21 (3) 0 (4) 5

61. Discussion on socio-scientific issues in class helps in:
- developing argumentative skills in learners
  - developing multiple perspectives on an issue
  - encouraging citizen science activities
  - appreciating the role of society in development of science
- (c) and (d)
  - (b), (c) and (d)
  - (b) and (c)
  - (a), (b) and (c)
62. (a) Metal oxides are basic in nature.  
 (b) Air expands on heating.  
 (c) Lime water turns milky on passing carbon dioxide.  
 (d) Sodium hydroxide and hydrochloric acid neutralise each other.
- If observation is represented by O and inference by I, which of the following statements is correct?
- O-(c); I-(a), (b), (d)
  - O-(a), (b); I-(b), (c)
  - O-(c), (d); I-(a), (b)
  - O-(b), (c); I-(a), (d)
63. An object floats with  $\frac{1}{4}$  th part of its volume outside the liquid when put in liquid A and  $\frac{3}{4}$  th part of its volume outside the liquid when put in liquid B. Which of the following statements is true?
- Density of liquid B is greater than density of liquid A.
  - The densities of liquid cannot be compared on the basis of above information.
  - Density liquid A is greater than density of liquid B.
  - Both liquids have same density.
64. Which of the following is/are true regarding scientific investigations?
- Results are not influenced by procedure.
  - Social context may influence conclusion in any investigation.
  - Data and evidence are same.
  - There is no universal scientific method.
- (a) and (c)
  - (c) and (d)
  - (a) and (b)
  - (b) and (d)
65. Which of the following statements is/are true?
- Self pollination takes place only in bisexual flowers.
  - Bisexual flowers can pollinate both by self and cross pollination.
- Both (a) and (b) are false
  - Both (a) and (b) are true
  - (a) is true and (b) is false
  - (a) is false and (b) is true
66. Which of the following statements is/are true regarding Rainwater harvesting?
- It conserves ground water.
  - It reduces local flooding.
  - It creates drainage problems.
  - It can be used for irrigation of crops.
- (a), (b), (d)
  - (b), (c), (d)
  - (a), (b), (c)
  - (a), (c), (d)
67. Which of the following factors are responsible for generation and flow of winds on the earth?
- Uneven heating of the earth
  - Uneven heating of the oceans
  - Distance between earth and sun
  - Gravitational force on the earth
- (a) and (b)
  - (a) and (d)
  - only (a)
  - (a) and (c)
68. 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.
- (A) is true and (R) is false.
  - Both (A) and (R) are false.
  - Both (A) and (R) are true and (R) is correct explanation of (A).
  - Both (A) and (R) are true But (R) is not correct explanation of (A).
69. A gender responsive pedagogy in science entails.
- Use of gender sensitive language
  - Engaging students in examining stereotypes
  - Making gender based groups
  - Using differentiated instruction and assessment
- (a) and (b)
  - (c) and (d)
  - (a), (b) and (c)
  - (a), (c) and (d)
70. Which of the following statement is not true regarding conduction of heat?
- Conduction does not take place in gases.
  - All materials do not allow heat to flow through them in same way.
  - Conduction is faster in solids than liquids.
  - Two objects should be in contact with each other for heat flow.
71. The purpose of divergent questions in science classroom can be:
- to promote critical thinking
  - to discern between students
  - to develop communication
  - to identify gifted students.
  - to identify alternate conceptions
  - to appreciate subjectivity in science
- (a), (c), (e) and (f)
  - (b), (d), (e) and (f)
  - (a), (b), (d) and (e)
  - (a), (b), (c) and (f)
72. Which of the following characterises human circulatory system?
- closed, single circulation
  - closed, double circulation
  - open, single circulation
  - open, double circulation
73. Which of the following is true regarding scientific laws.
- They can't be challenged.
  - They provide reasoning for physical phenomena.
  - They describe relationships between observable phenomena.
  - They are formed from scientific theories.
74. Read the statements given below and choose 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.
- (A) is true but (R) is false.
  - Both (A) and (R) are false.
  - Both (A) and (R) are true and (R) is correct explanation of (A).
  - Both (A) and (R) are true but (R) is not correct explanation of (A).

75. **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.

- (1) (A) is true but (R) is false.  
 (2) Both (A) and (R) are false.  
 (3) Both (A) and (R) are true and (R) is correct explanation for (A).  
 (4) Both (A) and (R) are true but (R) is not correct explanation for (A).

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

- (1) Eutrophication (2) Bio-magnification  
 (3) Soil erosion (4) Nitrification

77. An odometer in a car measures:

- (1) average speed of the car  
 (2) acceleration of the car  
 (3) distance travelled by the car  
 (4) instantaneous speed of the car

78. 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

- (1) A-Plane mirror, B-Concave, C-Concave, D-Convex  
 (2) A-Concave, B-Plane, C-Convex, D-Concave  
 (3) A-Plane, B-Convex, C-Concave, D-Convex  
 (4) A-Convex, B-Concave, C-Convex, D-Concave

79. Three identical holes are punched at different, level (heights) in a plastic bottle. The bottle is filled with water. Which of the following statement 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 comes 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  
 (1) (b) and (e) (2) (a) and (d)  
 (3) (c) and (f) (4) (a) and (e)

80. The colour of flame depends on:

- (a) Nature of combustible substance  
 (b) Oxygen supply  
 (c) Temperature of the surroundings  
 (1) (a) and (b) (2) (a) and (c)  
 (3) (a) only (4) (b) only

81. 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?

- (1) Diagnostic questionnaire, interview, drawings  
 (2) Project, checklist, drawings  
 (3) Drawings, checklist, interview  
 (4) Portfolio, group discussion, diagnostic questionnaire

82. Sunita drops a piece of potassium metal in a beaker of cold water notes down the observations. Which of the following observation is not correct?

- (1) Hydrogen gas is evolved.  
 (2) Pop sound is heard.  
 (3) Potassium reacts violently with water.  
 (4) It is endothermic reaction.

83. Following table depicts colour changes in acids and bases when various indicators are

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:

- (1) reddish brown, pink, orange, colourless  
 (2) yellow, orange, pink, colourless  
 (3) reddish brown, green, colourless, orange  
 (4) yellow, green, orange, colourless

84. Two sperms of a man fuse with two eggs of a woman. The twins formed are:

- (1) may be identical or fraternal  
 (2) always conjoint  
 (3) identical  
 (4) fraternal

85. Which of the following illustrates 'science as inquiry'?

- (1) List five uses of coconut tree  
 (2) Observe the types of venation in various leaves  
 (3) Classify the given plants into herbs, shrubs and trees  
 (4) Explore factors which affect the rate of germination in gram seeds

86. Read the following statements and choose the correct option:

- S1-Photosynthesis is endothermic reaction.  
 S2-Respiration is exothermic reaction.  
 (1) S1 is true and S2 is false.  
 (2) S1 is false and S2 is true.  
 (3) Both S1 and S2 are true.  
 (4) Both S1 and S2 are false.

87. Which of the following activities is best suited to develop inductive reasoning?

- (1) verify laws of reflection experimentally  
 (2) solve numerical problems based on law of reflection  
 (3) asking students to state laws of reflection  
 (4) asking students to measure angle of reflection for various cases of angle of incidence in a plane mirror

88. 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:

- (1)  $AB_2$  (2) AB (3)  $A_3B$  (4)  $AB_3$

89. Read the statements given below and choose the correct option:

- 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.

- (1) (A) is true but (R) is false.  
 (2) Both (A) and (R) are false.  
 (3) Both (A) and (R) are true and (R) is correct explanation of (A).  
 (4) Both (A) and (R) are true but (R) is not correct explanation of (A).
90. Which of the following is not a feature of alternate conceptions in science?  
 (1) Ideas are developed from observable features.  
 (2) Ideas do not demonstrate cause and effect reasoning.  
 (3) Ideas are stable.  
 (4) Ideas are resistant to change.

### Language-I: English

Read the passage given below and answer the question (91-99) that follow:

- On 15 January, 2009, several interesting things happened. A plane crash landed into the Hudson River, right in the middle of New York City. The pilot, crew and 155 passengers escaped safely. But then, something else happened... Jim was nearby and watched the event happen. He immediately tweeted that he had just seen a plane crash in the Hudson. From there the news spread quickly. People contacted him immediately and asked him what was happening, and other people on the street took photos and videos with their phones and posted them online. Ordinary people suddenly became journalists. It was 15 minutes before the news broke on official news channels.
  - Photos, videos and tweets from ordinary people at the scene of dramatic events now provide the words and images that describe events in the news. When a meteor exploded over a Russian city in 2013, millions of people around the world watched videos and photos of the event on Facebook and YouTube. Social media can also save lives. In January 2010, an earthquake hit the Caribbean island of Haiti. The government said that there had been an earthquake, but they didn't give many details at first. Meanwhile, people living in the disaster area were posting photos and eye witness account on Twitter and Face book and telling the world that it was an emergency and house were collapsing. A local radio presenter used this information to help people find family members and people event phoned his program to ask if their relatives were safe.
  - News travels fast on social media, but false stories spread just as quickly as the truth. Some of these "facts" are erroneous, others are deliberate hoaxes. Hoaxes remind us that not everything people post and publish is reliable. But social media can change our lives for the better.
91. News on social media:  
 (1) are deliberate hoaxes (2) are insignificant  
 (3) are reliable (4) travel fast
92. Read the following statements:  
 (a) A plane crashed on 15 January, 2009  
 (b) 155 passengers escaped, but the pilot lost his life.  
 (c) Jim, an onlooker, posted pictures on Facebook

- (1) (a) is correct, but (b) and (c) are incorrect  
 (2) (a), (b) and (c) are all incorrect  
 (3) (a) and (b) are correct, but (c) is incorrect  
 (4) (c) is correct, but (a) and (b) are incorrect
93. The meteor explosion in 2013 in Russia was watched by people on:  
 (1) All social media handles  
 (2) Facebook and YouTube  
 (3) Twitter  
 (4) YouTube
94. Identify Parts of Speech of the underlined words in the sentence given below:  
 'But social media can change our lives for the better.'  
 (1) verb, adverb (2) noun, adjective  
 (3) noun, adverb (4) verb, adjective
95. Complete the given word analogy:  
 dramatic : exciting :: hoax : ..... ? .....  
 (1) example (2) excuse  
 (3) media posts (4) deception
96. Arrange the following events as mentioned in para 1 in the correct sequential order.  
 (a) Jim watched the crash and tweeted.  
 (b) People started contacting Jim for updated news.  
 (c) A plane crashed into the Hudson River.  
 (d) The news of the crash was broadcast. 15 minutes later.  
 (1) (d) → (c) → (a) → (b) (2) (c) → (a) → (b) → (d)  
 (3) (c) → (b) → (d) → (a) (4) (b) → (c) → (a) → (d)
97. 'Some of these facts are erroneous'. The antonym for the underlined word in the given sentence is:  
 (1) invalid (2) surprising  
 (3) faultless (4) inaccurate
98. Why should we not take news on social media lightly?  
 (1) They can change our lives for the better.  
 (2) News posted are hoax and confusing.  
 (3) The facts are erroneous.  
 (4) Strangers can call you to seek information.
99. Ordinary people suddenly became journalists means:  
 (1) they started contacting Jim to know the details  
 (2) they left the jobs where they were employed  
 (3) they started posting news-bits pictures and videos on social media  
 (4) they headed towards media houses to seek employment

Read the poem given below and answer the questions (100–105) that follow:

Great, wide, beautiful, wonderful world,  
 With the wonderful water round you curled.  
 And the wonderful grass upon your breast  
 World, you are beautifully drest.  
 The wonderful air is over me,  
 And the wonderful wind is shaking the tree,  
 It walks on the water, and whirls the mills,  
 And talks to itself on the tops of the hills.  
 You friendly Earth! How far do you go,  
 With the wheat-fields that nod and the river that flow.  
 With Cities and gardens, and cliffs, and isles,  
 And people upon you for thousands of miles?  
 Ah, you are so great, and I am so small,  
 I tremble to think of you, World, at all;  
 And yet, when I said my prayers today,  
 A whisper inside me seemed to say,  
 'You are more than the Earth though you are such a dot,  
 You can love and think, and the Earth cannot!'

100. The wind in the poem talks to:  
(1) clouds (2) hills (3) itself (4) trees
101. In this poem, the poet describes the:  
(1) beauty and vastness of Earth  
(2) life in the cities  
(3) the Earth, its present and past  
(4) the plants that grow on the Earth
102. What does the underlined word refer to?  
'walks on the water, ....'  
(1) wind (2) Earth (3) river (4) grass
103. In the line, 'with the wonderful water round you curled', the word 'curled' means:  
(1) mounted (2) turbulent  
(3) arched (4) surrounded
104. Identify the figures of speech in line 1 line 4.  
(1) alliteration, personification  
(2) simile, alliteration  
(3) anaphora, personification  
(4) alliteration, metaphor
105. List the 3 different things (in stanza 3) found on Earth that make it great.  
(1) Wheatfields, whisper (2) cities, grass, mills  
(3) rivers, gardens, cliffs (4) isles, oceans, people
106. The impact of tests and assessments on teachers, learners and materials is called .....  
(1) Classroom effect (2) Reinforcement  
(3) Corpus effect (4) Washback effect
107. Match the language teaching methods in **Column-A** with their understanding or related activities in **Column-B**:
- | <b>Column-A</b>                     | <b>Column-B</b>   |
|-------------------------------------|---|
| (a) Communicative Language Teaching | (i) Socially acceptable and contextually appropriate language   |
| (b) Direct Method                   | (ii) Silent reading   |
| (c) grammar Translation             | (iii) Socially acceptable and contextually appropriate language |
| (d) West's New Method               | (iv) Grammar is taught inductively                              |
- (1) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)  
(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)  
(3) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)  
(4) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)
108. Which school of learning believed that language, whether verbal or non-verbal, takes place through the process of habit formation?  
(1) Cognitivist (2) Interactionalist  
(3) Functionalist (4) Behaviourist
109. A language teacher brings everyday objects such as newspapers, menu cards and train tickets to teach the students of Class V. What is she doing to make learning happen?  
(1) She wants her students to learn English through real life like situations.  
(2) She is creating awareness in the students.  
(3) She is using authentic materials to make her teaching more realistic and useful.  
(4) She is trying to help her students to learn multiple languages.
110. Which of the following statements is NOT true about languages in India?  
(1) Sanskrit is a Modern Indian Language.  
(2) Hindi is the lingua franca of the Indian sub-continent.  
(3) According to the Indian Constitution, English is an Associate Official Language.  
(4) According to the list of Eighth schedule of the Constitution of India, there are 22 languages.
111. Multilingualism in India intends teachers to understand:  
(1) 'a language' policy should be framed in a diverse society  
(2) language, identity and culture are separate entities  
(3) communication happens and social cohesion is maintained  
(4) minority languages should be clubbed with dominant languages
112. The time and place of the story are called the .....  
(1) Plot (2) Climax  
(3) Theme (4) Setting
113. Listening involves:  
(1) using prior knowledge of the subject  
(2) recognising sounds and deducing the meaning from it  
(3) hearing the sound, decoding the sounds as they are  
(4) guessing the content
114. Which of the following is NOT an important factor in planning a listening lesson?  
(1) Gender of speakers.  
(2) Number of speakers.  
(3) Pausing the recording.  
(4) Speed of delivery
115. Which skill of language is known as receptive skills?  
(1) Reading and Writing  
(2) Listening and Reading  
(3) Listening and Speaking  
(4) Speaking and Writing
116. A teacher gives a task to familiarise the learners with the vocabulary used in restaurants. What among the following should be objective of the lesson?  
(1) To introduce the text about a holiday destination  
(2) To develop critical thinking  
(3) To acquaint the learner with the lexical items  
(4) To familiarise with the grammatical items
117. In a language class, students form groups under the guidance of a teacher and present an advertisement on a given topic. Learning a language in this way is called .....  
(1) Language games  
(2) Guidance and counseling  
(3) Collaborative learning  
(4) Competition and rivalry
118. Linguistic function such as intonation, tone, stress and rhythm are known as:  
(1) Phonetics (2) Pragmatics  
(3) Poetry (4) Prosody
119. In a language class, a teacher asks a group of students to act as purchase, property sellers, landlords and tenants while other students are asked to watch them and enjoy their conversation. This activity is called .....  
(1) Acting class (2) Guidance  
(3) Roleplay (4) Drama
120. Schools should follow additive bilingualism because it:  
(1) promotes the child's language but not the culture  
(2) hinders the development of the first language



- (3) values the culture and language of the child  
(4) gives importance to teaching English as a second language

### Language-I : Hindi

निर्देश : परीक्षार्थी भाग-IV (प्र.स. 91 से 120) के प्रश्नों के उत्तर केवल तभी दें यदि उन्होंने भाषा-I का विकल्प हिन्दी चुना हो।

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों (प्र.स. 91-99) के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

साहित्य सदैव समाज को निरंतरता प्रदान करता है। यह साहित्य और समाज का गहरा सम्बन्ध 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 साहित्यिक व्यक्तित्व केवल समस्याओं को ही नहीं परखता बल्कि मनुष्यता में विश्वास को बचाए रखने की कोशिश करता है।

91. 'समाज के बदतर होने की स्थिति' वाक्य में रेखांकित शब्द का अर्थ है—  
(1) अत्यधिक बुरा (2) दुराचारी  
(3) अभिमानी (4) बेईमानी
92. गद्यांश के अनुसार साहित्य में किस तरह की चिंता झलकती है?  
(1) नए सिद्धांतों के बनने की (2) सामाजिक विघटन की  
(3) समाज के आधुनिक होने की (4) मूल्यों के बिखरने की
93. कौन-सा साहित्य कालजयी साहित्य बन पाता है?  
(1) जो मानवीय सत्य की व्याख्या करे।  
(2) जो बिखरते सिद्धांतों की चिंता करे।  
(3) जो पाठकों का मनोरंजन करे।  
(4) जो समाज का दर्पण हो।
94. 'विश्वास' शब्द का अर्थ है—  
(1) तत्वज्ञान सम्बन्धी (2) निश्चित धारणा  
(3) विश्वमय (4) विश्व से सम्बन्धित नियम
95. 'विशृंखलित' में प्रत्यय है—  
(1) इत (2) खलित (3) लित (4) त
96. साहित्यकारों ने समाज की किस स्थिति की पहचान करने का प्रयास किया है—  
(1) उन्नतशील समाज  
(2) बिखरता हुआ समाज  
(3) विकास की ओर अग्रसर समाज  
(4) पतन की ओर जाता हुआ समाज
97. 'कालजयी' से तात्पर्य है—  
(1) काल विशेष की सही व्याख्या करता हो।  
(2) अल्प काल तक रहने वाला।  
(3) जो काल विशेष में बँधा हुआ हो।  
(4) हर काल में प्रासंगिक हो।
98. किस तरह के साहित्यकारों की आवश्यकता हर युग में बनी रहती है?  
(1) जो समाज को नैतिक बनाते हैं।  
(2) जो समाज का विकास करते हैं।

- (3) जो समाज को जागरूक करते हैं।  
(4) जो समाज का मनोरंजन करते हैं।
99. समाज को गति कौन प्रदान करता है?  
(1) शिक्षा (2) साहित्य  
(3) विज्ञान (4) तकनीकी विकास
- निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों (प्र.सं. 100-105) के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:
- दिवसावसान का समय  
मेघमय आसमान से उतर रही है  
वह संध्या सुंदरी परी-सी  
धीरे-धीरे-धीरे।  
तिमिरांचल में चंचलता का नहीं कहीं आभास,  
मधुर-मधुर हैं दोनों उसके अधर—  
किंतु जरा गंभीर नहीं हैं उनमें हास-विलास  
हँसता है तो केवल तारा एक  
गुँथा हुआ उन घुँघराले काले-काले बालों से  
हृदयराज की रानी का वह करता है अभिषेक।
100. संध्या सुंदरी किस तरह के आकाश से उतर रही है?  
(1) चंद्रमा की रोशनी से भरे आकाश से  
(2) सूर्य लालिमा से भरे आकाश से  
(3) तारों भरे आकाश से  
(4) बादलों से भरे आकाश से
101. 'हृदयराज की रानी' किसके लिए प्रयुक्त हुआ है?  
(1) संध्या (2) तिमिर (3) मेघ (4) आकाश
102. 'दिवसावसान' का संधि विच्छेद है—  
(1) दिवसा + वसान (2) दिवस + आवसान  
(3) दिवस + अवसान (4) दिवा + अवसान
103. पद्यांश में किस का चित्रण हुआ है?  
(1) वेदना का (2) प्रेमभाव का  
(3) प्रकृति का (4) नवचेतना का
104. किसके हँसने की बात की गई है?  
(1) संध्या (2) आकाश (3) मेघ (4) तारा
105. पद्यांश में किस अलंकार का प्रयोग अधिक मुखरित है?  
(1) यमक (2) मानवीकरण  
(3) अतिशयोक्ति (4) अनुप्रास
106. अध्यापकों, शिक्षार्थियों और सामग्री पर टैस्ट एवं आकलन का प्रभाव क्या कहलाता है?  
(1) कक्षायी प्रभाव  
(2) पुनर्बलन  
(3) विधि प्रभाव (कार्पस इफेक्ट)  
(4) भाषा परीक्षण का प्रभाव (वाशबैक इफेक्ट)
107. कॉलम A में भाषा शिक्षण विधियाँ हैं और कॉलम B में उनकी समझ या सम्बन्धित गतिविधियाँ हैं, मिलान करें।
- | कॉलम A                          | कॉलम B  |
|---------------------------------|---|
| (a) सम्प्रेषणात्मक              | (i) सामाजिक रूप से स्वीकृत और संदर्भ के अनुरूप भाषा |
| (b) प्रत्यक्ष विधि              | (ii) मौन पठन  |
| (c) व्याकरण अनुवाद              | (iii) लिखित साहित्यिक सामग्री                       |
| (d) वैस्ट (West's) की नवीन विधि | (iv) व्याकरण को आगमनात्मक तरीके से पढ़ाना           |

- (1) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)  
 (2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)  
 (3) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)  
 (4) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)
108. 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 ?  
 (1) संज्ञानात्मकवादी  
 (2) अन्तः क्रियात्मकवादी  
 (3) उपयोगितावादी (फंक्शनलिस्ट)  
 (4) व्यवहारवादी (बिहेवियरिस्ट)
109. कक्षा पाँच की भाषा अध्यापक अपनी कक्षा में भाषा शिक्षा 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 ?  
 (1) वह चाहती है कि उसके विद्यार्थी जीवन की वास्तविक स्थितियों से अंग्रेजी सीखें।  
 (2) वह विद्यार्थियों में जागरूकता लाना चाहती है।  
 (3) वह अधिगम को और अधिक वास्तविक तथा उपयोगी बनाने के लिए प्रामाणिक सामग्री का प्रयोग कर रही है।  
 (4) वह अपने विद्यार्थियों को बहुविध भाषाएँ सीखने में मदद कर रही है।
110. भारत में भाषाओं के बारे में कौन-सा कथन सही नहीं है ?  
 (1) संस्कृत आधुनिक भारतीय भाषा है।  
 (2) हिंदी भारतीय उप महाद्वीप की लोक भाषा (लिंग्वा फ्रांका) है।  
 (3) भारत के संविधान के अनुसार अंग्रेजी सह राजकीय भाषा है।  
 (4) भारत के संविधान की आठवीं अनुसूची के अनुसार-22 भाषाएँ हैं।
111. भारत में बहुभाषावाद के संदर्भ में अध्यापक के लिए क्या समझना जरूरी है ?  
 (1) विविधता भरे समाज में 'एक भाषा' नीति बनानी चाहिए।  
 (2) भाषा, अस्मिता और संस्कृति ये भिन्न-भिन्न अस्तित्व रखती हैं।  
 (3) सम्प्रेषण से सामाजिक सम्बद्धता स्थापित होती है।  
 (4) अल्पसंख्यक भाषाओं को प्रभुत्वशाली भाषाओं में मिला देना चाहिए।
112. किसी भी कहानी का समय और स्थान क्या कहलाती है ?  
 (1) कथानक (प्लॉट) (2) कलाइमेक्स (अंत)  
 (3) थीम (4) सैटिंग
113. श्रवण में क्या शामिल है ?  
 (1) विषय के पूर्व ज्ञान का इस्तेमाल करना  
 (2) ध्वनियों की पहचान करना और उनसे अर्थ निकालना  
 (3) ध्वनि सुनना, ध्वनियाँ जैसी हैं, तदनुसार डिकोड करना  
 (4) विषयवस्तु के बारे में अनुमान लगाना
114. किसी श्रवण से जुड़ी गतिविधि को योजना बनाते समय कौन-सा कारक महत्वपूर्ण नहीं है ?  
 (1) वक्ताओं का जेन्डर (बोलने वाले महिला हैं या पुरुष)  
 (2) वक्ताओं की संख्या  
 (3) रिकार्डिंग को थोड़ा सा रोकना (पॉज देना)  
 (4) बोलने की गति
115. भाषा के कौन-से कौशल ग्राह्य कौशल हैं ?  
 (1) पठन और लेखन (2) श्रवण और पठन  
 (3) श्रवण और बोलना (4) बोलना और लेखन
116. एक अध्यापक ने बच्चों को रेस्टोरेंट से जुड़ी शब्दसंपदा से परिचित कराने वाला काम दिया। इस पाठ का क्या उद्देश्य होना चाहिए ?

- (1) अवकाश के दौरान कहीं जाने से सम्बन्धित पाठ्य सामग्री से परिचित करवाना  
 (2) समालोचनात्मक चिंतन विकसित करना  
 (3) शिक्षार्थियों को कोश विषयक सामग्री से परिचित करवाना  
 (4) व्याकरणिक सामग्री से परिचित करवाना
117. 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 ?  
 (1) भाषायी खेल (2) निर्देशन और परामर्श  
 (3) सहयोगात्मक अधिगम (4) प्रतियोगिता और प्रतिद्वंद्विता
118. भाषागत कार्य जैसे स्वरशैली, तान, बलाघात और लय को क्या कहा जाएगा ?  
 (1) ध्वन्यात्मकता  
 (2) प्रशासनिक अध्यादेश (प्रेगमेटिक)  
 (3) काव्य  
 (4) छंदशास्त्र
119. भाषा की कक्षा में एक अध्यापक ने विद्यार्थियों के एक समूह को ग्राहक, प्रोपर्टी डीलर, मकानमालिक और किराएदार का अभिनय करने के लिए कहा और शेष विद्यार्थियों से कहा कि इस अभिनय को देखें और वार्तालाप का आनन्द लें। इस गतिविधि को क्या कहा जाएगा ?  
 (1) अभिनय की कक्षा (2) निर्देशन  
 (3) रोलप्ले (4) ड्रामा
120. विद्यालयों को योगात्मक द्विभाषावाद का अनुसरण करना चाहिए क्योंकि यह .....।  
 (1) बच्चे की भाषा को तो समुन्नत करता है परन्तु उनकी संस्कृति को नहीं।  
 (2) प्रथम भाषा के विकास में अवरोध पैदा करता है।  
 (3) बच्चे की संस्कृति और भाषा को महत्व देता है।  
 (4) अंग्रेजी शिक्षण को द्वितीय भाषा के रूप में महत्व देता है।

### Language-II : English

Read the passage given below and answer the question (121-128) that follow:

- 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.
- 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 recognises 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".
- 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.

121. Having a sweet tooth means :
- (1) teeth being sweet to taste.
  - (2) teeth becoming decayed due to sugary food items.
  - (3) buying sweet food items from shops.
  - (4) being fond of sweets and chocolates.
122. Doctors are not in favour of gene therapy because:
- (1) People will feel guilty after going through it.
  - (2) It will enhance sugar levels in the body.
  - (3) Sweet foods give energy to the body.
  - (4) It is poisonous.
123. According to doctors, sweet foods are :
- (1) poisonous
  - (2) deactivated genes
  - (3) dangerous
  - (4) energy boosters
124. The phrase '.... initiates a cascade of events', means :
- (1) signals given to the brain
  - (2) to start a series of occurrences
  - (3) to put a stop to orderly events
  - (4) to halt and hinder sequential events
125. Read the statements given below:
- (a) Doctors have favoured gene therapy to control sweet gene.
  - (b) A sweet taste receptor recognises the amount of sweetness in food.
  - (c) Heredity factors have absolutely no role to play in inheriting the sweet gene.
- (1) (b) and (c) are incorrect, (a) is correct
  - (2) (a), (b) and (c) are all incorrect
  - (3) (a) and (c) are incorrect, (b) is correct
  - (4) (a) and (b) are incorrect, (c) is correct
126. 'Chocoholics' are people:
- (1) who are fond of chocolates
  - (2) who are makers of chocolates
  - (3) who hate chocolates
  - (4) who enjoy both chocolates and alcohol
127. 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'.
- (1) preposition, noun
  - (2) conjunction, noun
  - (3) preposition, adjective
  - (4) adverb, adjective
128. Complete the given word analogy :
- accustomed : habitual :: initiate : ?
- (1) start off
  - (2) hinder
  - (3) halt
  - (4) complicate

Read the passage given below and answer the question (129-135) that follow:

- Every new and then we would speed through a village lined with waving Tibetan children. The villages looked wonderful and so inviting that Dorje was not showing any signs of slowing down small cluster of single and double storey buildings with walk-in courtyards jostled together in foothills to gain maximum exposure to the sun. The houses

looked solid, built for the has 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 livering up the black-and-white of the houses.

- Branches of trees adorned with colourful 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 jewelled drags horses, who carries the owner's prayers up to the divine every time the flag flaps in the wind.
  - The larger villages have healthy trees, usually willows or poplars which look quite out of place 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.
129. The phrase 'courtyards jostling together' implies:
- (1) being on the on top of the other
  - (2) being in close proximity
  - (3) being very far apart
  - (4) being in different sizes and dimensions
130. What aspect of Tibetan houses as described in the passage is incorrect ?
- (1) Roofs are made of mud bricks.
  - (2) They are solidly built.
  - (3) Walls are made of mortar and cement.
  - (4) Tine cans line the window ledges.
131. Why do the willows and poplars look absurd in the landscape ?
- (1) Because the landscape is generally treeless.
  - (2) The other trees camouflage them.
  - (3) They are stunted shrubs.
  - (4) Th have minimum branches and leaves.
132. Complete the given word analogy:
- precious : valuable :: ingenious : ?
- (1) genuine
  - (2) practical
  - (3) theoretical
  - (4) inventive
133. Yak dung is used by the Tibetans as a substitute for:
- (1) fire
  - (2) wood
  - (3) buildings
  - (4) marigolds
134. 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
- (1) (A) and (R) are both incorrect.
  - (2) (A) is correct and (R) is the reason for it.
  - (3) (A) is incorrect, but (R) is correct
  - (4) (A) is correct and (R) is not the reason for it
135. 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.
- (1) noun, noun
  - (2) verb, noun
  - (3) noun, adjective
  - (4) adjective, noun

136. India's language in education policy (Three Language Formula) attempts to promote :
- (1) Bilingual education with the focus on Hindi
  - (2) Mother-tongue based multilingualism
  - (3) Multi language education
  - (4) Monolingual education
137. What is a short story which has animals as the main characters and teaches an explicit moral called?
- (1) Science Fiction
  - (2) Travelogue
  - (3) Fantasy
  - (4) Fable
138. 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.
- (1) Both (a) and (b) are correct
  - (2) Both (c) and (d) are correct
  - (3) Only (a) is correct
  - (4) Only (b) and (d) are correct
139. 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?
- (1) Principle of motivation and interest
  - (2) Principle of correlating with life
  - (3) Principle of natural process
  - (4) Principle of practice and habit formation
140. What is NOT true about top-down processing ?
- (1) Listeners make use of the knowledge of the world
  - (2) Listeners need to understand every word
  - (3) Listeners rely on their background knowledge
  - (4) Listeners make guesses about the intended meaning
141. Which tool is not ideal for formative assessment ?
- (1) Project
  - (2) Class presentation
  - (3) Assignment
  - (4) Paper pencil test
142. Assessment done throughout the teaching-learning process to clarify student learning and understanding is called .....
- (1) Assessment in learning
  - (2) Assessment as learning
  - (3) Assessment for learning
  - (4) Assessment of learning
143. Learners should be exposed to language, and errors are evidence that learning is taking place is advocated by :
- (1) Humanist
  - (2) Psychoanalyst
  - (3) Behaviourists
  - (4) Cognitivist
144. Creativity in language education is :
- (1) classroom activity using new methods of teaching.
  - (2) classroom material using communicative language teaching.
  - (3) open-ended classroom tasks which allow for different interpretations and answer.
  - (4) merging elements from different subjects to understand something.
145. Which is a tool that allows for a number of synchronous and asynchronous online teaching opportunities ?
- (1) Television
  - (2) Padlet
  - (3) Textbook
  - (4) Railway ticket
146. What is NOT true about errors in language learning?
- (1) Errors are crucial aspects of the language learning process.
  - (2) Errors help to understand the process of second language acquisition.
  - (3) Errors hinder the language learning process.
  - (4) Errors are not always bad and help in learning.
147. 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:
- (1) to listen, to analyse the ideas
  - (2) to memorise the lesson on health and wealth
  - (3) to hear the lesson on health
  - (4) to engage the learners with a task
148. When is International Mother Language Day celebrated ?
- (1) 21<sup>st</sup> February
  - (2) 13<sup>th</sup> April
  - (3) 1<sup>st</sup> January
  - (4) 14<sup>th</sup> February
149. Identify the type of email you would write if you were writing to a colleague who is your friend
- (1) Business
  - (2) Correspondence
  - (3) Informal
  - (4) Formal
150. Using everyday objects to teach language is called .....
- (1) Teaching aid
  - (2) Text
  - (3) Realia
  - (4) Language games

### Language-II : Hindi

निर्देश : परीक्षार्थी भाग-V (प्र.स. 121 से 150) के प्रश्नों के उत्तर केवल तभी दें यदि उन्होंने भाषा-II का विकल्प हिन्दी चुना हो।

नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों (प्र.स. 91-99) के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

जिंदगी की सबसे बड़ी सिफत हिम्मत है। व्यक्ति के और सारे गुण उसके हिम्मती होने से ही पैदा होते हैं। कुछ लोग ऐसी गोधूलि में बसते हैं जहाँ न तो जीत हैसती है और न कभी हार के रोने की आवाज सुनाई पड़ती है। साहस की जिंदगी सबसे बड़ी जिंदगी होती है। ऐसी जिंदगी की पहचान यह है कि वह बिल्कुल निडर, बिल्कुल बेखौफ होती है। साहसी मनुष्य की पहली पहचान यह है कि वह इस बात की चिंता नहीं करता कि तमाशा देखने वाले लोग उसके बारे में क्या सोच रहे हैं। अड़ोस-पड़ोस को देखकर चलना, यह साधारण जीव का काम है। जिन्दगी के उस पन्ने को उलटकर पढ़ना चाहिए जिसके सभी अक्षर फूलों से नहीं, कुछ अंगारों से भी लिखे गए हों।

121. 'सिफत' का अर्थ है—

- (1) विशेषता
- (2) अनुभव
- (3) उद्देश्य
- (4) स्वीकृति

122. 'अड़ोस-पड़ोस को देखकर चलना' से क्या अभिप्राय है ?

- (1) दूसरों के अनुसार जिंदगी जीना
- (2) सबका हित देखना
- (3) अपने दाएँ-बाएँ देखकर चलाना
- (4) अपने पड़ोसियों का ध्यान रखना

123. किस गुण के होने से व्यक्ति के और बाकी गुण स्वतः पैदा होते हैं ?

- (1) संतोष
- (2) निष्कपट
- (3) नेतृत्व
- (4) साहस

124. जिंदगी के किस तरह के पन्ने को पढ़ने की बात कही गई है ?  
 (1) जिसमें असफलताएँ हों। (2) जिसमें फूलों की सुगंध हो।  
 (3) जिसमें चुनौतियाँ हों। (4) जिसमें सुख ही सुख हो।
125. साहसी मनुष्य की सबसे पहली पहचान क्या है ?  
 (1) बाधाओं से नहीं घबराता है।  
 (2) लोगों के सोच की परवाह नहीं करता है।  
 (3) वह सदा आगे बढ़ता जाता है।  
 (4) बहुत निडर होता है।
126. गोधूलि में बसने वाले लोगों से अभिप्राय है—  
 (1) फल की कामना न करने वाले लोग।  
 (2) जीवन में परिश्रम करने वाले लोग।  
 (3) विवशता और अभाव में जीने वाले लोग।  
 (4) जय-पराजय के अनुभव से परे लोग।
127. 'निडर' में प्रयुक्त उपसर्ग 'नि' की अर्थगत विशेषता है—  
 (1) रहित (2) सहित (3) अधिकता (4) अभाव
128. 'गोधूलि' से तात्पर्य है—  
 (1) मध्य रात्रि (2) संध्या वेला (3) रात्रि वेला (4) प्रभात वेला  
 नीचे दिए गए गद्यांश को पढ़कर पूछे गए प्रश्नों (प्र.स. 129-135) के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:
- मनुष्य के आनंद की सहज अभिव्यक्ति है संगीत। संगीत जीवन की अनमोल धरोहर है। संगीत प्रकृति प्रदत्त कला है। ललित कलाओं में संगीतकला को सर्वोच्च स्थान प्राप्त है। संगीत वह ललित कला है जिसमें हम अपने मन की भावनाओं को स्वर और लय के माध्यम से प्रकट करते हैं। प्रत्येक कला भावनाओं को व्यक्त करने का माध्यम है संगीत एक सार्वभौमिक कला है। संगीत का जन्म आनंद से होता है और हमारे लिए आनंद का सृजन भी संगीत करता है। संगीत के आनंद को पाने के लिए सुनने की कला विकसित करनी पड़ती है। संगीत केवल हमारा मनोरंजन ही नहीं करता अपितु हमें संस्कारित भी करता है। संगीत हमारे भीतर की अच्छाई को उद्बलित करता है।
129. संगीत को जीवन की अनमोल धरोहर कहा गया है, क्योंकि—  
 (1) यह ख्याति प्रदान करता है।  
 (2) यह सर्वसुलभ है।  
 (3) यह आनन्द का सृजन करता है।  
 (4) यह प्रकृति प्रदत्त है।
130. प्रस्तुत गद्यांश में किस कला की बात की गई है ?  
 (1) संगीत (2) नाटक (3) नृत्य (4) स्थापत्य
131. संगीत द्वारा भावनाओं को प्रकट करने का प्रमुख माध्यम क्या है ?  
 (1) छंद, अलंकार (2) मुद्रा, भाव  
 (3) रंग, आकृति (4) स्वर, लय
132. 'सार्वभौमिक' का अर्थ है—  
 (1) स्वदेश में व्याप्त। (2) संपूर्ण जगत में व्याप्त।  
 (3) सभी धर्मों में व्याप्त। (4) समान भाव से व्याप्त।
133. संगीत हमें किस प्रकार से संस्कारित करता है ?  
 (1) हमें आनंदित करके।  
 (2) हमारे मन की अच्छाई को सामने लाकर के।  
 (3) हमारा मनोरंजन करके।  
 (4) अभिव्यक्ति का माध्यम बनके।

134. संगीत के आनंद की प्राप्ति के लिए क्या आवश्यक है ?  
 (1) संगीत का ज्ञान होना चाहिए।  
 (2) संगीतज्ञ से पहचान करनी चाहिए।  
 (3) सुरीला कंठ होना चाहिए।  
 (4) सुनने की कला विकसित करनी चाहिए।
135. 'सर्वोच्च' का संधि विच्छेद है—  
 (1) सर्वो + उच्च (2) सर्व + ऊच्च  
 (3) सर्व + उच्च (4) स + वॉच्च
136. भारत की 'शिक्षा नीति में भाषा' (त्रिभाषा सूत्र) किसे समुन्नत करने के लिए कहती है ?  
 (1) हिन्दी पर मुख्य बल देते हुए द्विभाषिक शिक्षा  
 (2) मातृभाषा आधारित बहुभाषावाद  
 (3) बहुभाषा शिक्षा  
 (4) एक भाषिक शिक्षा
137. उस लघु कथा को क्या कहेंगे जिसमें मुख्य पात्र पशु हैं और नैतिक मूल्यों को उभारते हैं ?  
 (1) विज्ञान फिक्शन (2) यात्रा वृत्तान्त  
 (3) फंतासी (4) जन्तुकथा (फेबल)
138. निम्नलिखित में से कौन-से कथन सही हैं ?  
 (a) पठन वैकल्प (डिस्लैक्सिया) पठन विकार है।  
 (b) लेखन वैकल्प (डिस्ग्राफिया) लेखन विकार है।  
 (c) लेखन वैकल्प (डिस्ग्राफिया) पठन विकार है।  
 (d) पठन वैकल्प (डिस्लैक्सिया) लेखन विकार है।  
 (1) (a) और (b) दोनों सही हैं  
 (2) (c) और (d) दोनों सही हैं  
 (3) केवल (a) सही है  
 (4) केवल (b) और (d) सही है
139. सरकारी विद्यालय की अध्यापिका रीता सातवीं कक्षा के विद्यार्थियों को अंग्रेजी पढ़ाने के लिए दृश्य उपकरण और भाषा खेल खिलौने हैं। रीता शिक्षण के किस सिद्धान्त का अनुपालन कर रही है ?  
 (1) अभिप्रेरणा और रूचि का सिद्धान्त  
 (2) जीवन से सम्बद्धता का सिद्धान्त  
 (3) स्वाभाविक प्रक्रिया का सिद्धान्त  
 (4) अभ्यास और आदत निर्माण का सिद्धान्त
140. शीर्ष अधोमुखी प्रक्रिया (टॉप डाउन) के बारे में क्या सही नहीं है ?  
 (1) सुनने वाले संसार के बारे में प्राप्त ज्ञान का प्रयोग करते हैं।  
 (2) सुनने वाले को प्रत्येक शब्द का अर्थ सुनने की आवश्यकता है।  
 (3) सुनने वाले अपने पूर्व ज्ञान पर निर्भर होते हैं।  
 (4) सुनने वाले जो सुनना चाहते हैं उसके बारे में अनुमान लगाते हैं।
141. रचनात्मक आकलन के लिए कौन-सा उपकरण उपयुक्त नहीं है ?  
 (1) परियोजना (2) कथा प्रस्तुतीकरण  
 (3) प्रदत्त कार्य (4) लिखित परीक्षा
142. विद्यार्थियों के अधिगम और समझ में स्पष्टता लाने के लिए समूची शिक्षण अधिगम प्रक्रिया के दौरान किया जाने वाला आकलन क्या है ?  
 (1) अधिगम में आकलन  
 (2) अधिगम के रूप में आकलन  
 (3) अधिगम के लिए आकलन

(4) अधिगम का आकलन

143. "शिक्षार्थियों को समृद्ध भाषायी परिवेश मिलना चाहिए और गलतियाँ इस बात का साक्ष्य हैं कि अधिगम हो रहा है।" यह किसके द्वारा अनुशासित है?

- (1) मानवतावादी (2) मनोविश्लेषणवादी  
(3) व्यवहारवादी (4) संज्ञानत्मकवादी

144. भाषा शिक्षा में रचनात्मकता क्या है?

- (1) शिक्षण की नवीन विधियों का प्रयोग करते हुए कक्षायी गतिविधि  
(2) सम्प्रेषणात्मक भाषा शिक्षण का प्रयोग करते हुए कथा सामग्री  
(3) खुले अन्त वाले कक्षायी प्रदत्त कार्य जिनकी भिन्न-भिन्न व्याख्याएँ हो सकती हैं और भिन्न-भिन्न उत्तर निकल सकते हैं।  
(4) किसी अवधारणा के प्रति समझ बनाने के लिए विभिन्न विषयों से प्राप्त तत्वों को मिलाना

145. कौन-सा उपकरण समक्रमिक और अतुल्यकालिक आनलाइन शिक्षण अवसरों की उपलब्धता देता है?

- (1) टेलीविजन (2) पैडलेट  
(3) पाठ्यपुस्तकें (4) रेलयात्रा टिकट

146. भाषा अधिगम में गलतियों के बारे में क्या सही नहीं है?

- (1) गलतियाँ भाषा अधिगम प्रक्रिया का महत्वपूर्ण पहलू हैं।  
(2) गलतियाँ द्वितीय भाषा अर्जन की प्रक्रिया को समझने में मदद करती हैं।  
(3) गलतियाँ भाषा अधिगम प्रक्रिया में अवरोध पैदा करती हैं।  
(4) गलतियाँ हमेशा बुरी नहीं होती हैं और अधिगम में मदद करती हैं।

147. द्वितीय भाषा की कक्षा में एक अध्यापक ने 'स्वास्थ्य ही धन है' पर ऑडियो रिकार्डिंग सुनायी। उसके बाद उसने कार्यक्रम (चर्कशीट) बाँटा और कहा कि दिए गए विकल्पों में से सही उत्तर पर निशान लगाएँ।

इस पाठ का उद्देश्य विद्यार्थियों को इस योग्य बनाना है कि:

- (1) विचार बिन्दुओं को सुनकर विश्लेषण किया जाए।  
(2) स्वास्थ्य और धन पर पाठ को कठस्थ किया जाए।  
(3) स्वास्थ्य पर पाठ का श्रवण करें।  
(4) विद्यार्थियों को कार्य में संलग्न किया जाए।

148. अन्तर्राष्ट्रीय मातृभाषा दिवस कब मनाया जाता है?

- (1) इक्कीस फरवरी (2) तेरह अप्रैल  
(3) पहली जनवरी (4) चौदह फरवरी

149. ई-मेल के उस प्रकार की पहचान करिए जो आप अपने उस सहयोगी को लिखना चाहेंगे जो आपका मित्र भी है?

- (1) व्यापार सम्बन्धी  
(2) लिखा-पढ़ी (करेसपॉन्डन्स) पत्र व्यवहार  
(3) अनौपचारिक  
(4) औपचारिक

150. भाषा शिक्षण के लिए प्रतिदिन काम में आने वाली सामग्री का प्रयोग करना क्या कहलाता है?

- (1) शिक्षण सामग्री  
(2) पाठ्य सामग्री  
(3) वास्तविक वस्तुएँ (रीयलिया)  
(4) भाषा खेल

## ANSWER KEY

### Child Development and Pedagogy

1. (1)	2. (1)	3. (4)	4. (1)	5. (4)
6. (2)	7. (1)	8. (4)	9. (2)	10. (1)
11. (3)	12. (1)	13. (1)	14. (4)	15. (1)
16. (1)	17. (4)	18. (1)	19. (1)	20. (4)
21. (1)	22. (4)	23. (2)	24. (1)	25. (3)
26. (2)	27. (3)	28. (1)	29. (1)	30. (1)

### Mathematics and Science

31. (3)	32. (4)	33. (1)	34. (2)	35. (4)
36. (1)	37. (1)	38. (1)	39. (1)	40. (4)
41. (2)	42. (2)	43. (3)	44. (1)	45. (4)
46. (3)	47. (3)	48. (4)	49. (4)	50. (1)
51. (3)	52. (2)	53. (3)	54. (3)	55. (2)
56. (3)	57. (3)	58. (2)	59. (2)	60. (4)
61. (4)	62. (4)	63. (1)	64. (4)	65. (4)
66. (1)	67. (1)	68. (1)	69. (1)	70. (1)
71. (1)	72. (2)	73. (3)	74. (2)	75. (3)
76. (3)	77. (3)	78. (1)	79. (2)	80. (1)
81. (1)	82. (4)	83. (3)	84. (4)	85. (4)
86. (3)	87. (4)	88. (4)	89. (3)	90. (2)

### Language-I : English

91. (4)	92. (1)	93. (2)	94. (3)	95. (4)
96. (2)	97. (3)	98. (1)	99. (3)	100. (3)
101. (1)	102. (1)	103. (3)	104. (1)	105. (3)
106. (4)	107. (2)	108. (4)	109. (3)	110. (1)
111. (4)	112. (1)	113. (2)	114. (1)	115. (2)
116. (3)	117. (3)	118. (4)	119. (3)	120. (3)

### Language-I: Hindi

91. (1)	92. (4)	93. (1)	94. (2)	95. (1)
96. (2)	97. (4)	98. (3)	99. (2)	100. (4)
101. (1)	102. (3)	103. (3)	104. (4)	105. (2)
106. (1)	107. (3)	108. (4)	109. (3)	110. (1)
111. (3)	112. (1)	113. (3)	114. (3)	115. (2)
116. (1)	117. (2)	118. (3)	119. (3)	120. (3)

### Language-II : English

121. (4)	122. (3)	123. (4)	124. (2)	125. (2)
126. (1)	127. (4)	128. (1)	129. (1)	130. (3)
131. (1)	132. (4)	133. (2)	134. (1)	135. (1)
136. (3)	137. (4)	138. (1)	139. (1)	140. (2)
141. (4)	142. (3)	143. (3)	144. (3)	145. (2)
146. (2)	147. (1)	148. (1)	149. (3)	150. (3)

### Language-II: Hindi

121. (1)	122. (1)	123. (4)	124. (3)	125. (2)
126. (3)	127. (1)	128. (2)	129. (3)	130. (1)
131. (4)	132. (2)	133. (2)	134. (4)	135. (3)
136. (2)	137. (4)	138. (1)	139. (2)	140. (2)
141. (4)	142. (4)	143. (3)	144. (3)	145. (1)
146. (3)	147. (1)	148. (1)	149. (3)	150. (3)

### Child Development & Pedagogy

- Option (1) is correct.**  
**Explanation:** Assertion (A) is true as it reflects best practices in education. Teachers should indeed respect individual differences among learners and adapt their teaching methods to meet the diverse needs of all students. This approach, known as differentiated instruction, helps ensure that each student can learn effectively despite varying abilities, learning styles, and backgrounds.
- Option (1) is correct.**  
**Explanation:** The key commonality in Piaget and Vygotsky's theories is the involvement and engagement of children in their own learning. This is so, because both theorists believed that the activity play an active role in constructing their knowledge and understanding of the concept through experiences.
- Option (4) is correct.**  
**Explanation:** Culturally responsive teaching is adaptive and differentiated to meet the needs of diverse learners in the classroom. Culturally responsive teaching ensures to give value and recognition to students belonging to diverse cultural backgrounds. For this, a teacher should ensure that students integrate their real-life learning experiences into the teaching-learning process. This approach will help to create an inclusive environment, encouraging the engagement of learners.
- Option (1) is correct.**  
**Explanation:** Qualitatively different means that the kind or nature of children's thinking is different from adults. This is because children are still developing their cognitive abilities and understanding of the world.
- Option (4) is correct.**  
**Explanation:** Encouraging students to reflect on their own learning and thinking processes. This approach helps students become aware of their own thought processes, enabling them to plan, monitor, and evaluate their learning more effectively.
- Option (2) is correct.**  
**Explanation:** According to Lev Vygotsky's sociocultural theory, language and thought are intricately connected and develop in tandem. Vygotsky believed that language plays a crucial role in cognitive development and is a key tool for thinking. He proposed that children first use language for social communication, but it gradually becomes internalised as inner speech, which then guides thought processes. This interrelationship means that as language develops, it enhances cognitive abilities, and as thinking becomes more sophisticated, it allows for more complex language use. Vygotsky emphasised that this relationship is dynamic and reciprocal, with each aspect influencing and shaping the other throughout development, rather than being independent or one-directional.
- Option (1) is correct.**  
**Explanation:** Naturalistic intelligence, as defined by Howard "Gardner's, The Theory" instead of Gardner's Theory of Multiple Intelligences, refers to the ability to recognise, categorise, and understand elements of the natural world. The teacher's question directly aligns with developing this type of intelligence. By asking students to classify different types of objects in the environment and analyse their classification schemes, the teacher is encouraging skills central to naturalistic intelligence.
- Option (4) is correct.**  
**Explanation:** Effective feedback is timely and continuous, occurring both during and after learning activities. This approach allows students to make real-time adjustments to their understanding and performance. Immediate feedback during an activity helps students correct misconceptions or improve techniques on the spot.
- Option (2) is correct.**  
**Explanation:** Work through the problem with the student and providing guidance and feedback as needed while involving other group members. This approach aligns with Vygotsky's theory of the Zone of Proximal Development (ZPD) and scaffolding. By working through the problem with the struggling student, Rama provides the necessary support within the student's ZPD. Involving other groups members promote collaborative learning instead of members promotes collaborative learning and peer interaction, key aspects of Vygotsky's sociocultural theory. This method allows for guided participation, where the teacher and peers assist the student in understanding the concept, gradually reducing support as the student gains competence. It maximizes learning potential while maintaining the benefits "of the group" instead of group work.
- Option (1) is correct.**  
**Explanation:** Psychosocial development refers to the changes and stability in emotions, personality, and social relationships throughout a person's life. This concept, proposed by Erik Erikson, includes various stages where individuals face different psychological and social challenges. Successful resolution of these challenges leads to healthy personality and social relationship development. Unlike cognitive development, which focuses on intellectual growth, or emotional development, which centres on emotional regulation, psychosocial development encompasses a broader spectrum of human development.
- Option (3) is correct.**  
**Explanation:** Constructivist teaching emphasizes active learning where students construct their own understanding and knowledge through experiences and reflection. This approach leads to discovery learning, where students explore, ask questions, and engage in problem-solving to discover new concepts and principles.
- Option (1) is correct.**  
**Explanation:** In progressive education, children are viewed as active participants in their learning journey. They are considered knowledgeable and capable of making meaning from their experiences. This approach contrasts with traditional views that see children as passive recipients of knowledge. Progressive education emphasizes the child's ability to think critically, solve problems, and understand the world around them through exploration and interaction.
- Option (1) is correct.**  
**Explanation:** Jean Piaget's theory of cognitive development, states children progress through distinct stages with characteristic ways of thinking. Tailoring the curriculum to a child's developmental stage ensures they are challenged appropriately and can learn effectively.
- Option (4) is correct.**  
**Explanation:** Setting mastery goals typically leads to enhanced intrinsic motivation, as students focus on learning and understanding the material rather than merely performing well. This approach fosters the belief in the incremental view of ability, which posits that abilities can be developed through effort and learning. This contrasts with the entity view of ability, which suggests that abilities are fixed traits.

15. **Option (1) is correct.**  
**Explanation:** Assertion (A) is correct. During adolescence, societal pressures to conform to gender expectations and follow the conventions of femininity or masculinity do increase. This is a well-documented phenomenon in developmental psychology and sociology. Reason (R) is false. Gender roles and expectations are not determined solely by biology. While biological factors may play a role, gender roles are largely shaped by social, cultural and environmental influences.
16. **Option (1) is correct.**  
**Explanation:** Assertion (A) is correct. Teachers should indeed encourage debates, discussions, and collaborations among students. These activities promote critical thinking, communication skills and active learning. However, Reason (R) is false. It incorrectly states that knowledge production is an inactive process and those group activities hinder learning. This is inaccurate. Knowledge production is actually an active process, and engagement in group activities typically enhance meaningful learning rather than hindering it.
17. **Option (4) is correct.**  
**Explanation:** Printed textbooks and notes hinder the participation of students with visual impairment in the classroom. This is because traditional print materials are inaccessible to those who have severe visual impairments or blindness. Unlike the other options listed, which are specifically designed to aid visually impaired students, standard printed materials create a significant barrier to learning and participation.
18. **Option (1) is correct.**  
**Explanation:** Formative assessment is an ongoing process used by teachers to check students' understanding throughout a lesson. This allows teachers to identify any gaps in knowledge and adjust their instruction accordingly. Through formative assessment teacher will be able to determine what the students can do before and after the class.
19. **Option (1) is correct.**  
**Explanation:** The question describes Sunita, a 12-year-old girl with exceptional musical ability. It also states that both her parents are accomplished singers, and she receives voice training classes. This suggests that Sunita's musical talent is likely due to a combination of genetics (heredity) from her parents and the environmental factors such as her upbringing in a musical household and access to voice training.
20. **Option (4) is correct.**  
**Explanation:** Lawrence Kohlberg used a method where he presented children with moral dilemmas and analysed their reasoning behind their choices. This method allowed him to assess the child's moral development based on the complexity of their reasoning.
21. **Option (1) is correct.**  
**Explanation:** Assertion (A) is true as schools should indeed function within frameworks that assess both the finished product and learning outcomes. This approach ensures a comprehensive evaluation of student progress and the effectiveness of educational methods. It allows for measuring not just final results, but also the learning process and skills acquired. Further, Reason (R) is false. Learning is not always tightly sequential and hierarchical. Modern educational theory recognises that learning can be non-linear, with students often learning complex concepts before mastering simpler ones.
22. **Option (4) is correct.**  
**Explanation:** Autism spectrum disorder (ASD) is a condition that affects how a person perceives and interacts with the world. It is characterised by challenges with social communication and interaction, repetitive behaviours and restricted interests.
23. **Option (2) is correct.**  
**Explanation:** Reciprocal teaching is a collaborative learning strategy where students take turns leading a discussion about a text they have read. This can involve summarizing key points, asking questions, clarifying confusing parts, and predicting what will happen next. By explaining their thinking to others, students strengthen their understanding of the material.
24. **Option (1) is correct.**  
**Explanation:** Sensitive periods are specific times during development when certain environmental factors are particularly crucial for normal growth and development. During these periods, the organism is especially receptive to specific stimuli, which can have a significant impact on development. For example, language acquisition and social bonding are highly influenced by environmental exposure during sensitive periods. Proper environmental stimulation during these times can lead to optimal development, while a lack of it can result in developmental delays or deficits.
25. **Option (3) is correct.**  
**Explanation:** Students with dyslexia can be taught to read through systematic phonological training. This type of training helps students learn the relationships between the letters they see and the sounds they make. This is a foundational skill for reading fluency and comprehension.
26. **Option (2) is correct.**  
**Explanation:** What are the various causes of increase of population in India. This is an open-ended question, and it will require analysis through multiple factors that will promote analytical thinking.
27. **Option (3) is correct.**  
**Explanation:** The question talks about the importance of teachers providing opportunities for experimentation and discussing examples and non-
- examples. The reason (R) explains that this is a constructive way to address misconceptions in children. By providing counter examples, children can see the flaws in their original thinking and develop a more accurate understanding.
28. **Option (1) is correct.**  
**Explanation:** Assertion (A) is true. In many Asian cultures that prioritise social harmony, expressions of anger are often discouraged as they can disrupt group cohesion. Conversely, shame is often encouraged as it can promote self-reflection and adherence to social norms, thus maintaining harmony. However, Reason (R) is false. Emotions are not merely subjective experiences that play no role in learning. On the contrary, emotions are integral to the learning process. They can influence attention, motivation, memory formation and decision-making.
29. **Option (1) is correct.**  
**Explanation:** To develop critical thinking among students, teachers should provide questions that require inferences and explanations. This approach encourages students to go beyond surface-level understanding and engage in deeper cognitive processes. By asking students to make inferences, they learn to analyse information, connect ideas, and draw logical conclusions.
30. **Option (1) is correct.**  
**Explanation:** Inclusive classrooms are designed to accommodate and support all students, regardless of their abilities, backgrounds, or learning needs. The key principle of inclusive education is to recognise and respect individual differences among students. By offering differentiated instructions, teachers can adapt their teaching methods, content, and assessments to meet the diverse needs of each student in the classroom.

## Mathematics and Science

31. **Option (3) is correct.**  
**Explanation:** Given the options, this method of teaching best fits the "discovery method". The discovery method involves students actively engaging in a task to uncover or "discover" principles on their own, rather than being directly taught to them. In this scenario, students are discovering the sum of the angles in a triangle by measuring and tabulating the angles themselves.
32. **Option (4) is correct.**  
**Explanation:** For any closed polygon:  

$$F + V = E + 2$$
[Euler's Formula]  

$$\Rightarrow 7 + x = 15 + 2$$
  

$$\Rightarrow 7 + x = 17$$
  
 So,  $x = 10$   
 Now,  $2F + 3E - 4x$   

$$= 2 \times 7 + 3 \times 15 - 4 \times 10$$
  

$$= 14 + 45 - 40$$
  

$$= 14 + 5$$
  

$$= 19$$



- 33.
- Option (1) is correct.**

**Explanation:**

$$\text{Mean} = \frac{\text{Sum of observations}}{\text{Number of observations}}$$

$$= \frac{36 + 37 + 31 + 42 + 23 + 38}{6}$$

$$= \frac{197}{6}$$

$$\text{Mean} = \frac{366}{12}$$

$$\text{Mean} = 30.5$$

Now,

$$\text{Range} = \text{Highest data} - \text{Lowest data}$$

$$\text{Range} = 42 - 17$$

$$\text{Range} = 25$$

$$\text{Now, Mean} - \text{Range} = 30.5 - 25$$

$$\text{Mean} - \text{Range} = 5.5$$

- 34.
- Option (2) is correct.**

**Explanation:** Let,  $(2x + 5y) = a$ 

$$\Rightarrow (2x + 5y)^2 - 5(2x + 5y) - 14$$

$$= a^2 - 5a - 14$$

$$= (a + p)(a + q)$$

$$\text{Now, } a^2 - 5a - 14 = (a^2 - 7a + 2a - 14)$$

$$= a(a - 7) + 2(a - 7)$$

$$= (a - 7)(a + 2)$$

$$= (a + p)(a + q)$$

$$\text{On comparing, } p = -7, q = 2$$

$$\Rightarrow p + q = -7 + 2 = -5$$

- 35.
- Option (4) is correct.**

**Explanation:**

$$\text{CP of 12 fans} = ₹ 24,000$$

$$\Rightarrow \text{CP of 1 fan} = ₹ 2,000$$

$$\text{Now, MP of 1 fan} = \text{CP} + 25\% \text{ of CP}$$

$$= 2,000 + 500$$

$$= ₹ 2,500$$

$$\text{Discount} = 10\%$$

$$\text{SP of 1 fan} = \text{MP} - \text{discount}\%$$

$$\Rightarrow \text{SP of 1 fan} = 2500 - 10\% \text{ of MP}$$

$$= ₹ 2,250$$

$$\text{Now, profit} = \text{SP} - \text{CP}$$

$$\Rightarrow \text{Profit on 1 fan} = 2250 - 2000$$

$$= ₹ 250$$

$$\Rightarrow \text{Profit on 12 fans} = 250 \times 12$$

$$= ₹ 3000$$

- 36.
- Option (1) is correct.**

**Explanation:**

$$\text{Given, } \frac{(a-b+c)^2 - (a-b-c)^2}{b-a}$$

$$\text{Let } (a-b) = p$$

$$\Rightarrow \frac{(p+c)^2 - (p-c)^2}{b-a}$$

$$\Rightarrow \frac{p^2 + c^2 + 2pc - (p^2 + c^2 - 2pc)}{b-a}$$

$$\Rightarrow \frac{p^2 + c^2 + 2pc - p^2 - c^2 + 2pc}{b-a}$$

$$\Rightarrow \frac{4(a-b)c}{b-a}$$

$$\Rightarrow -4c$$

- 37.
- Option (1) is correct.**

**Explanation:** Statement (2) is true, as the value of the variable in an equation which satisfy the equation is indeed called a solution of the equation.

Statement (3) is true. A mathematical expression is formed when we combine numbers and variables in a valid way, using operations such as addition,

subtraction, multiplication, division, exponentiation, and other operations. Statement (4) is true. We can definitely perform operation of multiplication on mathematical expressions.

Statement (1) is NOT true. We can simplify the expression  $x^2 + 10x + 25$  as follows:

$$x^2 + 10x + 25$$

$$= x^2 + 5x + 5x + 25$$

$$= x(x + 5) + 5(x + 5)$$

$$= (x + 5)(x + 5)$$

$$= (x + 5)^2$$

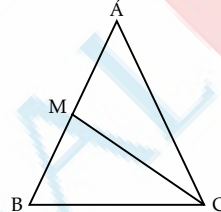
- 38.
- Option (1) is correct.**

**Explanation:** The domain of learning that deals with attitudes and values is known as the affective domain. This domain involves emotions, attitudes, appreciations, and values. It is one of the three domains of educational activities identified in Bloom's Taxonomy, alongside the cognitive domain (dealing with knowledge and intellectual skills) and the psychomotor domain (dealing with physical skills)

- 39.
- Option (1) is correct.**

**Explanation:** According to the National Curriculum Framework (NCF) 2005, the process that is least important in mathematics is finding shortcuts in mathematics. The NCF emphasizes understanding concepts, problem-solving, and applying mathematical techniques appropriately over merely finding shortcuts.

- 40.
- Option (4) is correct.**

**Explanation:** Here,

$$\angle A = x \text{ and } \angle B = 70^\circ$$

Since,  $AM = CM$ 

$$\Rightarrow \angle A = \angle ACM$$

(Angles opposite to equal sides of a triangle are equal)

$$\text{And, } \angle B = \angle BCM$$

(Angles opposite to equal sides of a triangle are equal)

$$\Rightarrow \angle ACB = \angle ACM + \angle BCM$$

$$= x + 70^\circ$$

$$\text{Here, } \angle A + \angle B + \angle C = 180^\circ$$

(Angle sum property)

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

$$\Rightarrow 2x = 40^\circ$$

$$\Rightarrow x = 20^\circ$$

$$\text{Now, } 3x + 25 = 3(20) + 25$$

$$= 60 + 25 = 85^\circ$$

- 41.
- Option (2) is correct.**

$$\text{Explanation: Largest fraction} = 2\frac{3}{5}$$

$$\text{Smallest fraction} = \frac{3}{8}$$

$$\text{Sum} = \frac{3}{8} + 2\frac{3}{5}$$

$$= \frac{3}{8} + \frac{13}{5}$$

$$= \frac{15 + 104}{40}$$

$$= \frac{119}{40}$$

$$= 2\frac{39}{40}$$

- 42.
- Option (2) is correct.**

**Explanation:** Let the two numbers be  $3x$  and  $7x$ .

$$\text{Now, LCM} = 21x = 630$$

$$\Rightarrow x = 30$$

$$\text{Thus, LCM} = 630, \text{HCF} = 30$$

$$\text{Now, LCM} + \text{HCF} = 630 + 30$$

$$= 660$$

- 43.
- Option (3) is correct.**

**Explanation:** Area of triangle

$$= 240 \text{ cm}^2$$

$$\Rightarrow \frac{1}{2} \times b \times h = 240$$

$$\Rightarrow 30 \times h = 240 \times 2$$

$$\Rightarrow h = 16$$

$$\text{Now, } (30)^2 + (16)^2 = (\text{hypotenuse})^2$$

$$\Rightarrow 900 + 256 = (\text{hypotenuse})^2$$

$$\Rightarrow 1156 = (\text{hypotenuse})^2$$

$$\Rightarrow \text{Hypotenuse} = 34$$

$$\text{Perimeter} = 30 + 16 + 34$$

$$= 80 \text{ cm}$$

- 44.
- Option (1) is correct.**

$$\text{Explanation: } A = P \left( 1 + \frac{R}{100} \right)^T$$

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

$$\Rightarrow 3267 = P(1.1 \times 1.1)$$

$$\Rightarrow P = 3267 \div 1.21$$

$$\Rightarrow P = 2700$$

$$\text{Now, S.I.} = \frac{P \times R \times T}{100}$$

$$\text{S.I.} = \frac{2700 \times 10 \times 5}{100 \times 2}$$

$$\text{S.I.} = 27 \times 25$$

$$\text{S.I.} = ₹ 675$$

- 45.
- Option (4) is correct.**

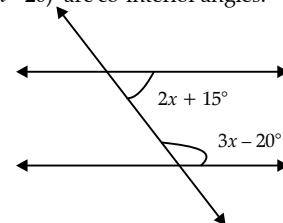
**Explanation:** Natural numbers between 1 and 500 that are divisible by each of the numbers 3, 5 and 7 = Multiples of L.C.M. of 3, 5 and 7 between 1 and 500

$$\Rightarrow \text{L.C.M. of 3, 5 and 7} = 105$$

So, multiples of 105 = 105, 210, 315, 420

Thus, 4 natural numbers between 1 and 500 are divisible by each of the numbers 3, 5 and 7.

- 46.
- Option (3) is correct.**

**Explanation:** Here,  $(2x + 15^\circ)$  and  $(3x - 20^\circ)$  are co-interior angles.

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

$$\begin{aligned} \Rightarrow 5x - 5^\circ &= 180^\circ \\ \Rightarrow 5x &= 185^\circ \\ \Rightarrow x &= 37^\circ \\ \text{Now, } (4x + 6^\circ) &= (4 \times 37 + 6) \\ &= 148 + 6 = 154^\circ \end{aligned}$$

47. Option (3) is correct.

**Explanation:** Marks obtained in Mathematics =  $x$

$$\begin{aligned} \Rightarrow x &= \frac{90^\circ}{360^\circ} \times 540 \\ &= \frac{540}{4} = 135 \end{aligned}$$

Marks obtained in English =  $y$

$$\Rightarrow y = \frac{50^\circ}{360^\circ} \times 540 = 75$$

Difference between marks obtained in Mathematics and English =  $135 - 75 = 60$

48. Option (4) is correct.

**Explanation:** Statement 1. "It helps to diagnose individual differences."

Correct: Assessment helps teachers identify the strengths and weaknesses of individual students. This information can then be used to tailor instruction to meet each student's needs, ensuring that all students have the opportunity to succeed.

Statement 2. "It is a procedure to gather information on students' performance."

Correct: One of the primary purposes of assessment is to collect data on how well students are understanding the material and performing in various tasks. This data can be used to inform instructional decisions and provide feedback to students and parents.

Statement 3. "It is evaluation."

Correct: Assessment is a form of evaluation that measures students' knowledge, skills, and abilities. It can take many forms, such as quizzes, tests, projects, and observations, all aimed at evaluating the extent to which students have achieved learning objectives.

Statement 4. "It helps to label the students."

Incorrect: Labelling students is not a constructive or educational purpose of assessment. Labelling can lead to fixed mindsets, where students see themselves in static terms (e.g., "good" or "bad" at a subject), which can negatively impact their motivation and self-esteem. The goal of assessment should be to support learning and growth, not to pigeonhole students into categories.

49. Option (4) is correct.

**Explanation:** According to Van Hiele's theory of geometrical learning, the levels of geometrical thinking can be arranged in ascending order as follows:

1. D: Identification of geometrical shapes as they are. (Level 0: Visualisation)
2. B: Classification of different shapes. (Level 1: Analysis)

3. A: Identification of properties of geometrical shapes.

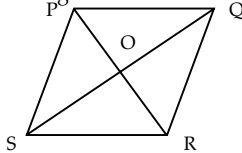
(Level 2: Informal Deduction)

4. C: Finding relationships between the properties of geometrical shapes. (Level 3: Deduction)

So, the correct order is (d), (b), (a), (c)

50. Option (1) is correct.

**Explanation:** We know that, diagonals of parallelogram bisect each other



$$\begin{aligned} \Rightarrow OP &= OR \\ \Rightarrow x + 7 &= 20 \\ \Rightarrow x &= 13 \\ \text{Also, } OQ &= OS \\ \Rightarrow 16 &= x + y \\ \Rightarrow 16 &= 13 + y \\ \Rightarrow y &= 3 \\ \text{Thus, } (7y + 5) &= (7 \times 3 + 5) \\ &= 21 + 5 = 26 \end{aligned}$$

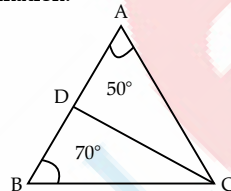
51. Option (3) is correct.

**Explanation:** Perfect square just greater than 955 = 961

$$\begin{aligned} \Rightarrow x + 955 &= 961 \\ \Rightarrow x &= 6 \\ \text{Now, } 3x + 2 &= 3 \times 6 + 2 \\ &= 18 + 2 = 20 \end{aligned}$$

52. Option (2) is correct.

**Explanation:**



$$\begin{aligned} \text{Here, } \angle A &= 50^\circ, \angle B = 70^\circ \\ \Rightarrow \angle A + \angle B + \angle C &= 180^\circ \\ &\text{(Angle sum property)} \\ \Rightarrow 50^\circ + 70^\circ + \angle C &= 180^\circ \\ \Rightarrow 120^\circ + \angle C &= 180^\circ \\ \Rightarrow \angle C &= 60^\circ \\ \text{Now, CD bisects } \angle C & \\ \Rightarrow \angle ACD &= 30^\circ \\ &\text{(CD is angle bisector)} \end{aligned}$$

$$\begin{aligned} \text{In } \triangle ADC, \\ \angle A + \angle ADC + \angle ACD &= 180^\circ \\ \text{(Angle Sum Property)} \\ \Rightarrow 50^\circ + \angle ADC + 30^\circ &= 180^\circ \\ \Rightarrow \angle ADC &= 100^\circ \end{aligned}$$

53. Option (3) is correct.

**Explanation:** At the upper primary stage, as per NCERT, the topic that has not been included under the number system is complex numbers.

At the upper primary stage (grades 6-8) in the NCERT curriculum, the following topics are included under the number system:

1. Exponents and Powers: Learning about the laws of exponents, such as multiplication and division of powers, and understanding scientific notation.
2. Square Roots and Cube Roots: Finding square and cube roots, using prime factorisation and other methods.

3. Fractions: Performing operations with fractions, understanding equivalent fractions, and simplifying fractions.

Complex numbers are not included at this stage because:

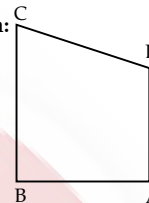
(i) Conceptual Complexity: They require a mature understanding of algebra.

(ii) Curriculum Focus: The focus is on foundational arithmetic and algebraic concepts.

(iii) Sequential Learning: Complex numbers are introduced at senior secondary level, after students have a solid grasp of real numbers and basic algebra.

54. Option (3) is correct.

**Explanation:**



Perimeter of quadrilateral = 120 cm  
 $\Rightarrow AB + BC + CD + AD = 120$   
 We know that, BC = 48 cm, CD = 17 cm, AD = 40 cm

$$\Rightarrow AB + 48 + 17 + 40 = 120$$

$$\Rightarrow AB = 15 \text{ cm}$$

$$\text{Now, } \angle A = \angle B = 90^\circ$$

$\Rightarrow$  ABCD is a trapezium

$$\begin{aligned} \text{Area of trapezium ABCD} &= \frac{1}{2} \times (AD + BC) \times AB \\ &= \frac{1}{2} \times (40 + 48) \times 15 \\ &= \frac{1}{2} \times 88 \times 15 \\ &= 44 \times 15 \\ &= 660 \text{ cm}^2 \end{aligned}$$

55. Option (2) is correct.

**Explanation:** The least appropriate statement here regarding proofs in mathematics is: Proofs are built on intuitive knowledge and not reasoning.

Here's why the other statements are appropriate:

Statement 1: It can help the students to validate their own reasoning.

Correct: Proofs allow students to verify their logical steps and ensure their conclusions are valid.

Statement 3: It explains why a particular mathematical result must be true.

Correct: Proofs demonstrate the necessity of a mathematical result through logical deduction.

Statement 4: It helps to reveal the connections and provide insights into the underlying structure of mathematics.

Correct: Proofs often uncover relationships between different areas of mathematics and deepen understanding.

Proofs are fundamentally based on logical reasoning rather than intuitive knowledge, making the second statement least appropriate.

## 56. Option (3) is correct.

**Explanation:** The indicator that is not associated with creativity in mathematics is:

Statement 3: Students use convergent thinking in different contexts.

Here's why the other statements are indicators of creativity in mathematics:

Statement 1: Students use multiple and alternate problem-solving strategies.

Creativity involves exploring different methods to solve problems, showing flexibility and innovation.

Statement 2: Students can pose questions.

Creative students are curious and can generate new questions, indicating deeper engagement and original thinking.

Statement 4: Students are able to think flexibly.

Flexibility in thinking is a hallmark of creativity, allowing students to approach problems from various angles and find novel solutions.

Convergent thinking, on the other hand, focuses on finding a single, correct solution to a problem, which is more about critical thinking and accuracy rather than creative exploration and innovation.

## 57. Option (3) is correct.

**Explanation:** Let present age of Varun =  $x$  years

Age of Arun =  $(x + 3)$  years

Now, 8 years ago:

Age of Varun =  $(x - 8)$  years

Age of Arun =  $x + 3 - 8 = (x - 5)$  years

According to question,

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

Thus, equation mentioned in option (3) is correct.

## 58. Option (2) is correct.

**Explanation:** The statement that is not correct with respect to rubrics as a tool of assessment is:

Statement 2: Rubrics make evaluation more subjective.

Rubrics are designed to make evaluation more objective by providing clear criteria and performance levels. Here's why the other statements are correct:

Statement 1: Rubrics consist of a clear performance target for students.

Correct: Rubrics clearly define what is expected from students, making the performance targets transparent.

Statement 3: Rubrics have a fixed scale.

Correct: Rubrics typically use a fixed scale (e.g., 1-4 or 1-5) to assess different levels of performance.

Statement 4: Rubrics have a list of characteristics describing performance for each point on the scale.

Correct: Rubrics describe specific characteristics or criteria for each level of performance on the scale, ensuring consistency in assessment.

## 59. Option (2) is correct.

**Explanation:** Volume of cylinder =  $\pi r^2 h$

Here,  $r = 6$  cm and  $h = 9$  cm

$$\Rightarrow V_1 = \pi \times (6)^2 \times 9$$

$$\Rightarrow V_1 = 324\pi \text{ cm}^3$$

Now, new radius = 3 cm and new height = 12 cm

$$\Rightarrow V_2 = \pi \times (3)^2 \times 12$$

$$\Rightarrow V_2 = \pi \times 9 \times 12$$

$$\Rightarrow V_2 = 108\pi \text{ cm}^3$$

$$\text{Now, } \frac{V_2}{V_1} = \frac{108\pi}{324\pi} = \frac{1}{3}$$

New volume is one-third of the original volume.

## 60. Option (4) is correct.

**Explanation:**  $52 \times 3 \div 4 + \sqrt{441} \div 7$

$$\times 3 + 5 - 32 \div 8 \times 12$$

$$= 52 \times 3 \div 4 + 21 \div 7 \times 3 + 5 - 32 \div 8 \times 12$$

$$= 52 \times 3 \div 4 + 3 \times 3 + 5 - 4 \times 12$$

$$= 52 \times 3 \div 4 + 9 + 5 - 48$$

$$= 52 \times \frac{3}{4} + 14 - 48$$

$$= 13 \times 3 + 14 - 48$$

$$= 39 + 14 - 48$$

$$= 5$$

## 61. Option (4) is correct.

**Explanation:** Let's analyse each option:

(a) Developing argumentative skills in learners: This option is correct.

Discussing socio-scientific issues involves debating and presenting arguments, which helps learners develop their ability to construct and support arguments effectively.

(b) Developing multiple perspectives on an issue: This option is correct.

Socio-scientific issues are complex and often involve diverse viewpoints from scientific, ethical, social and cultural perspectives. Discussing these issues encourages learners to consider and appreciate various viewpoints.

(c) Encouraging citizen science activities: This option is correct.

While discussing socio-scientific issues in class can inspire interest in citizen science activities, where individuals or communities participate in scientific research, this involvement isn't a direct outcome of class discussions but it can spur further engagement outside the classroom.

(d) Appreciating the role of society in the development of science: This statement is not correct in the context of discussing socio-scientific issues.

While discussing these issues, the focus is more on immediate arguments, perspectives, and citizen science involvement rather than directly fostering a deep appreciation for the role of society in shaping and influencing scientific development.

So, (a), (b) and (c) are correct.

## 62. Option (4) is correct.

**Explanation:** Observation vs. Inference:

Observation (O): An observation is a direct or indirect result of using the senses or tools to gather information about the natural world. It involves

factual data that can be measured, seen, heard, smelled, or touched.

Inference (I): An inference is a conclusion drawn from observations and prior knowledge. It involves making educated guesses or interpretations based on evidence and reasoning.

A. Metal oxides are basic in nature. (Inference)

This is an inference because it generalises the nature of metal oxides based on chemical knowledge rather than direct observation.

D. Sodium hydroxide and hydrochloric acid neutralize each other. (Inference)

This is an inference because it concludes a chemical reaction based on the known properties of sodium hydroxide and hydrochloric acid.

B. Air expands on heating. (Observation)

This is an observation because it describes a physical phenomenon that can be directly observed and measured.

C. Lime water turns milky on passing carbon dioxide. (Observation)

This is an observation because it describes a chemical reaction that can be directly observed when lime water reacts with carbon dioxide.

So, the correct option is (4) O - B, C; I - A, D

## 63. Option (1) is correct.

**Explanation:** Based on the information provided:

(a) When the object is placed in liquid A, one-fourth of its volume is outside the liquid.

(b) When the object is placed in liquid B, three-fourth of its volume is outside the liquid.

This scenario suggests that the densities of liquid A and liquid B are different, leading to different buoyant forces acting on the object.

If the object floats with more of its volume outside the liquid (three-fourth) in liquid B compared to liquid A (one-fourth), then liquid A is less dense than liquid B.

## 64. Option (4) is correct.

**Explanation:** Let's analyse each statement regarding scientific investigations:

(a) Results are not influenced by procedure: This statement is not true. In scientific investigations, the procedure followed can significantly influence the results obtained. The way experiments are designed, conducted, and controlled can impact the outcomes and conclusions drawn from the study.

(b) Social context may influence conclusions in any investigation: This statement is true. The social context, including societal values, cultural beliefs, political influences, and economic factors, can affect how scientific investigations are conducted and interpreted. Scientists' perspectives and biases can also influence the conclusions drawn from the data.

(c) Data and evidence are the same: This statement is not true. While closely related, data refers to raw facts, figures, or observations collected during an experiment or investigation. Evidence, on the other hand, refers to data that has been analysed, interpreted, and used to support or refute a hypothesis or claim.

(d) There is no universal scientific method: This statement is true. While scientific investigations generally follow a systematic approach involving hypothesis formation, experimentation, data collection, analysis, and conclusion drawing, there is no single, universally accepted method that applies to all fields of science and all types of investigations. Methods can vary based on the nature of the research question, discipline, and specific goals of the study.

Conclusion: The correct statements regarding scientific investigations are (b) and (d).

65. **Option (4) is correct.**

**Explanation:** Let's evaluate each statement regarding self-pollination and bisexual flowers:

(a) Self-pollination takes place only in bisexual flowers:

This statement is false. Self-pollination can occur in both bisexual (having both male and female reproductive organs) and unisexual (having either male or female reproductive organs) flowers. Self-pollination involves the transfer of pollen from the male reproductive organ (anther) to the female reproductive organ (stigma) of the same flower or sometimes within the same plant.

(b) Bisexual flowers can pollinate both by self and cross-pollination:

This statement is true. Bisexual flowers have both male and female reproductive organs (stamens and pistils), allowing them to potentially self-pollinate or cross-pollinate. Cross-pollination involves the transfer of pollen from one flower to another flower of the same species, often facilitated by insects, wind, or other agents.

The correct statement among the given options is: (b) Bisexual flowers can pollinate both by self and cross-pollination.

66. **Option (1) is correct.**

**Explanation:** Let's evaluate each statement regarding rainwater harvesting:

(a) It conserves groundwater: This statement is true. Rainwater harvesting involves capturing and storing rainwater, which reduces the demand for groundwater extraction, thereby conserving groundwater resources.

(b) It reduces local flooding: This statement is true. Rainwater harvesting systems can include techniques such as rain gardens, permeable paving, and storage tanks, which help to slow down and reduce the volume of stormwater runoff.

This reduces the risk of local flooding by managing the flow of rainwater.

(c) It creates drainage problems: This statement is false. Properly designed rainwater harvesting systems are intended to manage rainwater effectively without causing drainage problems. Techniques such as infiltration, storage, and controlled release are used to prevent excessive runoff and drainage issues.

(d) It can be used for irrigation of crops: This statement is true. Captured rainwater can be used for various purposes, including irrigation of crops. This reduces reliance on freshwater sources for agricultural purposes and promotes sustainable water management practices.

Conclusion: The true statements regarding rainwater harvesting are (a), (b) and (d).

67. **Option (1) is correct.**

**Explanation:** The factors responsible for the generation and flow of winds on Earth include:

(a) Uneven heating of the earth: Differential heating of the Earth's surface by solar radiation creates temperature variations, which in turn generate pressure differences. These pressure differences drive the movement of air, resulting in winds.

(b) Uneven heating of the oceans: Similar to the uneven heating of the Earth's surface, differential heating of ocean waters creates temperature gradients and pressure differences. This also contributes significantly to the generation of winds, especially near coastal areas.

(c) Distance between earth and sun: While the distance between the Earth and the Sun affects the amount of solar radiation received, it does not directly influence the generation and flow of winds on Earth.

(d) Gravitational force on the earth: Gravitational force influences many Earthly phenomena but does not play a direct role in the generation and flow of winds.

Therefore, the correct factors responsible for the generation and flow of winds on Earth are (a) and (b).

68. **Option (1) is correct.**

**Explanation:** The assertion that the filament of an incandescent bulb is made up of tungsten is correct. Tungsten is indeed used because of its high melting point, which allows it to operate at very high temperatures without melting. However, the reason provided, stating that tungsten has low resistance, is not accurate. In fact, tungsten has a relatively high electrical resistance, which is actually beneficial in incandescent bulbs because it causes the filament to heat up and emit light efficiently when an electric current passes through it. Therefore:

(i) The assertion is true: The filament of an incandescent bulb is made up of tungsten.

(ii) The reason given is incorrect: Tungsten has high resistance but a high melting point, which is why it is used in incandescent bulbs.

69. **Option (1) is correct.**

**Explanation:** Let us analyse the statements:

(a) Use of gender-sensitive language: This involves using inclusive and respectful language in science education to ensure all students feel valued and respected, regardless of gender.

(b) Engaging students in examining stereotypes: Addressing and challenging stereotypes related to gender in science helps students develop critical thinking skills and promotes a more inclusive classroom environment.

(c) Taking gender-based groups: This approach is not recommended in gender-responsive pedagogy because grouping students based solely on gender can reinforce stereotypes and may not support equitable learning outcomes. It's important to create mixed-gender groups to foster collaboration and diversity of perspectives.

(d) Using differentiated instruction and assessment: While differentiated instruction is important in addressing diverse learning needs, including those influenced by gender, it alone does not constitute gender-responsive pedagogy. Gender-responsive pedagogy focuses specifically on addressing gender-related issues and promoting equity through inclusive practices beyond just differentiated instruction.

In summary, gender-responsive pedagogy in science emphasizes the use of inclusive language, challenging stereotypes, and creating equitable learning environments that go beyond gender-based grouping and include differentiated instruction as part of a broader strategy.

70. **Option (1) is correct.**

**Explanation:** The statement that is not true regarding the conduction of heat is Statement 1.

Statement 1: Conduction actually does take place in gases, although it is generally less efficient compared to solids and liquids. Gases have molecules that can transfer kinetic energy (heat) through collisions, albeit the process is slower compared to solids and liquids.

Statement 2: This is true. Different materials have different thermal conductivities, meaning they allow heat to flow through them at different rates.

Statement 3: This is true. Conduction generally occurs faster in solids compared to liquids because solids have a more ordered molecular structure, allowing for better transmission of thermal energy through vibrations and collisions between particles.

Statement 4: This is true. For heat to flow between two objects via conduction, they must be in direct contact with each other to allow the transfer of thermal energy through molecular collisions.

71. **Option (1) is correct.**

**Explanation:** Divergent questions in science classrooms serve various purposes to enhance learning and engagement. Let's evaluate each option:

(a) To promote critical thinking: This option is correct. Divergent questions encourage students to think critically, explore multiple perspectives, and formulate their own ideas and solutions based on evidence and reasoning.

(b) To discern between students: This option is not typically a primary purpose of divergent questions. Divergent questions are more focused on fostering thinking skills and understanding rather than distinguishing between students.

(c) To develop communication: This option is correct. Divergent questions encourage students to articulate their ideas, engage in discussions, and communicate their understanding effectively.

(d) To identify gifted students: This option is not typically a primary purpose of divergent questions. Giftedness is often identified through various assessments and observations that go beyond the scope of questioning strategies.

(e) To identify alternate conceptions: This option is correct. Divergent questions can reveal students' misconceptions or alternative ways of thinking about scientific concepts, which is crucial for addressing and clarifying misunderstandings.

(f) To appreciate subjectivity in science: This option is correct. Divergent questions encourage students to recognize that scientific inquiry involves interpretation, uncertainty, and differing viewpoints, fostering an appreciation for the subjectivity inherent in scientific investigations.

**Conclusion:** The correct statements regarding the purpose of divergent questions in science classrooms are (a), (c), (e) and (f).

72. **Option (2) is correct.**

**Explanation:** The human circulatory system is characterised by: closed, double circulation

**Closed Circulation:** Blood flows through a system of vessels (arteries, veins, and capillaries) and does not directly come into contact with tissues except through capillary walls. **Double Circulation:** Blood passes through the heart twice in one complete circuit of the body. One circuit involves pumping oxygen-rich blood from the heart (left side) to the body and returning oxygen-

poor blood to the heart (right side). The other circuit involves pumping oxygen-poor blood from the heart (right side) to the lungs to pick up oxygen and returning oxygen-rich blood to the heart (left side).

73. **Option (3) is correct.**

**Explanation:** Let's analyse each statement regarding scientific laws:

1. They can't be challenged: This statement is not true. Scientific laws can be revised or even replaced based on new evidence or observations that challenge existing understanding. They are not immutable and are subject to modification as science progresses.

2. They provide reasoning for physical phenomena: This statement is not typically the primary purpose of scientific laws. Laws describe observed patterns or relationships in nature but may not always provide the underlying mechanisms or explanations (which are often provided by scientific theories).

3. They describe relationships between observable phenomena: This statement is true. Scientific laws summarize and describe the consistent patterns or relationships observed in nature. For example, Newton's Law of Universal Gravitation describes the relationship between masses and the force of gravitational attraction.

4. They are formed from scientific theories: This statement is not typically correct. Scientific laws and theories are distinct concepts. Laws describe what happens under certain conditions, while theories explain why and how phenomena occur based on evidence and hypotheses.

**Conclusion:** The correct statement regarding scientific laws is (3).

74. **Option (2) is correct.**

**Explanation:** The assertion and reason provided can be evaluated as follows:

**Assertion:** It is given that the rate of breathing in aquatic animals is slower than land animals. This assertion is false. Aquatic animals such as fish breathe at a faster rate than the terrestrial animals.

**Reason:** The reason statement mentions that the presence of large amounts of dissolved oxygen affects rate of breathing of aquatic animals. Actually, the rate of breathing in aquatic animals is higher than land animals. Hence the given Assertion is wrong.

**Conclusion:** Reason is correct but it is not the correct explanation of required Assertion because aquatic animals need different amount of dissolved oxygen for their survival. High and low amount of oxygen can be life threatening for them. Some animals like bottom feeders (Crabs and Oysters) need 1-6mg/L and Shallow water fishes need 4-15mg/L of dissolved oxygen.

75. **Option (3) is correct.**

**Explanation:** The assertion and reason provided can be evaluated as follows:

**Assertion:** This is true. Curved ceilings in cinema halls and concert halls are designed to help distribute sound waves evenly throughout the space. This design reduces echoes and improves acoustics, providing a better auditory experience for the audience.

**Reason:** This is also true. When sound waves strike a curved surface, such as a curved ceiling, they tend to scatter and reflect in multiple directions. This diffusion of sound helps in creating a more immersive and balanced acoustic environment within the hall.

**Conclusion:**

Both the assertion and reason are true. The reason correctly explains why curved ceilings are used in cinema halls and concert halls—to ensure sound waves are reflected in various directions, enhancing acoustics.

Therefore, the correct answer is Both assertion and reason are true, and the reason explains the assertion.

76. **Option (3) is correct.**

**Explanation:** The environmental issues caused by excessive use of fertilizers and pesticides are:

**Eutrophication:** Excessive nutrients from fertilizers can lead to eutrophication in water bodies. This process causes excessive growth of algae and plants, leading to oxygen depletion in the water when these organisms die and decompose.

**Biomagnification:** This occurs when toxic substances accumulate in organisms at higher trophic levels of a food chain. Pesticides and fertilizers, particularly those containing persistent organic pollutants, can bioaccumulate in organisms.

**Nitrification:** This is the biological oxidation of ammonia ( $\text{NH}_3$ ) to nitrite ( $\text{NO}_2^-$ ) and then to nitrate ( $\text{NO}_3^-$ ) by soil bacteria. Excessive nitrogen from fertilizers can enhance nitrification, leading to increased nitrate levels in soil and groundwater.

Therefore, the environmental issue not directly caused by excessive use of fertilizers and pesticides is:

**Soil erosion:** Soil erosion is primarily caused by factors such as wind, water, and human activities that disturb the soil structure, but it is not directly attributed to fertilizers and pesticides in the same manner as biomagnification, eutrophication, and nitrification are.

77. **Option (3) is correct.**

**Explanation:** An odometer in a car measures: Distance travelled by the car.

An odometer displays the total distance that the vehicle has travelled since it was last reset. It does not measure average speed, acceleration, or instantaneous speed directly, but it keeps track of the cumulative distance covered by the vehicle.

78. Option (1) is correct.

Explanation:

Mirror	Nature of image	Size of image	Type of mirror	Reason
A	Virtual and erect	Same as object	Plane mirror	Only plane mirror forms a virtual and erect image of the same size as the object
B	Real and inverted	Same as object	Concave	Concave mirror forms a real and inverted image of the same size as the object when the object is placed at centre of curvature.
C	Real and inverted	Enlarged	Concave	Concave mirror forms a real and inverted enlarged image of the object when the object is placed at focus and center of curvature.
D	Virtual and erect	Diminished	Convex	A convex mirror always forms a virtual and erect image diminished in size.

79. Option (2) is correct.

**Explanation:** When water is filled in a plastic bottle and three identical holes are punched at different levels, the flow of water from these holes can be analysed based on the principles of fluid dynamics and pressure.

Here's the analysis for each statement:

(a) Water from lowest hole comes out with greatest force:

This statement is true. The lowest hole will experience the highest pressure due to the weight of the water column above it. This pressure difference results in water flowing out with the greatest force from the lowest hole.

(b) Water from highest hole comes out with greatest force:

This statement is false. The highest hole will experience the least pressure because it is at the top of the water column. Therefore, water will come out with less force from the highest hole compared to the lower holes.

(c) Water from all holes comes out with equal force:

This statement is false. The force of water flowing out from each hole depends on the pressure at that level, which varies due to the height of the water column above each hole.

(d) Water from lowest hole falls at maximum distance:

This statement is true. Water flowing out with the greatest force from the lowest hole will travel the farthest distance horizontally due to the initial velocity imparted by the higher pressure.

(e) Water from highest hole falls at maximum distance:

This statement is false. Water from the highest hole will have less force and hence will not travel as far horizontally as water from the lower holes.

(f) Water from all holes falls at the same distance:

This statement is false. Due to differences in the force of water flow

from each hole (related to the pressure at different levels), water will not fall at the same distance from all holes.

Therefore, based on the analysis:

Statements (a) and (d) are true regarding the flow of water from the holes:

80. Option (1) is correct.

**Explanation:** The colour of a flame depends primarily on:

(a) Nature of combustible substance: Different elements and compounds emit characteristic colours when they burn due to the excitation and emission of electrons in the flame. For example, copper compounds produce a blue-green flame, while sodium compounds produce a bright yellow flame.

(b) Oxygen supply: The availability of oxygen affects the combustion efficiency and temperature of the flame. For example, when LPG burns, it produces a blue flame in a well-oxygenated surrounding whereas in limited oxygen supply, LPG produces yellow/orange flame.

Both factors, the nature of the combustible substance and the availability of oxygen, collectively determine the colour observed in a flame during combustion.

81. Option (1) is correct.

**Explanation:** To identify alternate conceptions effectively, the teacher needs strategies that provide direct insight into students' understanding through various means. The set of strategies that best accomplish this is: Statement - 1: Diagnostic Questionnaire, Interview, Drawings Here's why:

(a) Diagnostic Questionnaire: Provides structured questions that can reveal students' pre-existing knowledge and misconceptions.

(b) Interview: Allows for in-depth exploration of students' thoughts,

giving the teacher a chance to ask follow-up questions and clarify understanding.

(c) Drawings: Offers a visual representation of students' ideas, which can highlight misconceptions that might not be evident through verbal or written explanations.

These strategies together give a comprehensive view of students' alternate conceptions by combining structured questioning, personal interaction, and visual assessment.

82. Option (4) is correct.

**Explanation:** Let's analyse each observation regarding the reaction of potassium metal with water:

1. Hydrogen gas is evolved: This observation is correct. When potassium metal reacts with water, it produces potassium hydroxide (KOH) and hydrogen gas (H<sub>2</sub>).

2. Pop sound is heard: This observation is correct. The reaction of potassium with water is vigorous and can produce a popping sound due to the rapid evolution of hydrogen gas.

3. Potassium reacts violently with water: This observation is correct. Potassium is highly reactive with water, causing a violent reaction that releases heat and hydrogen gas. This reaction can even cause the potassium metal to ignite or explode.

4. It is endothermic reaction: This observation is not correct. The reaction between potassium and water is highly exothermic, meaning it releases heat energy. The heat released is sufficient to ignite the hydrogen gas produced, which contributes to the violent nature of the reaction.

Conclusion: The observation that is not correct regarding the reaction of potassium metal with water is: It is endothermic reaction.

83. Option (3) is correct.

**Explanation:** The colour changes in acids and bases is as shown below:

Indicator	Colour change in acids	Colour change in bases
Turmeric	No change	A – Reddish brown
China Rose	Dark Pink	B – Green
Phenolphthalein	C - Colourless	Pink
Methyl Orange	D – Orange/Red	Pink

**Note:** Colour change in bases from methyl orange is yellow. In question, it is mentioned pink.

**84. Option (4) is correct.**

**Explanation:** When two sperms from a man fertilise two eggs from a woman, the resulting twins can be categorized as follows:

- (a) May be identical or fraternal: This option is incorrect. Identical twins occur when a single fertilised egg (zygote) splits into two embryos. Each embryo has the same genetic makeup, resulting in identical twins.  
 (b) Always conjoint: This option is incorrect. "Conjoint" typically refers to conjoined or Siamese twins, where identical twins are physically connected to each other. However, not all twins formed from the fertilisation of two eggs by two sperms are conjoined; in fact, it is rare.  
 (c) Identical: This option is incorrect because twins resulting from the fertilisation of two separate eggs by two separate sperms cannot be identical. Identical twins originate from a single fertilised egg that splits into two embryos.  
 (d) Fraternal: This option is correct. Fraternal twins, also known as dizygotic twins, develop from two separate fertilised eggs. Each twin has its own genetic makeup, derived from a different combination of egg and sperm. Fraternal twins can be of the same or opposite sexes and are genetically similar but not identical.

**85. Option (4) is correct.**

**Explanation:** Science as inquiry involves actively exploring and investigating scientific phenomena, asking questions, and seeking evidence-based answers. Among the given options, the one that best illustrates science as inquiry is: Statement 4. Explore factors which affect the rate of germination in gram seeds.

Here's why:

- (a) This activity involves designing experiments, making observations, collecting data, and drawing conclusions based on evidence, which are key components of scientific inquiry.  
 (b) Students will need to formulate hypotheses, test variables, and analyse results, engaging deeply with the scientific process.

The other options are more focused on observation and classification, which are important scientific skills but do not fully encompass the process of inquiry:

- List five uses of coconut tree: This is a recall and listing activity, not an inquiry-based task.
- Observe the types of venation in various leaves: This involves observation and description, but not the full inquiry process.
- Classify the given plants into herbs, shrubs, and trees: This involves classification based on given criteria, which is a part of scientific skills but not complete inquiry.

Therefore, option 4 is the best illustration of science as inquiry.

**86. Option (3) is correct.**

**Explanation:** Let's analyse each statement:

S1: Photosynthesis is an endothermic reaction:

This statement is true. Photosynthesis is an endothermic process because it requires energy (in the form of sunlight) to convert carbon dioxide and water into glucose and oxygen.

S2: Respiration is an exothermic reaction:

This statement is true. Respiration is an exothermic process because it releases energy (in the form of ATP) from glucose and oxygen to produce carbon dioxide and water.

Conclusion: Both S1 and S2 are true:

**87. Option (4) is correct.**

**Explanation:** Inductive reasoning involves making generalizations based on specific observations or experiments. The activity that best suits the development of inductive reasoning is:

Asking students to measure the angle of reflection for various cases of angle of incidence in a plane mirror.

Here's why:

Statement - 4: Measuring angles of reflection for various cases of angle of incidence: This activity involves students making multiple observations and then deriving a general rule (law of reflection) based on their empirical findings. They observe specific instances and induce the general principle that the angle of incidence equals the angle of reflection.

The other options are more aligned with deductive reasoning, application, or recall, rather than inductive reasoning:

- (a) Verify laws of reflection experimentally: This is more about confirming an already known law through experimentation, which is deductive reasoning.  
 (b) Solve numerical problems based on the law of reflection: This involves applying a known law to solve problems, which is also deductive reasoning.  
 (c) Asking students to state laws of reflection: This is a recall activity, not related to inductive reasoning. Therefore, asking students to measure the angle of reflection for various cases of angle of incidence in a plane mirror is the best activity to develop inductive reasoning.

**88. Option (4) is correct.**

**Explanation:** Electronic configuration of A =

K	L	M
2	8	3

Thus, valency of A = 3

K	L	M
2	8	7

Electronic configuration of B =

K	L	M
2	8	7

Thus, valency of B = 1

So, chemical formula = AB<sub>3</sub>

**89. Option (3) is correct.**

**Explanation:** The assertion and reason provided can be evaluated as follows:

Assertion: Adding acid to water is recommended because it minimizes the risk of splashing concentrated acid and causing potential hazards. When water is added to acid, the heat generated can cause the mixture to boil and splash, leading to potential burns or accidents. Therefore, adding acid to water allows for better control and safety during the dilution process.

Reason: Dilution of acid is indeed an exothermic process. When concentrated acid is mixed with water, it releases heat due to the strong interaction between the acid molecules and water molecules, which leads to the liberation of energy in the form of heat.

Thus, the assertion is reasonable because it emphasizes safety practices in handling acids and the reason is also valid because diluting acid is indeed exothermic, releasing heat.

Therefore, both the assertion and reason are correct, and the reason correctly explains why the assertion is recommended.

**90. Option (2) is correct.**

**Explanation:** To identify which statement is not a feature of alternate conceptions in science, let's consider each statement:

1. Ideas are developed from observable features: This is a feature of alternate conceptions. These ideas often stem from students' direct observations and experiences, which might not align with scientific explanations.

2. Ideas do not demonstrate cause and effect reasoning: This is not a feature of alternate conceptions. Alternate conceptions do attempt to explain cause and effect, but the reasoning is often incorrect or incomplete, not completely absent.

3. Ideas are stable: This is a feature of alternate conceptions. Once formed, these ideas tend to be consistent and are held by students over time.

4. Ideas are resistant to change: This is a feature of alternate conceptions. These ideas are often deeply ingrained and not easily altered even when confronted with scientific evidence.

Considering these explanations, the statement that is not a feature of alternate conceptions in science is:

Statement 2: Ideas do not demonstrate cause and effect reasoning.

While alternate conceptions might include cause and effect reasoning, the reasoning is often flawed or not scientifically accurate. The key feature here is that these ideas are developed from observable features, are stable, and resistant to change, rather than inherently lacking cause and effect reasoning.

### Language-I: English

91. **Option (4) is correct.**

**Explanation:** It is clearly stated in the last paragraph of the passage that "news travel fast on social media". Therefore, the correct answer is : News on social media travel fast. Hence, the correct option is (4).

92. **Option (1) is correct.**

**Explanation:** It is correctly said that out of several interesting things , that happened on 15th January 2009, the plane crash was one of them. So statement (a) is correct. It is stated that in the crash, not only the 155 passengers, but also the pilot with the crew escaped the crash. So statement (b) is incorrect. It is partly true that Jim had taken pictures of the event, and recorded it and tweeted it, but he did not post them on Facebook. So statement (c) is incorrect. Thus, the correct answer is : (a) is correct, but (b) and (c) are incorrect. Hence, the correct option is (1).

93. **Option (2) is correct.**

**Explanation:** It is clearly stated in the second paragraph of the passage that the meteor explosion in 2013 in Russia was seen by people on Facebook and YouTube. Hence, the correct option is (2).

94. **Option (3) is correct.**

**Explanation:** In the sentence, 'But social media can change our lives for the better', the word 'lives' is a noun , referring to the existence of an individual human being or animal. While, 'better' is an adverb that is modifying the verb 'change'. Hence, the correct option is (3).

95. **Option (4) is correct.**

**Explanation:** In the given analogy, just as dramatic is very sudden or noticeable, or full of action and excitement; similarly, hoax is a humorous or malicious deception. In other words, the pairs have a synonymous relationship. Hence, the correct option is (4).

96. **Option (2) is correct.**

**Explanation:** First the plane crashed into the Hudson river (c), which was watched and recorded by Jim and later tweeted (a), this resulted in people contacting him for updated news (b). After which the news was broadcast 15 minutes later (d). thus, the correct sequence of events is: (c), (a), (b), (d). Hence, the correct option is (2).

97. **Option (3) is correct.**

**Explanation:** The word 'erroneous' implies 'wrong; incorrect.' The writer implies that news on social media are often true, but sometimes they are deceptive and present inaccurate data. 'Invalid' and 'inaccurate' are synonyms; 'surprising' does not make sense. The correct antonym is 'faultless'. Hence, the correct option is (3).

98. **Option (1) is correct.**

**Explanation:** One should not take news on social media lightly underlines the importance of social media in disbursing news; thus, the writer wants to drive in the point with the examples in the passage that social media can save lives as news through this medium travel fast. In other words, social media can definitely change our lives for the better. Hence, the correct option is (1).

99. **Option (3) is correct.**

**Explanation:** After the plane crash incident in the Hudson river, many ordinary people took to the streets to take photos and videos of the crash and post them online. This is something which is expected of a journalist who prepares news to be broadcast. Thus, the act of posting news bits, pictures and videos on social media, makes these ordinary people journalists. individual human being or animal. While, 'better' is an adverb that is modifying the verb 'change'. Hence, the correct option is (3).

100. **Option (3) is correct.**

**Explanation:** The wind in the poem talks to itself. The wind is pictured to be talking to itself at the top of the hills. Hence, the correct option is (3).

101. **Option (1) is correct.**

**Explanation:** In this poem, the poet describes the beauty and vastness of the Earth. In the first stanza the poet compares the wonderful world to a woman who is wearing a beautiful dress. When the poet looks at himself in the fourth stanza he finds that the world is big and wonderful and he is very small. Hence, the correct option is (1).

102. **Option (1) is correct.**

**Explanation:** The word 'it' in 'it walks on the water' refers to the movement of the wind on the water as when it walks, waves and ripples are created on the water. Hence, the correct option is (1).

103. **Option (3) is correct.**

**Explanation:** In the line, 'in the wonderful water round you curled', 'curled' implies twisted, so 'arched' is the most suitable meaning of the word. Hence, the correct option is (3).

104. **Option (1) is correct.**

**Explanation:** In the first line, "Great, wide, beautiful, wonderful World" , the figure of speech that is evident is alliteration (the repetition of usually initial consonant sounds in two or more neighbouring words or

syllables). Here, the syllables that is repeated is 'w' in 'wonderful World'. In the fourth line, 'World, you are beautifully drest', the poet compares the wonderful world to a woman who is wearing a beautiful dress. This is an example of personification (the representation of a thing or abstraction as a person), where the earth is given a human-like attribute of being dressed. Hence, the correct option is (1).

105. **Option (3) is correct.**

**Explanation:** The Earth is vast, and spread of thousand of miles. It has cities, gardens, cliffs and isles. This makes the poet feel puny when compared to the Earth. Hence, the correct option is (3).

106. **Option (4) is correct.**

**Explanation:** The impact of tests and assessments on teachers and learners and materials is called washback effect. Hence, the correct option is (4).

107. **Option (2) is correct.**

**Explanation:** Communicative language teaching (CLT) is also referred to as the communicative approach, which entails teaching language through communication. It aims to prepare learners to use the language in real-world situations, fostering communicative competence and language proficiency. Direct method is a system of teaching a foreign language using only that language and without emphasis on the study of grammar. A way of teaching in which students study grammar and translate words into their own language is known as the Grammar-Translation method. West's New Method focuses on vocabulary and grammar rules, but does not develop speaking skills. Therefore, the correct pattern is:

- Communicative Language Teaching (CLT)- ii. silent reading
- Direct Method - i. socially acceptable and contextually appropriate language
- Grammar-Translation Method - iv. grammar is taught inductively
- West's New Method - iii. written literary texts

Hence, the correct option is (2).

108. **Option (4) is correct.**

**Explanation:** The school of learning believed that language whether verbal or non-verbal, takes place through the process of habit formation is behaviourist. Behaviourism is a psychological approach that emphasises the role of learning and experience in shaping behaviour. Hence, the correct option is (4).

109. **Option (3) is correct.**

**Explanation:** By bringing everyday objects such as newspapers, menu cards and train tickets to teach students, the language teacher is paving the way for an authentic learning environment . This approach will make the learning experience more meaningful and practical and authentic. Hence, the correct option is (3).



## 110. Option (1) is correct.

**Explanation:** The statement that Sanskrit is a modern Indian language is not true. Sanskrit is an ancient Indo-Aryan language and is not considered a modern Indian language in the same sense as languages like Hindi, Bengali, Tamil, etc. While, Hindi is the lingua franca of the Indian sub-continent. It is true that according to Indian constitution, English is an Associate official language. It can be safely claimed that according to the list of the Eighth schedule of the Indian constitution, there are 22 languages. Hence, the correct option is (1).

## 111. Option (4) is correct.

**Explanation:** Multilingualism in India emphasises the need for teachers to understand and effectively manage the diversity of languages spoken by students. Option (2) contradicts the essence of the theory. While the statement claiming that minority languages must be clubbed with dominant languages captures the core-keeping in mind the cultural and linguistic backgrounds of their students, inclusivity in language is important. Hence, the correct option is (4).

## 112. Option (1) is correct.

**Explanation:** The time and place of a story is typically referred to as the plot. Hence, the correct option is (1).

## 113. Option (2) is correct.

**Explanation:** Listening involves recognising sounds and deducing the meaning from them. This means understanding the information conveyed through the sounds heard. While hearing is the process, function, or power of perceiving sound. Hence, the correct option is (2).

## 114. Option (1) is correct.

**Explanation:** The factor that is not typically considered important in planning a listening session is: gender of speakers. Factors like the number of speakers, pausing the recording for comprehension checks, and the speed of delivery are more directly relevant to ensuring effective listening comprehension and understanding. Hence, the correct option is (1).

## 115. Option (2) is correct.

**Explanation:** Reading and listening involve receiving information and so they are called the receptive skills. Speaking and writing are known as the productive skills because they involve producing words, phrases, sentences and paragraphs. Hence, the correct option is (2).

## 116. Option (3) is correct.

**Explanation:** Lexical items refer to individual words or phrases that form the vocabulary of a language or a particular domain, in this case, the restaurant industry. Therefore, to learn vocabulary related to a restaurant, students must familiarise themselves with lexical items, i.e. the specific words

and phrases that are commonly used in the context of restaurants. Hence, the correct option is (3).

## 117. Option (3) is correct.

**Explanation:** Collaborative learning involves students working together in groups under the guidance of a teacher to achieve common learning goals. Therefore, in a language class, students form groups under the guidance of a teacher and present an advertisement on a given topic. Learning a language in this way is called Collaborative learning. Hence, the correct option is (3).

## 118. Option (4) is correct.

**Explanation:** Prosody is the study of the tune and rhythm, intonation, stress, and vocal pitch variation that characterise speech. It encompasses the expressive aspects of speech that go beyond the literal meaning of words. Hence, the correct option is (4).

## 119. Option (3) is correct.

**Explanation:** Role-playing is a powerful teaching technique that involves students actively participating in simulated scenarios to learn and practice skills in a realistic context. Thus, the given situation where students act as purchasers, property sellers and landlords is a case of roleplay. Hence, the correct option is (3).

## 120. Option (3) is correct.

**Explanation:** Schools should follow additive bilingualism because it promotes the development and enrichment of students' language skills and cognitive abilities in multiple languages. Bilingualism fosters an appreciation for different cultures and perspectives. Thus, promoting both the language and the culture. Hence, the correct option is (3).

### Language-I: Hindi

## 91. विकल्प (1) उचित है।

**व्याख्या—**समाज के बदतर होने की स्थिति अर्थात् समाज की अत्यधिक बुरी स्थिति होना।

## 92. विकल्प (4) उचित है।

**व्याख्या—**गद्यांश के अनुसार साहित्य में मूल्यों के बिखरने की चिन्ता झलकती है क्योंकि साहित्य और समाज का गहरा सम्बन्ध है और साहित्य में समाज के विशृंखलित होते सिद्धान्तों की भी चिन्ता बराबर बनी रहती है।

## 93. विकल्प (1) उचित है।

**व्याख्या—**वही साहित्य कालों के बन्धन 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।

## 94. विकल्प (2) उचित है।

**व्याख्या—**'विश्वास का अर्थ, निश्चित धारणा' है।

## 95. विकल्प (1) उचित है।

**व्याख्या—**'विशृंखलित' में 'इत' प्रत्यय है।

**प्रत्यय—**वे शब्दांश जो किसी शब्द के अन्त में लगकर, उस शब्द का अर्थ परिवर्तित कर दें, उन्हें प्रत्यय कहते हैं।

## 96. विकल्प (2) उचित है।

**व्याख्या—**साहित्यकारों ने समाज की टूटती और बिखरती स्थिति की पहचान करने का प्रयास किया है।

## 97. विकल्प (4) उचित है।

**व्याख्या—**'कालजयी' से तात्पर्य है— जो हर काल में प्रासंगिक हो।

## 98. विकल्प (3) उचित है।

**व्याख्या—**कुछ रचनाकार हमारे साहित्य पटल पर ऐसी गहरी छाप छोड़ते जाते हैं, जिनकी आवश्यकता प्रत्येक युग में बनी रहती है, जिनके विचार सदैव तरोताजा ही रहते हैं और जिनकी रचनाएँ समाज को जागरूक करने का दायित्व निभाती चलती हैं।

## 99. विकल्प (2) उचित है।

**व्याख्या—**साहित्य सदैव समाज को गति प्रदान करता है। क्योंकि साहित्य काल के बंधनों को तोड़कर मानवीय मूल्यों की व्याख्या कर हर युग में समाज को दीप्त करने का दायित्व उठाता है।

## 100. विकल्प (4) उचित है।

**व्याख्या—**संध्या सुन्दरी बादलों से भरे आकाश से उतर रही है। इसके लिए कवि ने इस प्रकार अपने भाव परिलक्षित किए हैं—

“दिवसावसान का समय, मेघमय आसमान से उतर रही है” (मेघमय का शाब्दिक अर्थ है बादलों से भरा।)

## 101. विकल्प (1) उचित है।

**व्याख्या—**'हृदयराज की रानी' संध्या के लिए प्रयुक्त है।

## 102. विकल्प (3) उचित है।

**व्याख्या—**'दिवसावसान' का सन्धि-विच्छेद दिवस + अवसान होना।

**सन्धि-विच्छेद—**जब दो वर्णों के मेल से विकार उत्पन्न होता है उसे सन्धि कहते हैं। वर्णों को अलग करते हुए पदों को विभक्त करना सन्धि-विच्छेद कहलाता है। (यहाँ दिवस के अंतिम वर्ण 'अ' और असवान के प्रथम वर्ण 'अ' की संधि हो रही है— अ + अ = आ यह स्वर संधि के उपभेद दीर्घ संधि का उदाहरण है।)

## 103. विकल्प (3) उचित है।

**व्याख्या—**पद्यांश में प्रकृति का चित्रण हुआ है। पद्यांश में प्रकृति के अनेक घटकों यथा — मेघ आसमान, संध्या, तारा आदि का लालित्यपूर्ण वर्णन हुआ है।

## 104. विकल्प (4) उचित है।

**व्याख्या—**'तारा' के हँसने की बात पद्यांश में की गई है। कवि ने कहा है कि “किन्तु जरा गम्भीर नहीं है उनमें हास-विलास हँसता है तो केवल तारा एक गुँथा हुआ उन चुँघराले काले-काले वालों से हृदयराज की रानी का वह करता है अभिषेक।”

## 105. विकल्प (2) उचित है।

**व्याख्या—**पद्यांश में मानवीकरण अलंकार का प्रयोग अधिक मुखरित है।

**मानवीकरण अलंकार—**जब काव्य में प्रकृति के अचेतन पदार्थों पर मानवीय चेतना का

आरोप किया जाए, तब वहाँ पर मानवीकरण अलंकार मुखरित होता है।

106. विकल्प (1) उचित है।

**व्याख्या**—अध्यापकों, शिक्षार्थियों और सामग्री पर टेस्ट एवं आकलन का प्रभाव कक्षायी प्रभाव कहलाता है क्योंकि सभी गतिविधियाँ कक्षा के भीतर होती हैं।

107. विकल्प (3) उचित है।

**व्याख्या**—भाषा शिक्षण विधियाँ और उनकी समझ या सम्बन्धित गतिविधियाँ इस प्रकार हैं—

(a) सम्प्रेषणात्मक भाषा-शिक्षण—सामाजिक रूप से स्वीकृत और सन्दर्भ 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

108. विकल्प (4) उचित है।

**व्याख्या**—व्यवहारवादी (विहंविपरिस्ट) इस बात में विश्वास रखता है कि मौखिक या अमौखिक भाषा आदत निर्माण की प्रक्रिया के माध्यम से आती है। इससे भाषा में सांस्कृतिक परिवर्तन होता है।

**व्यवहारवादी**—(i) मनुष्य के व्यवहार का अध्ययन करना।

(ii) व्यवहार को आकार देने में बाहरी उत्तेजनाओं पर जोर देना।

**व्यवहारिक शिक्षण मॉडल के लाभ**

- छात्रों के व्यवहार को कुशल बनाने में सहायक।
- छात्रों की क्षमताओं के अनुसार फीडबैक देने में सहायक।

109. विकल्प (3) उचित है।

**व्याख्या**—कक्षा पाँच की भाषा अध्यापक अपनी कक्षा में भाषा शिक्षण के लिए प्रतिदिन अनेक प्रकार की सामग्री जैसे कि समाचारपत्र इत्यादि लाती है। वह अधिगम को और अधिक वास्तविक तथा उपयोगी बनाने के लिए प्रामाणिक सामग्री का प्रयोग कर रही है जिससे छात्रों के मानस पटल पर अंकित हो सके। (रीयलिया)

110. विकल्प (1) उचित है।

**व्याख्या**—भारत में भाषाओं के बारे में सही कथन इस प्रकार हैं—

- भारत के संविधान के अनुसार अंग्रेजी सह राजकीय भाषा है।
- भारत के संविधान की आठवीं अनुसूची के अनुसार-22 भाषाएँ हैं। संस्कृत को शास्त्रीय भाषा का दर्जा दिया गया है और किसी भी आधुनिक भाषा को शास्त्रीय भाषा का दर्जा नहीं दिया जा सकता है।

111. विकल्प (3) उचित है।

**व्याख्या**—भारत में बहुभाषावाद के सन्दर्भ में अध्यापक के लिए यह समझना जरूरी है कि सम्प्रेषण से सामाजिक सम्बद्धता स्थापित होती है।

**बहुभाषावाद के लाभ**

- समृद्ध शब्दावली और प्रभावशाली भाषण
- अन्य संस्कृतियों के प्रति सहिष्णुता और सम्मान

• पराभाषिक जागरूकता

112. विकल्प (1) उचित है।

**व्याख्या**—किसी भी कहानी का समय और स्थान कथानक (प्लॉट) कहलाता है।

113. विकल्प (3) उचित है।

**व्याख्या**—श्रवण में ध्वनि सुनना, ध्वनियाँ जैसी हैं, तदनुसार डिकोड करना शामिल है।

**श्रवण के लाभ—**

- सुनने के कौशल में वृद्धि
- अच्छी समझ विकसित होना
- स्मरण शक्ति में वृद्धि

114. विकल्प (3) उचित है।

**व्याख्या**—किसी श्रवण से जुड़ी गतिविधि की योजना बनाते समय रिकॉर्डिंग को थोड़ा-सा रोकना महत्वपूर्ण नहीं है।

**श्रवण से जुड़ी गतिविधि योजना बनाते समय महत्वपूर्ण बिन्दु का प्रयोग—**

- वक्ताओं का जेन्डर (बोलने वाले महिला है या पुरुष)
- बोलने की गति
- वक्ताओं की संख्या

115. विकल्प (2) उचित है।

**व्याख्या**—भाषा के श्रवण और पठन कौशल ग्राह्य कौशल हैं। छात्र श्रवण और पठन में चीजों को ग्रहण करने का प्रयास करता है।

116. विकल्प (1) उचित है।

**व्याख्या**—एक अध्यापक ने बच्चों को रेस्टोरेंट से जुड़ी शब्दसंपदा से परिचित कराने वाला काम किया। इस पाठ का उद्देश्य अवकाश के दौरान कहीं जाने से सम्बन्धित पाठ्य सामग्री से परिचित करवाना होगा।

117. विकल्प (2) उचित है।

**व्याख्या**—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 निर्देशन और परामर्श कहलाता है।

**शैक्षिक निर्देशन के लाभ—**

- छात्रों बौद्धिक स्तर को बढ़ाने में सहायक
- पाठ्यक्रम को निर्धारित करने में सहायक

118. विकल्प (3) उचित है।

**व्याख्या**—भाषागत कार्य जैसे स्वरशैली, तान, बलाघात और लय को काव्य कहा जाएगा।

119. विकल्प (3) उचित है।

**व्याख्या**—भाषा की कक्षा में एक अध्यापक छात्रों के समूह को ग्राहक, प्रापर्टी डीलर इत्यादि का अभिनय करने के लिए कहती है। इस गतिविधि को 'रोलप्ले' कहा जाएगा।

120. विकल्प (3) उचित है।

**व्याख्या**—विद्यालयों को योगात्मक द्विभाषावाद का अनुसरण करना चाहिए क्योंकि यह बच्चे की संस्कृति और भाषा को महत्व देता है।

**द्विभाषावाद**—इसमें दो भाषाओं में कार्य किया जाता है।

## Language-II: English

121. Option (4) is correct.

**Explanation:** As per the passage, having a sweet tooth means being fond of sweets and chocolates. Hence, the correct option is (4).

122. Option (3) is correct.

**Explanation:** It is mentioned that doctors warn against any form of gene therapy because it deactivates the sweet gene. This gene therapy need not be resorted to because sweet ultimately is a source of energy for our body. Hence, the correct option is (3).

123. Option (4) is correct.

**Explanation:** Doctors are not in favour of any form of gene therapy because it deactivates the sweet gene. This gene therapy need not be resorted to because sweet ultimately is a source of energy for our body, or so called energy boosters. Hence, the correct option is (4).

124. Option (2) is correct.

**Explanation:** The phrase '...initiates a cascade of events' means to start a series of occurrences, and this passes the signal to the brain. Hence, the correct option is (2).

125. Option (2) is correct.

**Explanation:** The statement 'Doctors have favoured gene therapy to control sweet tooth' is incorrect because Doctors are not in favour of any form of gene therapy as they are a source of energy for our body, or hence called energy boosters. Hence (a) is incorrect. Hereditary factors have no role to play in determining sweet tooth is an incorrect assertion, as the contrary claim has been proved. Hence (c) is incorrect. Option (b) is nowhere stated in the passage. Thus, all (a), (b) and (c) are incorrect. Hence, the correct option is (2).

126. Option (1) is correct.

**Explanation:** Chocoholics are people who are fond of chocolates. They are those people who possess the sweet-tooth gene and find it difficult to resist sugary items. Hence, the correct option is (1).

127. Option (4) is correct.

**Explanation:** In the sentence, 'Doctors warn against any form of gene therapy which seeks to deactivate the sweet gene', "against" modifies the verb "warn," indicating opposition or contrary action. Whereas, 'sweet' is an adjective that qualifies the noun 'gene'. Hence, the correct option is (4).

128. Option (1) is correct.

**Explanation:** The given pair of words are synonym- accustomed means habitual. So, 'initiate' means 'start off'. Hence, the correct option is (1).

129. **Option (1) is correct.**

**Explanation:** In the passage, "courtyards jostling together" typically describes a situation where multiple courtyards are closely packed or clustered together, so to say, in close proximity. Hence, the correct option is (1).

130. **Option (3) is correct.**

**Explanation:** It is already stated that walls are made up of stone to waist height; they looked solid; while tin cans lined the window edges. But the statement 'walls are made of mortar and cement' is not mentioned in the passage. Hence, the correct option is (3).

131. **Option (1) is correct.**

**Explanation:** The larger villages boasted of large trees like willows and poplars which look out of place in the treeless landscape. Therefore, the aspect of a treeless landscape contributed to the disarranged appearance of the willows and poplars. Hence, the correct option is (1).

132. **Option (4) is correct.**

**Explanation:** The given pair of words precious and expensive is synonymous in nature. 'Ingenious' implies creative and inventive. Hence, the correct option is (4).

133. **Option (2) is correct.**

**Explanation:** It is clearly stated in the last line of the passage that yak dung is used as a substitute for wood by the Tibetans. Hence, the correct option is (2).

134. **Option (1) is correct.**

**Explanation:** It is mentioned in the passage that wood is a precious item in the highland areas of Tibet, and is never wasted. The items that are piled against each other are the sticks gathered from the mountains. So, both the assertion (a) and reasoning (b) are incorrect. Hence, the correct option is (1).

135. **Option (1) is correct.**

**Explanation:** In the given sentence, "lack" is used as a noun, referring to the absence or deficiency of something. Here, "shape" is used as a noun to refer to the form or outline of something. Hence, the correct option is (1).

136. **Option (3) is correct.**

**Explanation:** Three language formula is a language education policy which promotes the learning of languages in schools with the aim of achieving linguistic diversity and multilingual proficiency among students. It focuses on multi language education, instead of monolingual or bilingual education. Hence, the correct option is (3).

137. **Option (4) is correct.**

**Explanation:** A fable is a moral tale that often features animal characters. While a travelogue is a film, book, or illustrated lecture about the places visited by or experiences of a traveller. Fantasy is a type of story or literature that is set in an imaginary world. Hence, the correct option is (4).

138. **Option (1) is correct.**

**Explanation:** Dyslexia is a specific learning disability that primarily affects a person's ability to read, write, and spell accurately and fluently. Therefore, it is not a writing disorder. Dysgraphia is a specific learning disability that primarily affects writing abilities. So, it is definitely not a reading disorder. Thus, both (a) and (b) are correct. Hence, the correct option is (1).

139. **Option (1) is correct.**

**Explanation:** Using visual devices and language games to teach English aligns closely with **a. the principle of motivation and interest**. These principles emphasise the importance of creating a learning environment that is not only informative but also enjoyable and stimulating. Hence, the correct option is (1).

140. **Option (2) is correct.**

**Explanation:** The incorrect statement about top-down processing is: listeners need to understand every word. In top-down processing, listeners do not necessarily need to understand every word in a sentence to grasp its overall meaning. Instead, they rely on their background knowledge, context, and expectations to fill in gaps and make educated guesses about the intended meaning. Hence, the correct option is (2).

141. **Option (4) is correct.**

**Explanation:** The tool that is not ideal for formative assessment is: paper pencil test. Hence, the correct option is (4).

142. **Option (3) is correct.**

**Explanation:** The assessment conducted through the teaching-learning process to clarify student learning and understanding is called Assessment for learning. Its primary focus is on providing feedback and information to both teachers and students to improve learning outcomes. Hence, the correct option is (3).

143. **Option (3) is correct.**

**Explanation:** The idea that learners should be exposed to language and that errors are evidence that learning is taking place is advocated by behaviourists. Behaviourist approaches to language learning often focus on imitation, repetition, and reinforcement of correct language use. Hence, the correct option is (3).

144. **Option (3) is correct.**

**Explanation:** Creativity in language education is best represented by: open-ended classroom tasks which allow for different interpretations and answers. By offering open-ended tasks, educators foster creativity by allowing students to express themselves freely and interpret language in unique ways. Hence, the correct option is (3).

145. **Option (2) is correct.**

**Explanation:** The tool which allows a lot of synchronous and asynchronous

online teaching opportunities is a Padlet. Padlet is a digital tool that serves as a collaborative platform where users can create digital boards and easily add various types of content, such as text, images, videos, documents, and links. Hence, the correct option is (2).

146. **Option (2) is correct.**

**Explanation:** The statement that is not true about errors in learning language is: errors hinder language learning process. Errors in language learning are not necessarily hindrances; they are often integral to the learning process. Errors are not always bad and help in learning. Errors also help to understand the process of second language acquisition. Hence, the correct option is (2).

147. **Option (1) is correct.**

**Explanation:** The teacher played an audio on the topic "health is wealth," which suggests the lesson involved listening to spoken content. The students were asked to tick the correct option on handouts, indicating an activity where they needed to understand and analyse the information presented in the audio. This aligns with the objective of enabling learners to listen (to the audio) and analyse (the ideas presented in the audio). Hence, the correct option is (1).

148. **Option (1) is correct.**

**Explanation:** International Mother Language Day is observed on February 21st each year. Hence, the correct option is (1).

149. **Option (3) is correct.**

**Explanation:** The type of email written to a colleague who is also a friend is called informal email or a friendly email. This maintains a professional tone while also incorporating a more relaxed and personal style. Hence, the correct option is (3).

150. **Option (3) is correct.**

**Explanation:** Using everyday objects to teach language is called realia. Realia are real-life objects that are used as teaching aids in the classroom to make learning more tangible and relevant to students' everyday experiences. Hence, the correct option is (3).

## Language-II: Hindi

121. **विकल्प (1) उचित है।**

**व्याख्या—**'सिफत' उर्दू भाषा पद्यांश में संध्या को सुदरी कह इंगित करना इसका प्रमाण है। का शब्द है जिसका अर्थ 'विशेषता' है।

122. **विकल्प (1) उचित है।**

**व्याख्या—**'अड़ोस-पड़ोस' को देखकर चलना, से अभिप्राय है कि दूसरों के अनुसार जिन्दगी जीना। गद्यांश में भी कहा गया है कि अड़ोस-पड़ोस को देखकर चलना, यह साधारण जीव का काम है।

123. **विकल्प (4) उचित है।**

**व्याख्या—**'साहस' के होने से व्यक्ति के और बाकी गुण स्वतः पैदा होते हैं। साहस की जिन्दगी सबसे बड़ी जिन्दगी होती है। ऐसी

- जिन्दगी की पहचान यह है कि वह बिल्कुल निडर, बिल्कुल बैकफुट होती है।
124. विकल्प (3) उचित है।  
व्याख्या—जिन्दगी के उस पन्ने को उलटकर पढ़ना चाहिए जिसके सभी अक्षर फूलों से नहीं, कुछ अंगारों से भी लिखे गए हों।
125. विकल्प (2) उचित है।  
व्याख्या—साहसी मनुष्य की पहली पहचान यह है कि वह इस बात की चिन्ता नहीं करता कि तमाशा देखने वाले लोग उसके बारे में क्या सोच रहे हैं। अड़ोस-पड़ोस को देखकर चलना साधारण जीवों का काम है साहसी मनुष्य का नहीं।
126. विकल्प (3) उचित है।  
व्याख्या—गोधूलि में बसने वाले लोगों से अभिप्राय है— विवशता और अभाव में जीने वाले लोग।
127. विकल्प (1) उचित है।  
व्याख्या—'निडर' में प्रयुक्त उपसर्ग 'नि' की अर्थगत विशेषता 'रहित' है।  
उपसर्ग—वे शब्दांश जो किसी शब्द की शुरुआत में लाए जाते हैं, तब उस शब्द में परिवर्तन आ जाता है, उसे उपसर्ग कहते हैं।
128. विकल्प (2) उचित है।  
व्याख्या—'गोधूलि' से तात्पर्य है—संध्या वेला। (दिन समाप्त होते ही गायों के झुण्ड अपने चारगाह से वापस आते हैं। उनके खुरों को उठने वाली धूल प्रकाश को ढकने लगती है, इसी कारण दिन और रात के मिलन की इस वेला को 'गोधूलि' वेला कहते हैं।)
129. विकल्प (3) उचित है।  
व्याख्या—• मनुष्य के आनन्द की सहज अभिव्यक्ति है संगीत।  
• संगीत जीवन की अनमोल धरोहर है।  
• संगीत प्रकृति प्रदत्त कला है।
130. विकल्प (1) उचित है।  
व्याख्या—प्रस्तुत गद्यांश में संगीत कला की बात की गई है।
131. विकल्प (4) उचित है।  
व्याख्या—संगीत के विषय में मुख्य बिन्दु इस प्रकार हैं—  
• संगीतकला का सर्वोच्च स्थान है।  
• संगीत वह ललित कला है जिसमें हम अपने मन की भावनाओं को स्वर और लय के माध्यम से प्रकट कर सकते हैं।
132. विकल्प (2) उचित है।  
व्याख्या—'सार्वभौमिक' शब्द का अर्थ है—सम्पूर्ण जगत में व्याप्त। संगीत एक सार्वभौमिक कला है।
133. विकल्प (2) उचित है।  
व्याख्या—संगीत के विषय में मुख्य बिन्दु इस प्रकार हैं—  
• संगीत केवल हमारा मनोरंजन ही नहीं करता अपितु हमें संस्कारित भी करता है।  
• संगीत हमारे भीतर की अच्छाई को उद्देलित करता है।
134. विकल्प (4) उचित है।  
व्याख्या—संगीत के आनन्द को पाने के लिए सुनने की कला विकसित करनी पड़ती है।
135. विकल्प (3) उचित है।  
व्याख्या—'सर्वोच्च' का सन्धि-विच्छेद 'सर्व + उच्च' है। (सर्व के अन्तिम वर्ण 'अ' के साथ उच्च के प्रथम वर्ण 'उ' की संधि हो रही है— अ + उ = ओ यह स्वर संधि के उपभेद गुण संधि का उदाहरण है।)  
सन्धि-विच्छेद—जब दो वर्णों के मेल से विकार उत्पन्न होता है उसे सन्धि कहते हैं। वर्णों को अलग करते हुए पदों को विभक्त करना सन्धि-विच्छेद कहलाता है।
136. विकल्प (2) उचित है।  
व्याख्या—भारत की 'शिक्षा नीति में भाषा' (त्रिभाषा सूत्र) मातृभाषा आधारित बहुभाषावाद को समुन्नत करने के लिए कहती है।  
त्रिभाषा—इसका अर्थ है तीन भाषाएँ। जिसमें हिन्दी, अंग्रेजी तथा राज्य से सम्बन्धित क्षेत्रीय भाषाओं को शामिल किया गया है।
137. विकल्प (4) उचित है।  
व्याख्या—जन्तुकथा (केवल) में मुख्य पात्र पशु होते हैं और इसमें नैतिक मूल्यों को उभारते हैं।
138. विकल्प (1) उचित है।  
व्याख्या—• पठन और उससे सम्बन्धित कौशलों में होने वाली समस्याओं को 'डिस्लैक्सिया' कहते हैं।  
• लेखन और उससे सम्बन्धित कौशलों में होने वाली समस्याओं को 'डिस्ऑफिया' कहते हैं।
139. विकल्प (2) उचित है।  
व्याख्या—रीता सातवीं कक्षा के विद्यार्थियों को अंग्रेजी पढ़ाने के लिए दृश्य उपकरण और भाषा खेल खिलौने हैं। रीता जीवन से सम्बद्धता के सिद्धान्त का अनुपालन कर रही है।
140. विकल्प (2) उचित है।  
व्याख्या—शीर्ष अधोमुखी प्रक्रिया (टॉप डाउन) के बारे में मुख्य बिन्दु इस प्रकार हैं—  
• सुनने वाले संसार के बारे में प्राप्त ज्ञान का प्रयोग करते हैं।  
• सुनने वाले अपने पूर्व ज्ञान पर निर्भर होते हैं।  
• सुनने वाले जो सुनना चाहते हैं उसके बारे में अनुमान लगाते हैं।
141. विकल्प (4) उचित है।  
व्याख्या—रचनात्मक आकलन के लिए लिखित परीक्षा उपकरण उपयुक्त नहीं है।  
रचनात्मक आकलन के उपयुक्त उपकरण—  
• परियोजना  
• कक्षा प्रस्तुतीकरण  
• प्रदत्त कार्य  
• समूह चर्चा  
• मौखिक प्रश्न
142. विकल्प (4) उचित है।  
व्याख्या—विद्यार्थियों के अधिगम और समझ में स्पष्टता लाने के लिए समूची शिक्षण अधिगम प्रक्रिया के दौरान किया जाने वाला आकलन अधिगम का आकलन है।
143. विकल्प (3) उचित है।  
व्याख्या—शिक्षार्थियों को समृद्ध भाषायी परिवेश मिलना चाहिए और गलतियाँ इस बात पर साक्ष्य हैं कि अधिगम हो रहा है। यह व्यवहारवादी द्वारा अनुशासित है।
144. विकल्प (3) उचित है।  
व्याख्या—खुले अन्त वाले कक्षाईय प्रदत्त कार्य जिनकी भिन्न-भिन्न व्याख्याएँ हो सकती हैं और भिन्न-भिन्न उत्तर निकल सकते हैं। यही भाषा शिक्षा में रचनात्मकता है।  
मुख्य बिन्दु—• सृजनशीलता का विकास  
• स्वतन्त्र विचार प्रस्तुत करने में सहायक
145. विकल्प (1) उचित है।  
व्याख्या—टेलीविजन उपकरण समक्रमिक और अतुल्यकालिक ऑनलाइन शिक्षण अवसरों की उपलब्धता देता है।
146. विकल्प (3) उचित है।  
व्याख्या—गलतियाँ भाषा अधिगम प्रक्रिया में अवरोध पैदा नहीं करती हैं।  
मुख्य बिन्दु—• गलतियाँ भाषा अधिगम प्रक्रिया का महत्वपूर्ण पहलू हैं।  
• गलतियाँ हमेशा बुरी नहीं होती हैं।  
• गलतियाँ अधिगम में मदद करती हैं।  
• गलतियाँ द्वितीय भाषा अर्जन की प्रक्रिया को भी समझने में मदद करती हैं।
147. विकल्प (1) उचित है।  
व्याख्या—सर्वप्रथम कक्षा में ऑडियो रिकॉर्डिंग सुनाई गई। उसके बाद वर्कशीट बाँटी और कहा कि दिए गए विकल्पों में सही उत्तर पर निशान लगाएँ। इस प्रक्रिया से विद्यार्थियों को इस योग्य बनाया जाता है कि वे विचार बिन्दुओं को सुनकर विश्लेषण कर सकें।
148. विकल्प (1) उचित है।  
व्याख्या—अन्तर्राष्ट्रीय मातृभाषा दिवस इक्कीस फरवरी को मनाया जाता है। जिसका उद्देश्य दुनिया भर में मातृभाषा का संरक्षण और उसके विषय में जागरूकता बढ़ाना है।
149. विकल्प (3) उचित है।  
व्याख्या—अपने सहयोगी को अनौपचारिक ई-मेल लिखा जाता है।
150. विकल्प (3) उचित है।  
व्याख्या—भाषा शिक्षण के लिए प्रतिदिन काम में आने वाली सामग्री का प्रयोग करना वास्तविक वस्तुएँ (रीयलिया) कहलाता है।  
मुख्य बिन्दु—• वास्तविक वस्तुएँ जीवन में सम्बन्धित होती हैं।  
• वास्तविक वस्तुओं से छात्रों के ज्ञान में वृद्धि होती है।