Time: 2 hours 30 mins.   **Total Marks: 150**

Child Development and Pedagogy

1. What is meant by 'sensitive period' in child development?
   (1) Period concerning a rapid advances only in cognition and learning.
   (2) Optimal period for development of specific capabilities.
   (3) Period in which development of only language can be accelerated.
   (4) Period at which physical growth is at its peak.

2. Cephalo–Candal principal of development states that—
   (1) development proceeds from head to toe.
   (2) development proceeds from centre to extremities.
   (3) development proceeds from toe to head.
   (4) development proceeds from extremities to the centre.

3. Thought becomes abstract and idealistic during the period of –
   (1) Infancy   **(2)** Early childhood
   (3) Middle childhood   **(4)** Adolescence

4. Rearranging schemas, linking them with other schemas to create a strongly interconnected cognitive system in Piaget's theory is referred to as
   (1) Assimilation.   **(2)** Accommodation.
   (3) Organization.   **(4)** Maturation.

5. Children in .... stage can solve problems mentally but the problems themselves have to be related to materials and not symbols.
   (1) formal operational
   (2) concrete operational
   (3) sensori – motor
   (4) pre-operational

6. Socio-constructivist theorist consider the child as:
   (1) a blank slate
   (2) passive recipients of knowledge
   (3) active beings involved in creation of knowledge.
   (4) miniature adults.

7. Encouraging dialogue among students and providing scaffolding are examples of:
   (1) creating a zone of proximal development.
   (2) conditioning of responses.
   (3) positive reinforcement.
   (4) transfer of learning.

8. Who proposed that new knowledge is constructed is a zone between what the child knows and what she is capable of knowing with support?
   (1) Lev Vygotsky   **(2)** Jean Piaget
   (3) Howard Gardner   **(4)** Ivan Pavlov

9. Which of these situations is illustrative of a child-centred classroom?
   (1) A class in which the students are sitting in groups and the teacher takes turns to go to each group.
   (2) A class in which the behaviour of students is governed by the rewards and punishment the teacher would give them.
   (3) A class in which the teacher dictates and the students are asked to memorise the notes.
   (4) A class in which the students do whatever they want while the teacher watches them silently.

10. The idea of ideal reciprocity as exhibited in the Golden Rule is the key characteristics of which stage of moral development according to Kohlberg?
   (1) Social order orientation
   (2) Social contract orientation
   (3) Universal ethical principles
   (4) Good boy–good girl orientation

11. Intelligence is .... according to Howard Gardner.
   (1) a positive change in behaviour
   (2) a negative change in behaviour
   (3) the ability to produce original products
   (4) a set of several distinct abilities

12. **Assertion (A) :** Teachers should follow standardized curriculum, pedagogy and methods of assessment.
   Reason (R) : Educational systems should ignore and dismiss individual differences among the children.
   (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
   (2) Both (A) and (R) are true but (R) is not the correct explanation of (A).
   (3) (A) is true but (R) is false.
   (4) Both (A) and (R) are false.

13. Encouraging girls to take up languages and arts and discouraging them to take up mathematics and science is an example of:
   (1) gender equity   **(2)** gender constancy
   (3) gender discrimination   **(4)** gender empowerment

14. Which of the following statements correctly describes the relationship between language and thought as per the socio-constructivist perspective?
   (1) Language determines thought.
   (2) Thought is governed and directed by language.
   (3) Relationship between language and thought is bi-directional.
   (4) Language and thought are independent cognitive capabilities.

15. To ensure focus on 'assessment for learning' rather then 'assessment of learning' it is important to include:
    (i) Self – assessment
    (ii) Peer– assessment
    (iii) Quantitative feedback
    (iv) Comparisons between students on quantitative parameters
    (1) (iii), (iv)　　　　(2) (i), (ii), (iii)
    (3) (ii), (iii), (iv)　　(4) (i), (ii), (iii), (iv)

16. Which of the following practice promotes inclusion in education?
    (1) Corporal punishment to students
    (2) Learning for competitive exams
    (3) Respect for diversity
    (4) Standardized curriculum

17. Which of the following disability causes challenges in paying attention and sustaining long duration involvement in tasks?
    (1) Attention Deficit Hyperactivity Disorder
    (2) Dysgraphia
    (3) Dyslexia
    (4) Visual Impairment

18. In a class having learners from various linguistics identities, a teacher should practice:
    (1) Multilingualism　　(2) Segregation
    (3) Labelling　　　　　(4) Stereotyping

19. Use of multimedia for communication will help inclusion of:
    (i) students with intellectual difficulties
    (ii) students with giftedness
    (iii) students with Autism
    (iv) students with Dyslexia
    (1) (i)　　　　　　　(2) (ii), (iii)
    (3) (i), (ii), (iv)　　(4) (i), (ii), (iii), (iv)

20. Which of the following is a correctly matched pair of appropriate accommodation strategy for inclusion of students with specific disability?
    (1) Dyscalculia: Prohibition of use of calculator
    (2) Dyslexia: Giving long essays to be written
    (3) Visual impairment: Providing read-to-text software
    (4) Autism: Increasing visual overload

21. Which of the following does not facilitate students' thinking?
    (1) Active involvement　(2) Meaningful activities
    (3) Passive listening　　(4) Social participation

22. .... opportunity of hands-on activities is likely to .... learning among students.
    (1) Avoiding, improve　　(2) Facilitating, improve
    (3) Presenting, stagnate　(4) Preventing, enhance

23. Which of the following is correct in context of learning?
    (1) Students learn best when they participate in activities that are related to their context
    (2) Students learn best when they participate in activities that are not related to their context
    (3) Students learn best when they participate in meaningless activities
    (4) Students learn best when they participate in mechanical activities

24. While introducing a new topic, a teacher should ask questions which:
    (1) are from the domains completely unfamiliar from students.
    (2) are much beyond their cognitive abilities.
    (3) has not relation with the topic to be taught.
    (4) relates the topic to be studied with what students already know.

25. Socio-cultural context of students:
    (1) has minimal role in the learning process
    (2) has no role in the learning process
    (3) plays a significant role in the learning process
    (4) should be ignored in the learning process

26. A teacher intends to facilitate reflective skills among her students. This can be done by:
    (1) Asking students to copy the content written on board.
    (2) Encouraging students to ask themselves questions about their understanding.
    (3) Giving a passage to students for rote – memorization.
    (4) Shaping the students' behaviour using stimulus –response associations.

27. A teacher should:
    (1) discourage students to identify their errors themselves
    (2) ignore misconceptions carried by students
    (3) strengthen students' misconceptions.
    (4) scaffold students to correct their errors themselves.

28. A student is felling very nervous and having high anxiety before the exam. His emotional state is likely to
    (1) cause internal motivation for performance.
    (2) have no impact on his performance in exam.
    (3) improve his performance in exam.
    (4) negativity impact his performance in exam.

29. Which of following is a correctly matched pair of a source of motivation and the type of motivation?
    (1) Curiosity – Intrinsic motivation
    (2) Appreciation from peers – Intrinsic motivation
    (3) Praise of teacher – Intrinsic motivation
    (4) Trophy in match – Intrinsic motivation

30. Which of the following will **not** facilitate understanding of a concept?
    (1) Asking students to copy the answers from the notes given by teacher.
    (2) Asking students to explain that concept in their own words.
    (3) Asking students to frame principles from specific examples.
    (4) Asking students to generate analogies between different conditions.

Mathematics and Science

31. The sum of the LCM and HCF of 198, 135 and 108 is:
    (1) 2979　　　　(2) 3966
    (3) 5949　　　　(4) 4464

32. The value of $\dfrac{\sqrt{450}}{\sqrt{338}} \div \dfrac{\sqrt{125}}{\sqrt{245}}$ is:

    (1) $\dfrac{14}{13}$ (2) $\dfrac{13}{25}$

    (3) $\dfrac{21}{13}$ (4) $\dfrac{91}{75}$

33. If $a = \dfrac{5}{11}$ and $b = \dfrac{3}{7}$, then $(a + b)^{-1} \times (a^{-1} + b^{-1})$ is equal to

    (1) $\dfrac{15}{77}$ (2) $\dfrac{68}{15}$

    (3) $\dfrac{15}{68}$ (4) $\dfrac{77}{15}$

34. Which of the following is/are **Not** true about natural numbers?
    (a) Every prime number is an odd number.
    (b) All even numbers are composite numbers.
    (c) The sum of two prime numbers is always an even number.
    (d) If an even number is divided by 2, the quotient is always odd.
    (1) Only (c)   (2) Only (d)
    (3) All (a), (b), (c) and (d) (4) Only (a) and (d)

35. Identify the correct statement:
    (1) For any two integers, a and b, $a \times (-b)$ is always negative.
    (2) Difference of two negative integers cannot be positive.
    (3) Product of a negative integer with another negative integer will give an integer smaller than both the integers.
    (4) Product of a negative with a positive integer will be an integer less than 0.

36. The area of a rhombus shaped field is 5880 m² and of its diagonal is 70 m. What is the side (in m) of the field?
    (1) 84   (2) 91
    (3) 63   (4) 98

37. The area of a square with side x units is double the area of a triangle with base x units. Then, the altitude of the triangle is:

    (1) $\dfrac{x}{2}$ units   (2) x units

    (3) $2x$ units   (4) $4x$ units

38. The total surface area of a solid right circular cylinder is 3.52 m² and the radius of its base is 0.35 m. The height of the cylinder is: $\left(\text{Take } \pi = \dfrac{22}{7} \right)$

    (1) $\dfrac{5}{4}$ m   (2) $\dfrac{5}{2}$ m

    (3) $\dfrac{7}{4}$ m   (4) $\dfrac{7}{2}$ m

39. Numbers 12, 13, 14, ..., 40, 41 are written on different slips, one number on one slip. These slips are put into a bag. Radha takes out one slip from the bag without looking into the bag. What is the probability that the slip drawn by her is **Not** a prime number?

    (1) $\dfrac{4}{5}$ (2) $\dfrac{7}{10}$

    (3) $\dfrac{11}{15}$ (4) $\dfrac{23}{30}$

40. The mean of some observations is 54. If each observation increased by 8 and its sum is divided by 2, then what is the mean of the resulting observations?
    (1) 27   (2) 31
    (3) 35   (4) 62

41. What is the product of $9x^2 + 4y^2$, $3x + 2y$ and $3x - 2y$?
    (1) $18x^4 + 16y^4$ (2) $27x^2 - 64y^4$
    (3) $81x^4 + 16y^4$ (4) $81x^4 - 16y^4$

42. $\dfrac{a^2 - b^2 + a(a + b)}{a(a - b) + b(a - b)}$, $a \neq b$, is equal to

    (1) $\dfrac{a - 2b}{a - b}$ (2) $\dfrac{2a - b}{a + b}$

    (3) $\dfrac{2a - b}{a - b}$ (4) $\dfrac{a - 2b}{a + b}$

43. If $y - \dfrac{y - 1}{2} = 1 - \dfrac{y - 2}{3}$; then what is the value of $\dfrac{5y + 7}{2}$?

    (1) $3\dfrac{1}{2}$ (2) $8\dfrac{1}{2}$

    (3) 6   (4) 7

44. Subtracting $x^2 - x - 19$ from the sum of $3x^2 - 8x + 11$ and $-6x^2 + 12x + 17$, we get
    (1) $4x^2 + 5x + 9$ (2) $4x^2 - 5x + 47$
    (3) $-4x^2 + 5x - 9$ (4) $-4x^2 + 5x + 47$

45. The selling price of a toy is ₹1020. If the profit made by the shopkeeper is 20%, then the cost price of the toy is
    (1) ₹720   (2) ₹750
    (3) ₹800   (4) ₹850

46. Which of the following triangle(s) has/have no line of symmetry?
    (1) Equilateral triangle only
    (2) Isosceles triangle only
    (3) Scalene triangle only
    (4) Both scalene triangle and isosceles triangle

47. ABCD is a rhombus in which $\angle BAC = 50°$, then $3\angle D - 2\angle DAC$ is equal to
    (1) 120°   (2) 140°
    (3) 150°   (4) 160°

48. ABC and DBC are two triangles formed on the same base BC and on the same side of it. If AC = DB and AB = DC, then which of the following is correct?
    (1) $\triangle ABC \cong \triangle CBD$ (2) $\triangle ABC \cong \triangle DCB$
    (3) $\triangle ABC \cong \triangle DBC$ (4) $\triangle ABC \cong \triangle BCD$

49. Side BC of a triangle ABC is produced to a point D. If $\angle A = 40°$ and AC = BC, then $2\angle ACD + 3\angle B$ is equal to
    (1) 280°   (2) 260°
    (3) 240°   (4) 220°

50. Sum of the two vertically opposite angles x and y is 80°. If z is the complement of angle y, then $3x - y + z$ is equal to
    (1) 110°
    (2) 120°
    (3) 130°
    (4) 150°

51. Which one of the following statement is <u>NOT</u> true about the five steps of the Mathematisation?
    (1) Identifying the real problem in the context.
    (2) Memorising an algorithm.
    (3) Solving meaningful mathematical problems.
    (4) Making sense of mathematical solutions in real life.

52. Mathematical concepts form a complex web of connections in which new concepts and previously learnt concepts are inter connected.
    Which of the following statements most appropriately describes this?
    (1) Fraction must be taught before whole numbers
    (2) Multiplication and division must precede addition and subtraction
    (3) Number concepts and patterns are building blocks to algebraic thinking
    (4) Proportional Reasoning does not involve algebraic thinking

53. Which of the following is indicative of mathematics classroom based on Social Constructivist framework?
    (1) A teacher demonstrating the use of dienes block.
    (2) Students responding to a quiz by raising hands.
    (3) Students working independently with Geoboards.
    (4) Students working in collaboration on a project.

54. A teacher poses the following problem of algebra to her class:
    "Does the graph $x = y^2$ ever intersect the graph of $x = y^2 + 2$? What are the different ways you would use to test your conjecture? Would your conjecture hold true for other equations of the form $x = y^2 + b$."
    Which of the following statement/statements is/are correct in the given context?
    (a) One of the learning outcomes of posing this questions is comparison and analysis of quadratic equations.
    (b) Teacher should focus only on getting the solution that the two graphs will not intersect.
    (c) The teacher can assess the reasoning skills of students.
    (d) Such questions confuse the students and hence should be discouraged in a mathematicians classroom.
    Choose the correct option:
    (1) (a) and (c)
    (2) only (d)
    (3) only (b)
    (4) (a) and (b)

55. For assessing the performance of students in mathematics over a period of time, Mr. Raju has collected exemplary works of his class VIII students which includes assignments, project reports, homework, models, unit tests and class tests, etc.
    The assessment strategy used by Mr. Raju is a
    (1) Cumulative reward
    (2) Anecdotal reward
    (3) Portfolio
    (4) Rubrics

56. The definition "Mathematics is a way to settle in the mind, a habit of reasoning" is given by ....
    (a) Locke
    (b) Galileo
    (c) Bruner
    (d) Napolean

57. While making a lesson plan on introducing Data handling, a middle school mathematics teacher thought of formulating a four-step process for Data handling.
    The four-steps are given in random order.
    (a) Collecting the data
    (b) Interpreting the results
    (c) Formulating the questions
    (d) Analysing the data
    Which of the following represents the correct order of process?
    (1) (a), (c), (d), (b)
    (2) (c), (d), (a), (b)
    (3) (c), (a), (d), (b)
    (4) (a), (d), (b), (c)

58. After teaching the topic "Congruence of 2D figures", a middle school teacher starts a discussion with the students to assess their understanding of the topic During the discussion, one of the students said, 'Two regions having same area are also congruent'.
    Which of the following statements is correct with respect to student's response?
    (1) Student's generalisation is correct.
    (2) Student's generalisation is correct for quadrilaterals.
    (3) Such responses need to be ignored by the teacher.
    (4) Student's misconception needs to be addresed by the teacher.

59. While teaching in a mathematics class, a teacher gives the statement "Common Divisor of two integers is a number which divides both the given integers". The statement is a
    (1) Proposition
    (2) Definition
    (3) Axiom
    (4) Open sentence

60. A teacher folds a square sheet of paper into half and punches a hole in the folded sheet of paper. She then unfolds the paper. Which of the following topics she can teach with this activity?
    (1) Symmetry and volume
    (2) Volume and fraction
    (3) Symmetry and fraction
    (4) Surface area of a square

61. Which of the following are characrteristic features of trees in mountain range?
    (A) sloping branches
    (B) needle like leaves
    (C) waxy, thick stem
    (d) long penetrating roots
    (1) A & B
    (2) B & C
    (3) C & D
    (4) A & C

62. Read the following statements and choose the correct option
    Assertion: Water boils easily at low altitude regions like sea shore.
    Reason: Atmospheric pressure is less at lower altitudes.
    (1) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.
    (2) Both Assertion and Reason are correct but Reason is not the correct explanation of the Assertion.
    (3) Assertion is correct but Reason is false.
    (4) Both Assertion and Reason are false.

63. Which of the following statement is true when a ray of light travels from air into oil?
(1) The speed of light decreases and the ray bends towards the normal.
(2) The speed of light increases and the ray bends away from the normal.
(3) The speed of light increases and the ray bends towards the normal.
(4) The speed of light decreases and the ray bends away from the normal.

64. Which of the following represents set of contact forces?
(1) electrostatic force, force of friction, magnetic force
(2) muscular force, force of friction, gravitational force
(3) drag, muscular force, force of friction
(4) gravitational force, electrostatic force, drag

65. A magnet is broken into two pieces. If these two pieces are brought closer to each other, they will
(1) attract each other.
(2) repel each other.
(3) may attract or repel.
(4) neither attract nor repel.

66. During a class experiment, a teacher took two objects and immersed them in water. She recorded the readings using a spring balance as shown below:

Object	Wt. of Stone in Air (Newton)	Wt. of Stone in Water (Newton)	Weight of Liquid displaced (Newton)	Buoyant Force acting on body (Newton)
A	92	X	16	Y
B	Q	70	Z	10

Which of the following is correct?
(1) X-108, Y-108, Z-10, Q-80
(2) X-108, Y-16, Z-80, Q-80
(3) X-76, Y-16, Z-10, Q-80
(4) X-76, Y-16, Z-80, Q-10

67. Consider the following statements and choose the CORRECT one.
Statement (S1): Rising sun is not considered as an appropriate guide to locate direction in all seasons.
Statement (S2): Point of sunrise changes continuously.
Statement (S3): During Summer Solstice, the point of sunrise shifts towards North.
Statement (S4): During Winter Solstice, the point of sunrise shifts towards South.
(1) S1, S3   (2) S1, S2
(3) S1, S2, S3   (4) S2, S3, S4

68. There are three test tubes A, B and C, all having colorless liquid of equal volume and strength. A drop of phenolphthalein is added to each of them. It is observed that test tubes A and B remain colorless while C becomes pink. When the pink solution of C is added to A and B, it is observed that A remains colorless but B attains pink colour. Which of the following is correct inference?
(1) A = Strong Acid; B = Strong Base; C = Weak Acid
(2) A = Weak Acid; B = Strong Acid; C = Strong Base
(3) A = Strong Acid; B = Weak Acid; C = Strong Base
(4) A = Strong Acid; B = Weak Acid; C = Weak Base

69. Which of the following pairs can be utilised as acid-base indicator?
(1) Red cabbage leaves and turmeric
(2) Salt and turmeric
(3) Banana leaves and cabbage leaves
(4) Lemon juice and turmeric

70. Rita wanted to store the pickles in a container. The best container for this purpose can be
(1) Aluminium   (2) Glass
(3) Copper   (4) Brass

71. A material M was heated in a spoon and immediately put in a gas jar and was covered. Small amount of water was added to the jar and the solution was tested with blue litmus paper. The paper turned red. Material 'M' could be
(1) Sodium   (2) Aluminium
(3) Magnesium   (4) Sulphur

72. Read the following statements and choose correct option.
Assertion (A): Cellulose rich food substances are good source of roughage for human beings.
Reason (R1): Cellulose gets absorbed and converted into fibres during digestion.
Reason (R2): The cellulose digesting bacteria convert cellulose into fibres.
(1) A is true and R1 is correct explanation for A
(2) A is true and R2 is correct explanation for A
(3) A is false and R1 is true
(4) A is false and R2 is true

73. Which of the following do not contain any enzymes?
(1) Bile juice   (2) Pancreatic juice
(3) Gastric juice   (4) Salivary juice

74. Two containers A and B contain 50 gm of ice at 0°C and 50 gm of water at 0°C respectively. If both the containers are kept in the freezer of a refrigerator and allowed to reach thermal equilibrium, which of the following statements will be true?
(1) A will lose more heat than B
(2) B will lose more heat than A
(3) Both A and B will lose equal heat
(4) Which of them will lose more heat cannot be determined

75. The type of joint in elbow of our forelimb undergoes similar movement as of the door joint of the house. Which joint is this?
(1) Ball and socket joint   (2) Pivotal joint
(3) Hinge joint   (4) Fixed joint

76. Deficiency of which vitamin leads to excessive bleeding from a woud?
(1) C   (2) B complex
(3) D   (4) K

77. Light enters from air into the following media successively and finally emerges.

Medium	Refractive Index
A	1.5
B	1.26
C	1.33
D	1.0
E	2.0

Which of the following is the correct sequence about the change in the velocity of light?
   (1) decrease, increase, decrease, increase, decrease, increase
   (2) increase, decrease, increase, decrease, increase, decrease
   (3) decrease, increase, increase, decrease, increase, decrease
   (4) increase, decrease, increase, increase, decrease, increase

78. What is the correct answer to explain the mechanism of inhalation during breathing in human beings?
   (1) Air moves in, Ribs move in and Diaphragm moves down
   (2) Air moves out, Ribs move out and Diaphragm moves up
   (3) Air moves out, Ribs move out and Diaphragm moves down
   (4) Air moves in, Ribs move out and Diaphragm moves down

79. A man having a blood group A marries a woman with a blood group B. The blood group of their son/daughter could be
   (1) Only A
   (2) Only B
   (3) Either A or B
   (4) Either A, B, O or AB

80. Read the following statements and choose correct option.
   Assertion (A): We hear a louder sound when a table is hit hard than when we hit it softly.
   Reason (R1): Loud sound can travel large distance as it is associated with higher energy.
   Reason (R2): Loud sound has more frequency than soft sound.
   (1) Both R1 and R2 are correct and R2 is correct explanation for A
   (2) Both R1 and R2 are correct and R1 is correct explanation for A
   (3) Only R1 is true and correct explanation for A
   (4) Only R2 is true and correct explanation for A

81. According to the National Curriculum Framework (NCF)-2005, which of the following is not an objective of science teaching at the upper-primary stage?
   (1) Using systematic experimentation as a tool to discover/verify theoretical principles.
   (2) Learning concepts of science through familiar experience.
   (3) Working with hands to design simple technological units and modules.
   (4) Doing activities and experiments to arrive at scientific concepts.

82. Which of the following is the most accurate description of scientific laws?
   (1) Scientific laws are descriptions of the relationships between observable phenomena.
   (2) Scientific laws are products of strong scientific theories.
   (3) Scientific laws have a higher status than scientific theories.
   (4) Scientific theories are more legitimate products of science than scientific laws.

83. A teacher poses the following question to her class VII students.
   "Which is heavier – 1kg of cotton or 1kg of iron"?
   She finds that a large number of students think that 1kg of iron is heavier than 1kg of cotton. Which of the following strategies would be the least useful in addressing this idea?
   (1) Defining the concept of density
   (2) Demonstration of the equivalence of the two by scales
   (3) Providing opportunity to handle & weigh cotton balls and iron blocks of different sizes
   (4) Explanation of the difference between heaviness and density

84. Research tells us that children come to formal science learning with many prior ideas that do not match with the scientific explanations. Which of the following is NOT true in respect of these ideas?
   (1) They are based on everyday experiences
   (2) They can be easily changed
   (3) They influence children's school learning
   (4) Even adults can hold these ideas

85. What according to social constructivism, is the most crucial teaching strategy for helping students construct a meaningful understanding of science?
   (1) Frequently conducting activities for students using activity guides
   (2) Asking students to prepare models to demonstrate scientific ideas
   (3) Encouraging students to solve good number of numerical problems
   (4) Helping students in talking, thinking, arguing and writing about science

86. Which of the following would be least helpful for assessing the thought processes or ideas of science learners?
   (1) Asking students to prepare a chart/poster for exhibition/display
   (2) Posing questions to students in a one-on-one conversation
   (3) Interviewing students intensively
   (4) Asking students to depict their processes through concept–maps/diagrams/sketches

87. Which of the following is best suited for testing a hypothesis in science?
   (1) Observation
   (2) Experimentation
   (3) Group Discussion
   (4) Problem Solving

88. A student says that substances such as flour and salt are 'liquid' because they take the shape of the

container in which they are put. What would be your response to the student's claim?
- **(1)** A material that is 'liquid' has no fixed shape, it takes the shape of the container it is poured into. So, salt and flour are liquids.
- **(2)** They are solids because even though a whole mass of tiny grains of flour or salt does not have a definite shape, each individual grain does.
- **(3)** Flour and salt are not liquids because they do not exhibit the wetting property but they are fluids because they 'flow'.
- **(4)** The definition of a 'solid' is incomplete as it does not accommodate substances such as flour and salt.

89. Which of the following strategies can provide the most meaningful clarification on the concept of scattering of light?
- **(1)** Chart showing a scattering of light.
- **(2)** Animated video showing scattering of light
- **(3)** Observing scattering of light on a colloidal solution by the learners
- **(4)** Focus group discussion

90. Which of the following is NOT a characteristic of a constructivist science classroom?
- **(1)** Students discussing various ways of solving a numerical problem
- **(2)** Teacher ignoring students' erroneous responses
- **(3)** Teacher listening to students' conversations during a field trip
- **(4)** Students planning for an investigation

Language: English

Directions (91 to 99): *Read the passage given below and answer the question/complete the statement that follow by choosing the correct options from the given ones.*

1. Cyclic to work may seem the healthy options, but a study has shown that people riding in cities inhale tens of millions of toxic nanoparticles with every breath, at least five times more than drivers or pedestrians.

2. The research showed that urban concentrations of nanoparticles, which measure just a few millions of a millimetre, could reach several hundred thousand in a cubic centrimetre of air. The particles, when inhaled, have been linked to heart disease and respiratory problems.

3. Because they are exerting themselves, cyclists breathe harder and faster than other road users. The study found that they suck in about 1,000 cubic cm with each breath, meaning they may inhale tens of millions of particles each time they fill their lungs, and billions during a whole journey.

4. "This is the first time anyone has counted the parrticles while also measuring people's breathing during city commuting. It showed that cyclists can inhale an astonishing number of pollutant particles in one journey.

5. For the research, Int Panis and his colleagues asked cyclists to pedal while wearing a mask fitted with instruments that could count the particulates, as the particles are known.

6. The reserchers found that in Brussels the cyclists inhaled 5.58 million nanoparticles for every metre cycled, dropping to 1.1 million when they tried the

experiment in Mol, a smaller town in Belgium. They also found that the cyclists inhaled 4.5 times more particles than a car passenger driven along the same route.

91. Why is 'cycling to work' not a healthy option?
- **(1)** It is time consuming.
- **(2)** It is very tiring.
- **(3)** A cyclist inhales toxic nanoparticles.
- **(4)** It is not safe because of heavy traffic on the road.

92. Cyclists are more prone to respiratory problems because they:
- **(1)** are on the road for long stretches of time.
- **(2)** are most of the time not commuting in the cities.
- **(3)** are inhaling plenty of pollutant particles.
- **(4)** they are not wearing a mask.

93. Read the following statements:
- **(A)** Nano particles are very small in size.
- **(B)** Nano particles travel very fast.
- **(C)** Nano particles can cause a fatal disease like cancer.

Choose the correct option from the following
- **(1)** A and B are true but C is false
- **(2)** A and B are false but C is true
- **(3)** A and C are true but B is false
- **(4)** B and C are true hut A is false

94. The pollutant particles present in air can cause diseases, like ....
- **(1)** thyroid
- **(2)** pneumonia
- **(3)** heart disease
- **(4)** diabetes

95. Fill in the blank with correct options that follow: Nano particles are in .... proportion to the size of the town.
- **(1)** direct
- **(2)** inverse
- **(3)** equal
- **(4)** adverse

96. Nano particles are ....
- **(1)** quite big in size
- **(2)** transparent
- **(3)** very small in size
- **(4)** opaque

97. 'Commuting' means .... as used in the passage.
- **(1)** travelling from one place to another
- **(2)** compensating for one's sins
- **(3)** to make a punishment less severe
- **(4)** to substitute one thing for another

98. 'people riding in cities inhale'... The underlined word is/an ....
- **(1)** Noun
- **(2)** Adverb
- **(3)** Adjective
- **(4)** Preposition

99. 'that count the particulates' The underlined word is a
- **(1)** Noun
- **(2)** Verb
- **(3)** Adjective
- **(4)** Conjunction

Directions (100 to 105): *Read the poem given below and answer the question/complete the statements that follow by choosing the correct options from the given ones.*

1 there lived a sage in days of yore,
And he a handsome pigtail wore;
But wondered much and sorrowed more
4 Because it hung behind him.
He mused upon this curious case,
And have it hanging at his face,
And have it hanging at his face,
8 Not dangling there behind him.
Says he, "The mystery I've found–I'll turn me round"–
He turned him round;

12 But still it hung behind him.
Then round, and round, and out, and in.
All day the puzzled sage did spin;
In vain–it mattered not a pin–
16 The pigtail hung behind him.
And right, and left, and round about,
And up, and down, and in, and out,
He turned, but still the pigtail stout
20 Hung steadily behind him.
And though his efforts never slack,
And though he twist, and twirl, and tack,
Alas! still faithful to his back,
24. The pigtail hangs behind him.

100. (A) The sage was filled with sorrow—Assertion
(B) His pigtail hung behind him—Reasoning
Choosing the best option from the following:
(1) A is true but B is false
(2) A is false but B is true
(3) Both A and B are true and B is responsible for A
(4) Both A and B are false

101. Read the following statements:
(A) The sage turned round and round
(B) The sage wanted to change the position of his pigtail.
(C) The sage was feeling very thrilled.
Choose the correct option from the following:
(1) A is correct but B and C are false.
(2) A and B are correct but C is false.
(3) A and C are correct but B is false.
(4) A is false but B and C are correct.

102. What mystery is the sage wondering about?
The pigtail ....
(1) is banging his face.
(2) is very beautiful.
(3) is hanging behind him always.
(4) is very stout.

103. Read the following statements:
(A) The pigtail is very faithful.
(B) It hangs behind the sage always.
Choose the correct option from the following:
(1) A is true but B is false
(2) A is false but B is true
(3) Both A and B are true and B implies A
(4) Both A and B are false

104. The phrase 'in vain' in line 15 means:
(1) without effort   **(2)** without success
(3) disappointing   **(4)** frustrating

105. What part of speech is 'slack' in line 21?
(1) adjective   **(2)** adverb
(3) noun   **(4)** verb

106. In a class students are able to absorb the content but they do not participate in the discussion. Which language difficult do they have?
(1) Communicative   **(2)** Expressive
(3) Receptive   **(4)** Pronunciation

107. In a classroom, the teacher sends message either as words or images. The students are ....
(1) encoders   **(2)** decoders
(3) agitators   **(4)** propagators

108. A formative evaluates of student writing ....
(1) requires through markings of mechanical errors with a pencil or pen.
(2) making comments on the appropriates of the student's interpretation of the prompt and the degree to which the objectives was met.
(3) should require that the student's hand in all the materials produced during the process of writing.
(4) several careful reading of the text for content, mechanics, spelling and usage.

109. Children have an internal inborn faculty that help them discover the underlying pattern of the language. Which of the following approach might be support the statement?
(1) Behaviourist   **(2)** Cognitivist
(3) Innateness   **(4)** Constructivist

110. Which of the following may **NOT** occur in expressive language disorder?
(1) Difficulty in understanding place value
(2) Limited amount of speech
(3) Difficulty learning new words
(4) Difficulty finding the right word

111. Match List-I component of language with List-II meaning of the language component and select the correct option from the given codes below:

List-I (Component of language)	List-II (Meaning of language components)
I. Phonology	A. Refers to the rules for engaging in appropriates and effective communication.
II. Semantic	B. Refers to the rules governing the structure and sequence of speech sounds.
III. Syntax	C. The way underly-ing concepts are expressed in words and word combinations.
IV. Morphology	D. The rule by which words are arranged into sentences.
	E. Grammatical markers indicating number, tense, case, person, gender, active or passive voice and other meanings.

(1) I-(B), II-(C), III-(D), IV-(E)
(2) I-(A), II-(C), III-(E), IV-(D)
(3) I-(B), II-(E), III-(E), IV-(D)
(4) I-(D), II-(E), III-(E), IV-(A)

112. Vocabulary acquisition of a child between 1½ and 2½ year, reaches about 250 words and in two word utterance. This is known as ....
(1) telegraphic speech
(2) grammatical morphemes
(3) over regulative
(4) conversions

113. Which one of the following does not foster language development?
    (1) Using language to express fantasy
    (2) Using language to narrate events to begin and end a conversation
    (3) Using language to form and maintain social contact
    (4) Using language to social categorization

114. Which one of the following learning theories believes that language learning can be automatically attained with the help of practice and reinforcement?
    (1) Cognitivism   (2) Behaviourism
    (3) Constructivism   (4) Interactionism

115. Which of the following is a characteristics of extensive reading?
    (1) Reading for fluency involves reading of longer text for pleasure
    (2) Reading for accuracy involves approaching a text under the close guidance of a teacher
    (3) Glancing rapidly through the text to find out some piece of information
    (4) Go through the text quickly in order to get gist

116. Receptive language skills refers to ....
    (1) ability to understand and comprehend a new language.
    (2) ability to understand and express the spoken language.
    (3) the ability to understand and comprehend spoken languages that one hears or reads.
    (4) the ability to understand and comprehend the second language.

117. While teaching a second language in classroom use of 'scaffolding for comprehension ability' by teacher involves ....
    (1) gesturing and using facial expressions
    (2) home language summaries
    (3) use of picture dictionary by the teacher
    (4) use of symbols

118. Forbidding a child to use their home language at school is detrimental to their learning because:
    (1) using home language negatively affect learning.
    (2) it is violation of their right.
    (3) it is illegal to prohibit the use of home language in school.
    (4) it may make students feel marginalized and feeling lost in the class.

119. .... is multiple discursive practices in which multilinguals/bilinguals engage in order to make sense of their bilingual/multilingual worlds.
    (1) Translanguaging   (2) Semilingualism
    (3) Code mixing   (4) Code switching

120. Mother tongue based multilingualism refer to
    (1) learners begin their schooling in mother tongue and move on to add many more (at least two) languages in school.
    (2) learners begin their scholarship in home language and move on to add English and Hindi.
    (3) learners begin their schooling in English and move on to add three more languages.
    (4) learners learn through mother tongue in primary school and add English later.

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Language: Hindi

निर्देश (121-128): *नीचे दिए गए गद्यांश पढ़ें और दिए गए प्रश्नों के उत्तर के लिए सबसे उपयुक्त विकल्प का चयन कीजिए—*

प्रणाम का भारतीय संस्कृति में बड़ा महत्व है। यह अपने से बड़ों-श्रद्धेय तथा आदरणीय जनों के प्रति आत्मीयता का प्रतीक है। माता-पिता के अतिरिक्त समाज के सभी वृद्धजनों, गुरुजनों, अतिथियों, साधु-संतों को अपनी परम्परा के अनुसार प्रणाम करना मानव-धर्म है। वस्तुतः प्रणाम जीवन रूपी क्षेत्र में आशीर्वाद का अन्न उगाने का बीजमंत्र है। प्रणाम के संबंध में मनु की मान्यता है कि वृद्धजनों व माता-पिता को जो नित्य सेवा-प्रणाम से प्रसन्न रखता है, उसकी आयु-विद्या-यश और बल चारों की वृद्धि होती है। प्रणाम के बल पर ही बालक मार्कंडेय ने सप्तऋषियों से चिरंजीवी होने का वरदान प्राप्त किया था। महाभारत के युद्ध के आरम्भ में युधिष्ठिर ने पितामह भीष्म, गुरुद्रोण, कुलगुरु कृपाचार्य एवं महाराज शल्य को प्रणाम करके उनसे 'विजयी भवः' का आशीर्वाद प्राप्त किया। प्रणाम की महत्ता निरूपित करते हुए संत तुलसी कहते हैं कि वह मानव-शरीर व्यर्थ है जो सज्जनों के सम्मुख नहीं झुकता।"

121. प्रणाम किसका प्रतीक है?
    (1) संस्कृति का   (2) आत्मीयता का
    (3) मानव धर्म का   (4) परम्परा का

122. प्रणाम करने वाले को किसकी प्राप्ति है?
    (1) विद्या की   (2) अन्न की
    (3) जीवन की   (4) आनन्द की

123. बालक मार्कंडेय को चिरंजीवी होने का वरदान किसने दिया था?
    (1) पितामह भीष्म ने   (2) गुरु द्रोण ने
    (3) सप्तऋषियों ने   (4) युधिष्ठिर ने

124. सज्जनों और गुरुजनों के सम्मुख झुकने से तात्पर्य है—
    (1) स्वाभिमान की समाप्ति   (2) झुककर प्रणाम करना
    (3) झुककर समर्पण करना   (4) अहंकार की समाप्ति

125. 'सप्तर्षि' शब्द में समास है—
    (1) द्विगु   (2) कर्मधारय
    (3) द्वंद्व   (4) तत्पुरुष

126. जीवन रूपी क्षेत्र में आशीर्वाद का अन्न उगाने का बीजमंत्र है—
    (1) नित्य सेवा   (2) प्रणाम
    (3) संस्कृति   (4) परम्परा

127. :नित्य' का विलोम होगा।
    (1) निरन्तर   (2) असमान
    (3) अनित्य   (4) कभी-कभी

128. 'सम्मुख' में प्रत्यय है—
    (1) सन्   (2) सम्
    (3) स्   (4) सम

निर्देश (129-135): *निम्नलिखित गद्यांश को पढ़कर दिए गए प्रश्नों के सबसे उपयुक्त विकल्प का चयन कीजिए—*

विद्यार्थी जीवन ही वह समय है जिसमें बच्चों के चरित्र, व्यवहार तथा आचरण को जैसा चाहे वैसा रूप दिया जा सकता है। यह अवस्था भावी

वृक्ष की उस कोमल शाखा की भांति है जिसे जिधर चाहे मोड़ा जा सकता है। पूर्णत: विकसित वृक्ष की शाखाओं को मोड़ना संभव नहीं। उन्हें मोड़ने का प्रयास करने पर वे टूट सकती हैं। छात्रावस्था उस श्वेत चादर की तरह होती है जिसमें जैसा प्रभाव डालना हो, डाला जा सकता है। सफेद चादर पर एक बार जो रंग चढ़ गया सो चढ़ गया, फिर से वह पूर्वावस्था को प्राप्त नहीं हो सकती। इसीलिए प्राचीनकाल में ही विद्यार्थी जीवन के महत्व को स्वीकार किया गया है। इसी अवस्था में सुसंस्कार और सद्-वृत्तियाँ पोषित की जा सकती हैं। इसीलिए प्राचीन समय में बालक को घर से दूर गुरुकुल में रहकर कठोर अनुशासन का पालन करना होता था।

129. व्यवहार को सुधारने का सर्वोत्तम समय कौन-सा है?
(1) प्राचीनकाल
(2) पूर्वावस्था
(3) छात्रावस्था
(4) विकसित अवस्था

130. छात्रावस्था की तुलना विकसित पेड़ से करना क्यों ठीक नहीं है?
(1) पेड़ की शाखा टूट जाती है।
(2) शाखा तक पहुँचना आसान नहीं है।
(3) शाखाएँ बहुत भारी होती हैं।
(4) विकसित पेड़ की शाखा मुड़ नहीं पाती।

131. बालक को गुरुकुल में क्यों छोड़ा जाता था?
(1) उनमें सुसंस्कार और सद्-वृत्तियां पोषित हों।
(2) कठोर अनुशासन का पालन करना सीखें।
(3) विद्यार्थी जीवन का महत्व स्वीकार हो।
(4) घर में संस्कार देना संभव नहीं।

132. छात्रावस्था सफेद चादर के समान है, क्योंकि—
(1) एक बार प्रभाव पड़ने पर बदला नहीं जा सकता।
(2) जैसा प्रभाव डालना हो, डाला जा सकता है।
(3) जितना प्रभाव डालना हो, डाला जा सकता है।
(4) छात्रों में विरोध की भावना नहीं पनपती।

133. 'विकसित' विशेषण बना है—
(1) सर्वनाम से
(2) संज्ञा से
(3) क्रिया से
(4) अव्यय से

134. विद्यार्थी का सही संधि-विच्छेद होगा।
(1) विद्या + अर्थी
(2) विद्या + आर्थी
(3) विद् + आर्थी
(4) विद्या + आर्थी

135. 'श्वेत' का पर्याय नहीं होगा—
(1) सफेद
(2) शुभ्र
(3) धवल
(4) सत्वर

136. बहुभाषी कक्षा में पढ़ाते हुए शिक्षक विविधता के मुद्दे पर किस तरह चर्चा कर सकते हैं?
(1) कक्षा में विद्यालय की भाषा का प्रयोग करने की अनिवार्यता का आदेश देकर।
(2) बच्चों को उनकी मातृभाषा में नहीं बोलने के लिए हतोत्साहित करने के द्वारा।
(3) विद्यार्थी की मातृभाषा को महत्व देकर।
(4) मातृभाषा के प्रयोग को अनदेखा करके।

137. तीन वर्षीय बालक शब्दों, वाक्यांशों तथा संक्षिप्त वाक्यों के प्रयोग द्वारा सरल सम्प्रेषणात्मक कार्य करता/करती है।
यह बच्चे के किस कौशल का प्रस्तुतीकरण है?
(1) वाक्-क्षमता
(2) साक्षरता
(3) रचनात्मकता
(4) भाषा अधिगम

138. परा भाषाविज्ञान की जागरूकता है—
(1) व्यक्ति की योग्यता जो केवल भाषा को समझने भर की नहीं है।
(2) व्यक्ति की सम्प्रेषण करने की योग्यता।
(3) व्यक्ति की भाषा पर प्रतिक्रिया तथा उसके कार्य के प्रति समझ बनाने की योग्यता।
(4) व्यक्ति की अनेक भाषाओं में पढ़ने तथा लिखने की योग्यता।

139. विद्यार्थी को शब्दों में वर्णों के क्रमों को याद करने में कठिनाई है तथा दृश्यात्मक स्मृति को जल्दी-जल्दी खो देता है।
यह कठिनाई किससे संबंधित है?
(1) डिस्लेक्सिया
(2) डिस्केल्कुलिया
(3) डिसग्राफिया
(4) डिस्प्रेक्सिया

140. निम्नलिखित में से कौन-सी भाषा भारतीय संविधान की 8वीं अनुसूची में सम्मिलित नहीं हैं?
(1) बोडो
(2) भोजपुरी
(3) संथाली
(4) मणिपुरी

141. भाषा अधिगम के लिए पहले से क्या होना आवश्यक है?
(1) एक अच्छी पाठ्यपुस्तक
(2) प्रोत्साहन
(3) भाषा के प्रति सकारात्मक सोच
(4) एक अच्छा शिक्षक

142. जब पाठ्य सामग्री का केन्द्रीय भाव तथा सार खोजने के लिए तीव्रता से पढ़ता/पढ़ती है और लेखक के उद्देश्य तथा लिखने की व्यवस्था को समझना चाहता/चाहती है। यह प्रक्रिया .... के अंतर्गत आती है।
(1) स्किमिंग रीडिंग
(2) स्कैनिंग रीडिंग
(3) गहन रीडिंग
(4) विस्तारित रीडिंग

143. अध्यापक होने के नाते यदि आप 'शब्दवाक्यों के अर्थ' पर कार्य करते हैं तो यह किससे संबन्धित होता?
(1) अर्थ विज्ञान
(2) ध्वनि विज्ञान
(3) शब्द संरचना
(4) वाक्य-विन्यास

144. निम्नलिखित में से कौन-सा एक असहकालिक सम्प्रेषण का उदाहरण है?
(1) समाचार-पत्र
(2) इन्स्टेंट संदेश
(3) वीडियोकांफ्रेंसिंग
(4) इन्स्टेंट चैट

145. प्राथमिक स्तर पर .... के ज्ञान को मुख्य रूप बोलने और लिखने में दक्षता के लिए प्रयोग किया जाना चाहिए।
(1) व्याकरण
(2) कौशल
(3) प्रवाह
(4) प्रवीणता

146. यदि भाषा सीखना एक स्वाभाविक प्रक्रिया नहीं है, तब निम्नलिखित में से सबसे उचित विकल्प होना चाहिए—
(1) भाषा प्रयास से सीखी जाती है।
(2) भाषा एक प्रणाली है।
(3) भाषा अपने आप में अद्वितीय है।
(4) भाषा में सदैव बदलाव होता रहा है।

147. भाषा शिक्षण की व्याकरण-अनुवाद विधि मुख्य रूप से भाषा के किस कौशल विकास पर बल देती है—
(1) सुनने-बोलने पर
(2) पढ़ने-लिखने पर
(3) सुनने-लिखने पर
(4) बोलने-पढ़ने पर

148. निम्नलिखित में से कौन-सा युग्म अधिग्रहण भाषायी दक्षता के लिए महत्वपूर्ण है।
(1) सुनना-बोलना
(2) पढ़ना-लिखना
(3) सुनना-पढ़ना
(4) बोलना-लिखना

149. शिक्षक ने विद्यार्थियों को दिए गए विषय पर स्लाइड प्रस्तुतीकरण करने का निर्देश दिया। विद्यार्थियों को इसमें चित्रों, आरेखों, वीडियो के अंशों तथा लिंकों को सम्मिलित करना है।

इस प्रोजेक्ट के पूरा होने के बाद विद्यार्थी कौन-सी दक्षता का प्रदर्शन करेंगे ?

(1) मीडिया पर समाज के प्रभाव का विश्लेषण करने की।

(2) सूचना देने तथा प्रभाव बताने का।

(3) मीडिया के विभिन्न रूपों के प्रयोग से प्रस्तुतीकरण को तैयार करने के लिए युक्तियों तथा रचनात्मक तकनीकों का प्रदर्शन।

(4) मीडिया प्रस्तुतीकरण के सौंदर्यबोधी प्रभाव को पहचानना।

150. शिक्षा का अधिकार मातृभाषा के माध्यम से अधिगम की अनुशंसा किस कक्षा तक कि लिए करता है ?

(1) VIII कक्षा तक   (2) V कक्षा तक

(3) X कक्षा तक   (4) VI कक्षा तक

ANSWER KEY

Child Development and Pedagogy

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

Mathematics and Science

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

Language: English

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

Language: Hindi

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

Child development and Pedagogy

1. Option (2) is correct.
Explanation: According to Montessori theory during the first six years of life, children move through five main categories of sensitive periods, including order, language, sensory skills, movement and social skills. These periods of special sensitivity are only temporary and fade once the aim is accomplished.

2. Option (1) is correct.
Explanation: According to this principle, infancy develops control of the head and face movements in the first few months.
In the next few months, they can lift themselves using their arms, then control the toe, crawl, walk, jump, and climb daily.

3. Option (4) is correct.
Explanation: The theory of Cognitive Development of Jean Piaget states that from the age of eleven to fifteen when the child is neither a child nor an adult (adolescent), becomes abstract in their thinking and starts questioning who? How? And why? They become impatient, develops many perspectives on an issue and enjoy demonstrating acquired knowledge.

4. Option (3) is correct.
Explanation: Organization is a theory propounded by Piaget wherein people are born with a tendency to organize their thinking into schemas (schemes). These schemas or Knowledge become more complex with experience as one grows from an infant to an adult.
Piaget made several assumptions about children while developing his theory:
- Children build their knowledge based on their experiences.
- Children learn things on their own without the influence of adults or older children.
Children are motivated to learn by nature. They do not need rewards as motivation.

5. Option (2) is correct.
Explanation: As per Piaget, the theory of 'Concrete Operational' operates from seven years to eleven years of age when children can think logically about objects and events.
They achieve conservation of number (age 6), Mass (age 7), and weight (age 9).

They classify objects according to several features and can order them in series along a single dimension such as size.

6. Option (3) is correct.
Explanation: 'Social constructivism' propounds that a person constructs his understanding of the world he lives in by reflecting on his own experiences.
Each one of us generates our own "rules" and "mental models "which we use to make sense of our experiences.
Hence, they create knowledge with their preexisting knowledge and experiences.

7. Option (1) is correct.
Explanation: Lev Vygotsky proposed three essential needs for child development:
Social interaction, Culture, and Language.
"Scaffolding" means providing the right kind of support in the right amount at the right time to enhance a child competency.
So, as per him, training in one faculty of the mind may help in the functioning of older faculties
Other faculties like mind-memory, reasoning, judgement, observation etc. - are directed or trained through various academic subjects.

8. Option (1) is correct.
Explanation: Lev Vygotsky is the proposer of social constructivism.
With reference to social context, as per him, knowledge is mutually built and constructed and a child learns with the right kind of support in the right amount at the right time to enhance a child competency.

9. Option (1) is correct.
Explanation: In a child-centered classroom: The child actively participates in the classroom process. The class has a democratic climate, and the environment is warm, joyful, and encouraging. Also, varieties of activities/opportunities are available in the classroom.

10. Option (4) is correct.
Explanation: According to Kohlberg's Theory of Moral Development the good boy-good girl orientation theory of moral development is focused on living up to social expectations and roles. The moral behavior of a child during this stage is 'gaining acceptance and avoiding censure by others.'

Conventional Morality is a stage of morality in which children make decisions to please others.

11. Option (4) is correct.
Explanation: An American Psychologist Howard Gardner proposed the theory of multiple intelligence in his book "Frames of Mind."
He believed that "intelligence cannot be viewed as a single entity."
He believed there are several types of intelligence (broadly nine types) that are independent of each other.
The utility and value of each type of intelligence are determined culturally by an individual's performance according to the high desirability, usefulness, and demands of society for a particular type of intelligence.

12. Option (4) is correct.
Explanation: As every child is unique with his own learning pace and style, A teacher should ensure to meet the learning and development needs of an individual child, by ensuring their previous knowledge, skills, ability, interest, and learning style. Hence,
Assertion (A): Teachers should follow a standardized curriculum, pedagogy, and methods of assessment.
Reason (R): Educational systems should ignore and dismiss individual differences among children, both are false.

13. Option (3) is correct.
Explanation: Gender: characteristics of a girl or boy and men or women socially constructed by society.
Gender Discrimination: When people (girl or boy and women and men) are treated differently (unequally or discriminately) based on gender.

14. Option (3) is correct.
Explanation: As per the socio-constructivist perspective, relationship between language and thought is Bi-directional. This is so because
- Social-constructivism believes that learning occurs when an individual interacts with others to know their culture and societal norms.
- Lev Vygotsky emphasized that when a child uses private speech he/she is more socially proficient as compared to other children.

15. Option (2) is correct.
Explanation: Self-assessment is a language learning tool that helps learners identify their knowledge gaps, adopt appropriate learning strategies, and use assessment as a tool for new learning.

For quantitative or summative assessments, teachers take an assessment at the end of the unit or term, or semester to grade or rank the learners.

Peer assessment provides a structured learning process for students to analyze, criticize, and provide feedback to each other on their work.

16. Option (3) is correct.
Explanation: Respect for diversity in a group means inclusion in any aspect that is appreciated and in which everyone is recognized and respected for his/her worth.

17. Option (1) is correct.
Explanation: 'Attention Deficit Hyperactivity Disorder' is a brain disorder that affects attentiveness, and how you sit, still and control your behavior. It is characterized by difficulty in reading, writing, speaking, etc.

18. Option (1) is correct.
Explanation: Multilingualism is understood to mean having knowledge of more languages than a native language.

A teacher should respect all languages and encourage students to communicate in a language they are comfortable speaking.

Multilingualism practice helps to develop cross-cultural communication skills. In this regard, people learn different skills of the languages, especially speaking, reading, and even writing.

19. Option (4) is correct.
Explanation: Teaching aids like multimedia help to understand the concepts and improve learning, especially with students with various learning disabilities.

It helps the students to clarify, establish, and correlate accurate concepts, inspections, and appreciation through more than one sensory channel.

20. Option (3) is correct.
Explanation: The common teaching-learning materials available for visually impaired children are Braille, Tactile globe, Audio cassettes and screen reading software which allows them to read the text that is displayed on the computer screen.

21. Option (3) is correct.
Explanation: Passive listening does not facilitate students' thinking. As passive listening is done in an unconscious manner. Such a type of listening does not enhance an individual thinking style. Moreover, student act as passive listeners where he/she does not react, interpret or ask any questions related to the conversation going on.

22. Option (2) is correct.
Explanation: An American Philosopher, John Dewey propounded the "progressive Education Theory" that states the learning process can take place with a "hands-on approach or learning by doing approach". In order to learn and adapt, learners should ensure to interact with their environment with the help of various activities.

23. Option (1) is correct.
Explanation: Students learn best when they participate in activities that are related to their context, this is so because they will be able to relate their prior learning with the current one. Moreover, when learners participate in various activities and hands-on experiences they'll be able to generate a deeper understanding of the concepts related to the context.

24. Option (4) is correct.
Explanation: A teacher should use the previous knowledge of the learners and connect it with teaching The teacher should try to assess what words pose more difficulty for the learner.

25. Option (3) is correct.
Explanation: Lev Vygotsky believes that when the child is having interactions with peers and adults, they learn the values, beliefs, customs, and language of their culture.

As per his socio-cultural theory, development takes place due to the intermingling of culture, social interaction, and language.

26. Option (2) is correct.
Explanation: Process of Reflection, as proposed by Dewey emphasized reflection helps a learner to learn from one experience to another so as to develop a deeper understanding of things. This process encouraged a systematic and disciplined way of thinking in an individual. In a classroom, a teacher should encourage learners to think and then reflect on questions asked by him/her.

27. Option (4) is correct.
Explanation: Vygotsky's "Scaffolding" means providing the right kind of support in the right amount at the right time to enhance a child competency.

For example, when infants are learning how to walk, they often start by holding onto the clothes or hands of an adult or older child, who guides them. The infant will continue to do this until they have enough skills and strength to walk on their own. This way they're able to learn to walk much faster than if they were expected to learn without being able to hold onto anything.

28. Option (4) is correct.
Explanation: Anxiety is intense, excessive, and persistent worry and fears about a situation.

It can lead to a high heart rate, sweating, and a feeling of tiredness. Anxiety can impact the outcome of an exam negatively.

29. Option (1) is correct.
Explanation: Curiosity-driven learning is an effective form of learning where the child is motivated by his desire to know about a subject in depth.

30. Option (1) is correct.
Explanation: A teacher should always ask students to present their views on the subject taught in the class.

They should discourage rote learning and encourage conceptual learning.

Mathematics and Science

31. Option (3) is correct.
Solution: Given the numbers 198, 135 and 108
Now
$$198 = 2 \times 3 \times 3 \times 11$$
$$135 = 3 \times 3 \times 3 \times 5$$
$$108 = 2 \times 2 \times 3 \times 3 \times 3$$
Since, LCM (198, 135, 108)
$$= 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 11$$
$$= 5940$$
and HCF (198, 135, 108)
$$= 3 \times 3$$
$$= 9$$
So, LCM + HCF
$$= 5940 + 9$$
$$= 5949$$

32. Option (3) is correct.
Solution: Since, $\dfrac{\sqrt{450}}{\sqrt{338}} \div \dfrac{\sqrt{125}}{\sqrt{245}}$

$$= \frac{\sqrt{450}}{\sqrt{338}} \times \frac{\sqrt{245}}{\sqrt{125}}$$

$$= \frac{15\sqrt{2}}{13\sqrt{2}} \times \frac{7\sqrt{5}}{5\sqrt{5}}$$

$$= \frac{15 \times 7}{13 \times 5}$$

$$= \frac{21}{13}$$

33. Option (4) is correct.
Solution: Given, $a = \dfrac{5}{11}$ and $b = \dfrac{3}{7}$

Now, $(a + b)^{-1} \times (a^{-1} + b^{-1})$

$$= \frac{\dfrac{1}{a} + \dfrac{1}{b}}{(a + b)}$$

$$= \frac{(a + b)}{ab(a + b)} = \frac{1}{ab}$$

$$= \frac{1}{\dfrac{5}{11} \times \dfrac{3}{7}} = \frac{77}{15}$$

34. Option (3) is correct.
Solution: (a) 2 is a prime number but it is not an odd number.
(b) 2 is even number but it is not composite number.

(c) 2 and 3 are two prime number but $2 + 3 = 5$ is not even number.

(d) 4 is an even number and when 4 is divided by 2, we get 2 which is not odd.

So, (a), (b), (c) and (d) all are not true.

35. Option (4) is correct.
Solution:
(1) If $a = -2, b = 2$
then $a \times (-b) = (-2) \times (-2)$
$= 4$
$\Rightarrow$ Option (1) is not correct.
(2) $-1 - (-2) = 1$
$\Rightarrow$ Option (2) is not correct.
(3) $(-2).(-3) = 6 > (-2)$ and (-3)
Option (3) is correct
(4) If $a < 0$ and $b > 0$
then $a.b < 0$
$a = -1, b = 1$
then $a.b = -1 \times 1 < 0$
So, option (4) is correct.

36. Option (2) is correct.
Solution: Given area of a rhombus field is $5880\,m^2$ and one of its diagonal is 70 m.
Now, Area of rhombus
$$= \frac{1}{2} d_1 \times d_2$$
$\Rightarrow \quad 5880 = \frac{1}{2} \times 70 \times d_2$
$\Rightarrow \quad d_2 = \frac{5880}{35} = 168\,m$
So, Side of field
$$= \frac{1}{2}\sqrt{d_1^2 + d_2^2}$$
$$= \frac{1}{2}\sqrt{70^2 + 168^2}$$
$$= \frac{1}{2}\sqrt{4900 + 28224}$$
$$= \frac{1}{2}\sqrt{33124}$$
$$= \frac{182}{2}$$
$$= 91\,m$$

37. Option (2) is correct.
Solution:
Since, Area of square $= (side)^2$
$\Rightarrow$ Area of square $= x^2$
and Area of triangle $= \frac{1}{2} \times$ base
$\times$ altitude
$\Rightarrow$ Area of triangle $= \frac{1}{2} \times x$
$\times$ altitude
Since, Area of square $= 2 \times$ Area of triangle
$\Rightarrow \quad x^2 = 2 \times \frac{1}{2} x \times$ altitude
$\Rightarrow x \times$ altitude $= x^2$ (If $x \neq 0$)
$\Rightarrow$ altitude $= x$ unit

38. Option (1) is correct.
Solution: Given total surface area of a solid right circular cylinder is $3.52\,m^2$.

Now, Total surface area
$$= 2\pi rh + 2\pi r^2$$
$\Rightarrow \quad 3.52 = 2\pi r(r + h)$
$\Rightarrow \quad 3.52 = 2 \times \frac{22}{7} \times 0.35\,(0.35 + h)$
$\Rightarrow \quad 3.52 = 2 \times 22 \times 0.05\,(0.35 + h)$
$\Rightarrow \quad 0.35 + h = \frac{3.52}{2.2} = 1.6$
$\Rightarrow \quad h = 1.6 - 0.35 = 1.25$
$$= 1 + \frac{1}{4} = \frac{5}{4}$$
$\Rightarrow \quad h = \frac{5}{4}$

39. Option (3) is correct.
Solution: Given the numbers 12, 13, 14, ..., 40, 41
Now, prime number between these numbers are
13, 17, 19, 23, 29, 31, 37, 41
So, P (getting prime number)
$$= \frac{8}{30}$$
So, P (not getting prime numbers)
$$= 1 - \frac{8}{30} = \frac{22}{30}$$
$$= \frac{11}{15}$$

40. Option (2) is correct.
Solution: Since mean of some observation $= 54$
If each observation is increased by 8 then,
New Mean $= 54 + 8 = 62$
and Required Mean
$$= \frac{62}{2} = 31$$

41. Option (4) is correct.
Solution: Since,
$(9x^2 + 4y^2)(3x + 2y)(3x - 2y)$
$= (9x^2 + 4y^2)[(3x)^2 - (2y)^2]$
$= (9x^2 + 4y^2)(9x^2 - 4y^2)$
$= [(9x^2)^2 - (4y^2)^2]$
$= 81x^4 - 16y^4$

42. Option (3) is correct.
Solution: Since $\dfrac{a^2 - b^2 + a(a+b)}{a(a-b) + b(a-b)}$
$$= \frac{(a-b)(a+b) + a(a+b)}{(a-b)(a+b)}$$
$$= \frac{(a+b)(a-b+a)}{(a-b)(a+b)}$$
$$= \frac{2a-b}{a-b}$$

43. Option (4) is correct.
Solution:
Given $y - \dfrac{y-1}{2} = 1 - \dfrac{y-2}{3}$
$\Rightarrow y - \dfrac{(y-1)}{2} + \dfrac{(y-2)}{3} = 1$
$\Rightarrow \dfrac{6y - 3y + 3 + 2y - 4}{6} = 1$
$\Rightarrow \quad 5y - 1 = 6$
$\Rightarrow \quad 5y = 7$

$\Rightarrow \quad 5y + 7 = 14$
$\Rightarrow \quad \dfrac{5y + 7}{2} = 7$

44. Option (4) is correct.
Solution: Since, we have to simplify $(3x^2 - 8x + 11) + (-6x^2 + 12x + 17) - (x^2 - x - 19)$
$= 3x^2 - 6x^2 - x^2 - 8x + 12x$
$\qquad\qquad + x + 11 + 17 + 19$
$= -4x^2 + 5x + 47$

45. Option (4) is correct.
Solution: Let Cost price of the toy
$$= ₹x$$
Now, $x + 20\%$ of $x = $ S.P.
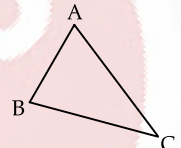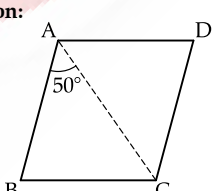$\Rightarrow \quad x + \dfrac{20}{100}x = 1020$
$\Rightarrow \quad x + \dfrac{x}{5} = 1020$
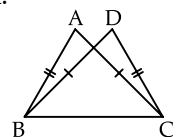$\Rightarrow \quad 6x = 1020 \times 5$
$\Rightarrow \quad x = \dfrac{1020 \times 5}{6}$
$$= 170 \times 5$$
$$= ₹850$$
$\Rightarrow$ Cost Price $= ₹850$

46. Option (3) is correct.
Solution:

Since scalene triangle has no any line of symmetry
$\triangle ABC$ is scalene triangle and has no line of symmetry.

47. Option (2) is correct.
Solution:

In Rhombus ABCD,
$\angle BAC = 50°$
Since, $\angle DAC = \angle BAC$
$= 50°$
so, $\angle A = 50° + 50°$
$= 100°$
and $\angle A + \angle D = 180°$
$\Rightarrow \quad \angle D = 180° - 100°$
$= 80°$
Now,
$3\angle D - 2\angle DAC = 3 \times 80 - 2 \times 50$
$= 240° - 100°$
$= 140°$

48. Option (2) is correct.
Solution:

In ΔABC and ΔDCB

AC	= DB	(Given)
BC	= CB	(Common)
AB	= DC	(Given)

So, by SSS criteria

$$\Delta ABC \cong \Delta DCB$$

49. Option (1) is correct.
Solution:
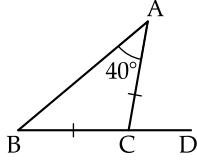
Given ΔABC

∠A = 40°, AC = BC

So, ∠B = ∠A = 40°

and ∠ACD = ∠A + ∠B

= 40° + 40°

= 80°

Now,

2∠ACD + 3∠B = 2 × 80° + 3 × 40°

= 160° + 120°

= 280°

50. Option (3) is correct.
Solution: x and y are vertically opposite angles

i.e. $x = y$

and $x + y = 80°$

⇒ $x + x = 80°$

⇒ $2x = 80°$

⇒ $x = 40°$

⇒ $x = y = 40°$

Since z is the complement of angle y

So, $z + y = 90°$

⇒ $z = 90° - y$

= 90° − 40°

= 50°

Now,

$3x - y + z = 3 × 40° - 40° + 50°$

= 120° + 10°

= 130°

51. Option (2) is correct.
Explanation: Memorising an algorithm is not included in the five steps of the Mathematisation. The five steps of mathematisation are following:
- considering the real-world problem
- organizing based on mathematical contexts
- paring down to the most important aspects
- using mathematical skills and solving problem
- Considering the solution toward terms of the real situation.

52. Option (3) is correct.
Explanation: Mathematical concepts are exact, systematic, logical and clear which means that they are built on the practical and conceptual knowledge. Number concepts and pattern help students get a sense of multiplication and see that facts make sense thus these are building blocks to algebraic thinking. This approach most appropriately describe the inter-connections of the new concept and previously learned concept of mathematics.

53. Option (4) is correct answer
Explanation: Social constructivism theory developed by Russian psychologist Lev Vygotsky, focuses on the collaborative nature of learning. According to Lev Vygotsky, learners construct knowledge rather than just passively take in information. Students working in collaboration on a project are indicative of mathematics class room based on social constructivist framework.

54. Option (1) is correct.
Explanation: The given question is related to algebra, which is the study of variables and the rules for manipulating these variables in formulas. The objective of question related to algebra is comparison and analysis the quadratic equations. The fundamental theorem of algebra guarantees that it has at least one solution. The teacher can also access the learning skill with the help of algebraic question in mathematics class.

55. Option (3) is correct.
Explanation: Mr. Raju used Portfolio Assessment Method for assessing the performance of the students in mathematics over a period of time. Portfolio assessment strategy enables students to reflect their real performance and encourages students to take responsibilities for their own learning. A portfolio is a systematic collection of student work that includes assignments, project reports, homework, models, unit tests, class tests, etc.

56. Option (1) is correct.
Explanation: John Locke was an English philosopher and physician, great scholars and Mathematicians. According to Locke Mathematics is a way to settle in mind a habit of reasoning in the mind of children as it develops the mind and sense of appreciation among the children. A more comprehensive definition of mathematics was given by Courant and Robin when they defined mathematics in the following way.

57. Option (3) is correct.
Explanation: Data handling means collecting the set of data and presenting in a different form in following sequences of process—
- Formulating the questions
- Collecting the data
- Analysing the data
- Interpreting the result

58. Option (4) is correct.
Explanation: In geometry, two shapes are described as congruent if they are identical means they have the same shape and size. When teacher starts discussion with the students to assess their understanding on the concern topic, he realized that one students having misconceptions or wrong concepts that needs to be addressed by the teacher and replaced with correct concept.

59. Option (2) is correct.
Explanation: The statement given by the teacher is the definition of Common Divisor. Definition is the statement of the meaning of a term that defines and describes clearly in simple words. Teacher defines the Common Divisor in clear way with simple words.

60. Option (3) is correct.
Explanation: In Mathematics, symmetry means that one shape is identical to the other shape when it is moved, rotated, or flipped. The concept of symmetry is commonly found in geometry.
In mathematics, a fraction is a number that represents a part of a whole. It consists of a numerator and a denominator. The numerator repre-sents the number of equal parts of a whole, while the denominator is the total number of parts that make up said whole.

61. Option (1) is correct.
Explanation: Features of trees in mountain range are as follows:
1. they have branches in slopes to shed off rain and snow from it.
2. they have needle-shaped leaves with a wax-sticky type coating on them to let go off droplets.
3. they have thick bark to protect tree from cold.

62. Option (4) is correct.
Explanation: Atmospheric pressure is high at lower altitudes. It is highest a sea level and decreases as we go up in high altitude. But at higher altitudes, because of increase in water vapour, water boils easily. Hence, boiling point is decreased.

63. Option (1) is correct.
Explanation: When a ray travels from one medium to another, rays bend which is called refraction of light.
Here, when the light is travelling from air *i.e.*, rarer medium towards oil *i.e.*, denser medium, so, when the light ray travels from air into oil, then the light ray bends towards the normal and the light slows down and changes its direction slightly.

64. Option (3) is correct.
Explanation: Contact forces are those in which bodies interact physically to each other. Such as muscular force, drag force, frictional force, etc .

65. Option (3) is correct.
Explanation: If a magnet is broken into two pieces, then both the pieces will act as a separate magnet and

will have separated north and south poles.

Now, when separated part came near to other, they may attract if they are opposite poles or may repel if same poles with come together.

66. **Option (3) is correct.**
Explanation: Archimedes principle states that whenever a body is fully or partially immersed in a fluid, the buoyant force will always be equal to the weight of the fluid displaced by it.
For object A
Weight of the liquid displaced = 16N
So, we know that buoyant force acting on an object
Therefore for the value of Y = 16 N
$$= \text{weight of water displaced}$$
Buoyant force acting on body
$$= \text{Weight of stone (Air – Water)}$$
$$16 = 92 – X$$
$$X = 92 – 16$$
$$= 76 \text{ N}$$
For object B
The buoyant force acting on the body
$$= 10 \text{ N}$$
So, we know that buoyant force acting on the body
$$= \text{weight of water displaced}$$
Therefore for the value of Z = 10 N
Buoyant force acting on body
$$= \text{Weight of stone (Air – Water)}$$
$$10 = Q – 70$$
$$Q = 70 + 10$$
$$Q = 80 \text{ N}$$

67. **Option (2) is correct.**
Explanation: Point of sunrise changes continuously because of change in directions of sunlight for Earth. As we know that, earth revolves around the sun, then there is only half part which is in front of Earth receives light and part of behind doesn't receives only sunlight. Here, rising sun cannot be considered as an appropriate guide to locate directions in all seasons. For example in summers, the sun light directly falls on north pole but in southern hemisphere there will be dark.

68. **Option (3) is correct.**
Explanation: For three test tubes, A, B and C, phenolphthalein is added to check if they are acidic or basic in nature.
- In test-tube A, solution remains colourless after adding phenolphthalein, so it is a strong acid.
- In test-tube B, solution becomes colourless initially but after adding solution of C to it, became slightly pink i.e., weak acid.
- In test-tube C, solution became pink. This it is a strong base.

69. **Option (1) is correct.**
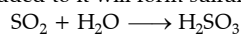**Explanation:** Red cabbage leaves and turmeric can act as a acid-base indicator. They turns blue litmus red for acidic solution and red litmus blue for basic solution.

70. **Option (2) is correct.**
Explanation: We should stores pickles and other materials in a glass container to avoid any chemical reaction. Glass will not react to material poured inside it. Otherwise, materials like aluminium, copper and brass will react to the substance will make it toxic or hazardous that might affect our health.

71. **Option (4) is correct.**
Explanation: Sulphur burns to form sulphur dioxide and then if water is added to it will form sulfurous acid.
$$SO_2 + H_2O \longrightarrow H_2SO_3$$
$$[M-\text{Sulphur}]$$
Here, sulfurous is an acid that will turn blue litmus red.

72. **Option (2) is correct.**
Explanation: Roughage is an essential component that adds bulk to our body. It helps our body to get rid of undigested food. Cellulose rich food contains a large amount of roughage. It is the bacteria inside cellulose that helps in conversion of cellulose into fibres. Fibres helps in smooth of digestive tract of human body.

73. **Option (1) is correct.**
Explanation: Bile juice helps in breaking down of fats into simpler substances. It doesn't contains any enzymes. It activates lipases in the body. It is stored in a thin muscular sac called gall bladder.

74. **Option (2) is correct.**
Explanation: Two containers A and B contain 50 gm of ice at 0°C and 50 gm of water at 0°C. If they are kept in refrigerator and allowed to each thermal equilibrium (a stage where further cooling stops) then A will lose more heat than B because of heat energy that is preventing it from further cooling process.

75. **Option (3) is correct.**
Explanation: Hinge joint is the joint present in the human body elbow. It allows back and forth movement of the arms.

76. **Option (4) is correct.**
Explanation: Deficiency of vitamin K from the body leads to excessive bleeding from a wound. Vitamin K helps in clotting of blood. Cabbage, spinach and green leafy vegetables are the major sources of this vitamin.

77. **Option (1) is correct.**
Explanation: Velocity of light passing through medium will change according to the different refractive index. For entering into rarer to denser medium, it decreases and vice-versa.

78. **Option (4) is correct.**
Explanation: Mechanism of inhalation during breathing in human beings is when we breathe in, air fill insides, reaches lungs where ribs moves up and diaphragm moves down. This creates in our chest cavity to fill lungs with air.

79. **Option (4) is correct.**
Explanation: If a man with blood group A marries to a woman with blood group, then their offsprings can have A, B, AB or O blood group because A and B both are dominant blood groups.

80. **Option (3) is correct.**
Explanation: Amplitude is directly related to the amount of vibrations produced.
- If table is striked hardly, large vibrations will occur. So, we hear loud sound.
- If table is striked softly, low vibrations will be produced then we hear soft sound.
Loud sound travels large distances for they have larger number of vibrations with them.

81. **Option (1) is correct.**
Explanation: According to NCF, 2005 objectives of teaching science at upper primary stage are:
- having integrated approach towards teaching.
- providing hand-on activities to learners.
- giving them connections related to real-life applications.
- learning from previous knowledge and familiar experiences.

82. **Option (1) is correct.**
Explanation: Scientific laws are the descriptions of the connections of observable phenomena. It deals with rational thinking and understanding science as a part of lives and not as a subject to study or cream topics. Laws of science describes the facts and working system of universe in most acceptable way.

83. **Option (1) is correct.**
Explanation: For the difference between 1 kg of iron and 1 kg of cotton, teacher is trying to:
- demonstrate the concept of equivalence.
- explanation of difference between heaviness and density.
- provide real-life examples to which students can relate.

84. **Option (2) is correct.**
Explanation: Children should always connect scientific knowledge to their real-life with good explanation. According to research:
- They are based on everyday experience.
- They influences school learning.
- Even adults can hold those ideas.

85. Option (4) is correct.

Explanation: According to social constructivism, socializing students is necessary. It will help in students conversational, thinking, arguing and writing skills. It will work upon construction of new thoughts with a developed skills that must have active techniques. It shows the importance of social interaction and context in learning.

86. Option (1) is correct.

Explanation: To assess the thought processes or ideas of science learners, teacher should:

- posing questions to students in one-to-one conversation.
- interview students intensively and thoroughly.
- as student to portray their thoughts using diagrams, maps or sketches.

87. Option (2) is correct.

Explanation: To test a hypothesis in science, experimentation has utmost importance, because science requires proves and reasons for which experimentation is required.

88. Option (2) is correct.

Explanation: According to student, substances such as flour and salt are liquid because they take the shape of container which is incorrect because they do not clear information about solid liquids and gases. Here, teacher can explain that they are solids because even though a whole mass of tiny grains of flour or salt does not have a definite shape, each individual grain does. As a result, student will be able to identify that entire mass of grains does not have particular shape.

89. Option (3) is correct.

Explanation:

- Scattering of light is a phenomenon in which there is a interaction of radiation with matter. When sunlight falls on tiny dust particles present inside the atmosphere, it gets diffused in all directions.
- Tyndall effect is the scattering of light when a beam of light passes through a colloidal solution.

Here learners can themselves observe the Tyndall effect which will retain with them for a longer period of time.

90. Option (2) is correct.

Explanation: According to constructivist classroom, science learning should:

1. have field trips to provide real-life experiences.
2. be based on planning for an investigation done by students.
3. Students may discuss various ways of solving a numerical problem.

Language: English

91. Option (3) is correct.

Explanation: According to the given passage:

"Because they are exerting themselves, cyclists breathe harder and faster than other road users. The study found that they suck in about 1,000 cubic cm with each breath, meaning they may inhale tens of millions of particles each time they fill their lungs, and billions during a whole journey."

92. Option (3) is correct.

Explanation: According to the passage, cyclists exert themselves, so they breathe harder and faster than other road users. Hence, they are more prone to respiratory problems.

93. Option (3) is correct.

Explanation: "The research showed that urban concentrations of Nano particles, which measure just a few millions of a millimeter." "The particles when inhaled, have been linked to heart disease and respiratory problem." So, option (3) is correct.

94. Option (3) is correct.

Explanation: With reference to the passage, "The particles when inhaled, have been linked to heart disease and respiratory problems."

95. Option (2) is correct.

Explanation: "The research showed that urban concentrations of nano-particles which measure just a few millions of a millimeter," The nanoparticles are small and the size of the city is large so they are inversely propionate.

96. Option (3) is correct.

Explanation: With reference to the passage, "The research showed that urban concentrations of nanoparticles which measure just a millions of a millimeter."

97. Option (1) is correct.

Explanation: Commuting means travelling regularly over some distance.

98. Option (4) is correct.

Explanation: Preposition 'In' means 'inside a place,' an area, or surrounded or closed off by something. Preposition show place, time, direction, etc.

99. Option (1) is correct.

Explanation: 'Particulates' here describes the count of particulates (noun). Particulate means an extremely small piece of dirt.

100. Option (3) is correct.

Explanation:

there lived a sage in days of yore,
And he a handsome pigtail wore;
But wondered much and sorrowed more
Because it hung behind him.

With reference to the lines above, option A is true as the sage is sad and the reason for his sadness is his pigtail behind him.

101. Option (2) is correct.

Explanation: With reference to the following lines from the poem,
"But still it hung behind him.
Then, round, and round, and out and in,
All day the puzzled the sage did spin;
In vain-it mattered not a pin-"
It shows that the sage was unhappy with the position of his pigtail and wanted to change it."

102. Option (3) is correct.

Explanation: The following lines from the poem:
"The mystery I've found-
I'll turn me round
He turned him round;
But still it hung behind him."
The sage clearly wondered that whatever method he tried, the pigtail remained behind him.

103. Option (3) is correct.

Explanation: "Alas! Still faithful to his back,
The pigtail hangs behind him."
The above-mentioned lines from the poem clearly show that the pigtail faithfully sticks to the sage's back (option A) and whatever he does it does not swing around to the front. So, option B logically follows option A.

104. Option (2) is correct.

Explanation: The line "In vain-it mattered not a pin-" suggests that the sage failed in his attempt to change the position of his pigtail.

105. Option (4) is correct.

Explanation: In line "though his efforts never slack," 'slack' is the doing word which tells us what action the subject (sage) is doing.

106. Option (2) is correct.

Explanation: In the class, if the students do not participate in the discussions, that means they are not good at expressing themselves.

107. Option (2) is correct.

Explanation: In a classroom, the teacher is the sender of the message and students interpret the message delivered by the teacher and this process it as in decoding.

108. Option (2) is correct.

Explanation: Oral testing, anecdotal records, portfolios, class test, etc. are the tools of formative assessment with which a teacher monitors the progress of the students and help them with difficulties.

109. Option (3) is correct.

Explanation: Chomsky proposed the assumption that a child is born with an innate language-learning capacity. It emphasizes that humans are destined to speak. Children discover the grammar of their language based on their own inborn grammar.

110. Option (1) is correct.
Explanation: Children having this disorder face difficulty with producing their own speech but they can understand speech and language produced by others. So, difficulty in understanding place value does not occur in this disorder.

111. Option (1) is correct.
Explanation:
- **Phonology:** Refers to the rules governing the structure and sequence of speech sounds. For example, patterns of sounds permissible in a specific language.
- **Semantic:** refers to the connections with the meaning of words.
- **Syntax:** refers to study of how individual words and their meaningful units are combined to create sentences.
- **Morphology:** is study of forms of things and words in a particular forms.

112. Option (1) is correct.
Explanation: Children between 1.5 to 2.5 years start combining single words to produce two-word utterances which seems more like telegrams than conversation. They use only the essential words to convey their meaning. Linguists refer to these early utterances as telegraphic speech.

113. Option (4) is correct.
Explanation: A child's first school is home where he learns the grammar and vocabulary of the mother language. So, to foster language development in a child, one should encourage him to express himself and ask questions, provide opportunities to enhance pre-reading and pre-writing skills and encourage discussions on his topic of interest. So, option 4 does not foster language development.

114. Option (2) is correct.
Explanation: B.F. Skinner proposed this theory stating that all behaviors are learned through interaction with the environment and with the help of practice and reinforcement.

115. Option (1) is correct.
Explanation: Extensive reading is reading for pleasure like novels, magazines, comic books, etc. and an overall understanding of the text. It helps learners to develop fluency and speed in reading.

116. Option (3) is correct.
Explanation: Receptive skills of language are reading and listening. Reading includes perception, recognition, association, understanding, organization and finding meaning.

117. Option (1) is correct.
Explanation: To help the students understand the higher levels of comprehension, teachers use scaffolding by providing gestures and facial expressions.

118. Option (4) is correct.
Explanation: Children spend most of their time at home so as to encourage them to use their home language ensures that they could feel accepted and valued with whatever language, social and cultural background he/she comes from.

119. Option (1) is correct.
Explanation: The term 'translanguaging' was coined by Cen Williams to refer to a pedagogical process of utilizing more than one language within a classroom lesson. It can be used to describe the way bilinguals use their linguistic resources. Translanguaging involves issues of language production, effective communication, the function of language and the thought processes behind language use.

120. Option (1) is correct.
Explanation: Multilingual children are capable of greater cognitive flexibility and creativity and it helps in a smooth transition between the home and school language.

Language: Hindi

121. विकल्प (2) उचित है।
व्याख्या—प्रणाम का भारतीय संस्कृति में बड़ा महत्व है। यह अपने से बड़ों–श्रद्धेय तथा आदरणीय जनों के प्रति आत्मीयता का प्रतीक है।

122. विकल्प (1) उचित है।
व्याख्या—प्रणाम के सम्बन्ध में मनु की मान्यता है कि 'वृद्धजनों व माता-पिता को जो नित्य सेवा-प्रणाम से प्रसन्न रखता है, उसकी आयु-विद्या-यश और बल चारों की वृद्धि होती है।

123. विकल्प (3) उचित है।
व्याख्या—प्रणाम जीवन रूपी क्षेत्र में आशीर्वाद का अन्न उगाने का बीजमंत्र है। प्रणाम के बल पर ही बालक मार्कंडेय ने सप्तऋषियों से चिरंजीवी होने का वरदान प्राप्त किया था।

124. विकल्प (4) उचित है।
व्याख्या—सज्जनों और गुरुजनों के सम्मुख झुकने से तात्पर्य है—अहंकार की मुख्य बिन्दु समाप्ति।
(i) माता-पिता के अतिरिक्त समाज के सभी वृद्धजनों और गुरुजनों को अपनी परम्परा के अनुसार प्रणाम करना मानव-धर्म है।
(ii) प्रणाम की महत्ता निरूपित करते हुए संत तुलसी कहते हैं कि 'वह मानव-शरीर व्यर्थ है जो सज्जनों और गुरुजनों के सम्मुख नहीं झुकता।

125. विकल्प (1) उचित है।
व्याख्या—'सप्तर्षि' में द्विगु समास है।
द्विगु समास—
(i) यदि किसी सामासिक पद में प्रथम पद संख्यावाचक शब्द हो एवं द्वितीय पद संज्ञा शब्द हो तथा समस्त पद समूह का बोध करवाता हो तो उसे द्विगु समास कहते हैं।

(ii) उदाहरण के लिए – नवरत्न अर्थात् नौ रत्नों का समूह।

126. विकल्प (2) उचित है।
व्याख्या—प्रणाम जीवन रूपी क्षेत्र में आशीर्वाद का अन्न उगाने का बीजमंत्र है।
मुख्य बिन्दु—
(i) प्रणाम का भारतीय संस्कृति में बड़ा महत्व है।
(ii) अपने से बड़ों तथा आदरणीय जनों के प्रति आत्मीयता का प्रतीक है।
(iii) माता-पिता के अतिरिक्त समाज के सभी वृद्धजनों, गुरुजनों और अतिथियों को अपनी परम्परा के अनुसार प्रणाम करना मानव धर्म है।

127. विकल्प (3) उचित है।
व्याख्या—'नित्य' का विलोम 'अनित्य' होगा।
विलोम शब्द—
(i) जिन शब्दों के अपने निश्चित अर्थ होते हैं, उन अर्थों के विपरीत अर्थ देने वाले शब्द विलोम शब्द होते हैं।
(ii) इन्हें विपरीतार्थक शब्द भी कहते हैं।
(iii) इन्हें विपर्यय भी कहा जाता है।

128. विकल्प (2) उचित है।
व्याख्या—'सम्मुख' में सम् उपसर्ग है।
सम् + मुख = मुख के सामने
सम का अर्थ है—पूर्णतया संयोग
उपसर्ग—
(i) जो शब्दांश किसी शब्द के पहले जुड़ते हैं तथा उनके अर्थ में परिवर्तन लाते हैं, उन्हें उपसर्ग कहते हैं।
(ii) उपसर्ग दो शब्दों उप + सर्ग के योग से बना है। उप अर्थात् समीप और सर्ग अर्थात् सृष्टि करना है।

129. विकल्प (3) उचित है।
व्याख्या—व्यवहार को सुधारने का सर्वोत्तम समय छात्रावस्था है।
मुख्य बिन्दु—
(i) विद्यार्थी जीवन ही वह समय है जिसमें बच्चों के चरित्र, व्यवहार तथा आचरण को जैसा चाहे वैसा रूप दिया जा सकता है।
(ii) छात्रावस्था उस श्वेत चादर की तरह है जिसमें जैसा प्रभाव डालना हो, डाला जा सकता है।
(iii) यह अवस्था भावी वृक्ष की उस कोमल शाखा की भाँति है जिसे जिधर चाहे मोड़ा जा सकता है।
(iv) परिपक्वता के पश्चात् परिवर्तन कठिन होता है।

130. विकल्प (4) उचित है।
व्याख्या—छात्रावस्था की तुलना विकसित पेड़ से करना इसलिए ठीक नहीं है क्योंकि विकसित पेड़ की शाखा मुड़ नहीं पाती तथा बलपूर्वक मोड़ने के प्रयास में टूट भी सकती हैं।
छात्रावस्था उस श्वेत चादर की तरह होती है जिसमें जैसा प्रभाव डालना हो, डाला जा सकता है। सफेद चादर पर एक बार जो रंग चढ़ गया

सो चढ़ गया, फिर से वह पूर्वावस्था को प्राप्त नहीं हो सकती।

131. विकल्प (1) उचित है।

व्याख्या—घर से दूर कठोर अनुशासन के माध्यम से विद्यार्थियों में सुसंस्कार और सद्वृत्तियाँ पोषित की जा सकती हैं।

132. विकल्प (2) उचित है।

व्याख्या—छात्रावस्था उस श्वेत चादर की तरह होती है जिसमें जैसा प्रभाव डालना हो, डाला जा सकता है। सफेद चादर पर एक बार जो रंग चढ़ गया सो चढ़ गया, फिर से वह पूर्वावस्था को प्राप्त नहीं हो सकती। इसीलिए प्राचीनकाल से ही विद्यार्थी जीवन के महत्व को स्वीकार किया गया है।

133. विकल्प (3) उचित है।

व्याख्या—'विकसित' विशेषण बना है—क्रिया से। उदाहरण के लिए अमेरिका एक विकसित देश है।

विशेषण—

(i) संज्ञा अथवा सर्वनाम की विशेषता बताने वाले शब्दों को विशेषण कहते हैं।

(ii) उदाहरण के लिए— काला, मोटा, छोटा इत्यादि।

क्रिया—

(i) क्रिया वे शब्द होते हैं जो किसी कार्य के होने या करने अथवा किसी व्यक्ति या वस्तु की स्थिति का बोध कराते हैं। अत: विकास भी 'क्रिया' है, क्योंकि विकास होता है।

134. विकल्प (1) उचित है।

व्याख्या—विद्यार्थी का संधि-विच्छेद विद्या + अर्थी होगा क्योंकि इसमें दीर्घ संधि है।

संधि—

(i) संधि अर्थात् जोड़ना।

(ii) जब दो शब्द पास-पास आते हैं तो पहले शब्द की अन्तिम ध्वनि बाद में आने वाले शब्द की पहली ध्वनि से मिलकर उसे प्रभावित करती है। इसी प्रक्रिया को संधि कहते हैं।

दीर्घ सन्धि—

(iii) जब अ, आ के साथ अ, आ आए तो 'आ' बनता है और इ, ई के साथ इ, ई आए तो 'ई' बनता है उसे दीर्घ सन्धि कहते हैं।

(iv) उदाहरण के लिए— परमार्थ अर्थात् परम + अर्थ (अ + अ = आ)।

135. विकल्प (4) उचित है।

व्याख्या—श्वेत का पर्याय सत्वर नहीं होगा क्योंकि सत्वर का अर्थ या पर्याय शीघ्र होता है।

श्वेत के पर्याय—

(i) सफेद

(ii) शुभ्र

(iii) धवल

पर्याय—

(i) इनको समानार्थी शब्द भी कहते हैं।

(ii) समान अर्थ को प्रकट करने वाले शब्द पर्यायवाची कहलाते हैं।

(iii) उदाहरण के लिए कमल के पर्याय पंकज, सरोज, नीरज इत्यादि हैं।

136. विकल्प (3) उचित है।

व्याख्या—बहुभाषी कक्षा में पढ़ाते हुए शिक्षक विविधता के मुद्दे पर विद्यार्थी की मातृभाषा को महत्व देकर चर्चा कर सकते हैं। विविध विद्यार्थियों की विभिन्न मातृभाषाएँ विविधता के मुद्दे को सरलता से स्पष्ट करती हैं।

बहुभाषी—

(i) ऐसे व्यक्ति जो दो या अधिक भाषाओं का प्रयोग करते हैं।

(ii) व्यक्ति मातृभाषा से अलग भाषा का प्रयोग करता है।

बहुभाषिकता के लाभ—

(i) अधिक संवाद कौशल

(ii) उच्च भाषाई बोध

(iii) स्मृति में सुधार

(iv) कुशल बहुकार्यात्मकता

137. विकल्प (1) उचित है।

व्याख्या—तीन वर्षीय बालक शब्दों, वाक्यांशों तथा संक्षिप्त वाक्यों के प्रयोग द्वारा सरल सम्प्रेषणात्मक कार्य करता/करती है। यह बच्चे के वाक्-क्षमता कौशल का प्रस्तुतीकरण है।

मुख्य बिन्दु—

(i) बातों को समझना।

(ii) शब्दों, वाक्यांशों तथा संक्षिप्त वाक्यों को वर्तमान परिस्थिति से जोड़ना।

(iii) सम्प्रेषण कौशल में वाक्यांशों के प्रयोग द्वारा सुधार करना।

(iv) भाषा अधिगम के बिना वाक्-क्षमता का विकास नहीं हो सकता।

(v) तीन वर्षीय बालक सीखने की प्रक्रिया में होता है।

138. विकल्प (3) उचित है।

व्याख्या—परा भाषाविज्ञान की जागरूकता व्यक्ति की भाषा पर प्रतिक्रिया तथा उसके कार्य के प्रति समझ बनाने की योग्यता है।

भाषा विज्ञान—

(i) भाषा अध्ययन की वह शाखा है जिसमें भाषा की उत्पत्ति, स्वरूप, विकास आदि का वैज्ञानिक अध्ययन किया जाता है।

(ii) भाषाविज्ञानी भाषा का अत्यन्त व्यापक अध्ययन करते हैं।

भाषा विज्ञान के अध्ययन के लाभ—

(i) विश्व के लिए एक समन्वय भाषा का विकास।

(ii) विदेशी भाषाओं को सीखने में सहायता।

(iii) भाषा, लिपि आदि में सरलता, शुद्धता आदि की दृष्टि से परिवर्तन में सहायता।

परा भाषा विज्ञान—परा का अर्थ होता है, दूसरों की।

(i) अन्य व्यक्तियों के मध्य भाषा की अवधारणा कैसे काम करती है, क्या अर्थ है? इससे सम्बन्धित है।

139. विकल्प (1) उचित है।

व्याख्या—विद्यार्थी को शब्दों में वर्णों के क्रमों को याद करने में कठिनाई है तथा दृश्यात्मक

स्मृति को जल्दी-जल्दी खो देता है। यह कठिनाई डिस्लेक्सिया से सम्बन्धित है।

डिस्लेक्सिया के लक्षण—

(i) याद रखने में कठिनाई।

(ii) वर्तनी में कठिनाई।

(iii) सोचने और समझने में कठिनाई।

(iv) बच्चे का देर से बोलना शुरू करना।

(v) सीखने की कम क्षमता।

(vi) बोलने में कठिनाई।

140. विकल्प (2) उचित है।

व्याख्या—इनमें से भोजपुरी भाषा भारतीय संविधान की 8वीं अनुसूची में सम्मिलित नहीं है।

आठवीं अनुसूची में शामिल भाषा—

(i) 22 भाषाओं को वर्तमान में भारतीय संविधान में शामिल किया गया है।

(ii) आठवीं अनुसूची में बोडो, डोंगरी, कोंकणी, मैथिली, मणिपुरी, संथाली इत्यादि भाषा शामिल हैं।

141. विकल्प (2) उचित है।

व्याख्या—भाषा अधिगम के लिए पहले प्रोत्साहन का होना आवश्यक है।

भाषा अधिगम—

(i) भाषा को सीखना भाषा अधिगम कहलाता है। यह जीवन भर चलने वाली प्रक्रिया है।

(ii) मनुष्य अपने विचारों को अभिव्यक्त करने के लिए समाज के साथ सामंजस्य स्थापित करने के लिए जिस प्रक्रिया द्वारा अपनी भाषा क्षमता का विकास करता है, वह भाषा अधिगम कहलाता है।

भाषा अधिगम को प्रभावित करने वाले कारक—

(i) सामाजिक परिवेश

(ii) भाषा अर्जन की इच्छा

142. विकल्प (1) उचित है।

व्याख्या—जब पाठक पाठ्य सामग्री का केन्द्रीय भाव तथा सार खोजने के लिए तीव्रता से पढ़ता/पढ़ती है और लेखक के उद्देश्य तथा लिखने की व्यवस्था को समझना चाहता/चाहती है। यह प्रक्रिया स्किमिंग रीडिंग के अन्तर्गत आती है।

मुख्य बिन्दु—

(i) तेज गति से पढ़ने की तकनीक।

(ii) लेख के विशेष तथ्यों को समझने में सहायक।

(iii) सूचनाओं को ढूँढ़ने में सहायक।

(iv) इसमें आवश्यक विवरणों या उदाहरणों को छोड़ दिया जाता है।

143. विकल्प (4) उचित है।

व्याख्या—अध्यापक होने के नाते यदि हम शब्दवाक्यों के अर्थ पर कार्य करते हैं तो यह वाक्य-विन्यास से सम्बन्धित होता है।

वाक्य-विन्यास—

(i) सिद्धान्तों एवं प्रक्रियाओं को द्वारा वाक्य बनते हैं।

(ii) वाक्यों का क्रमबद्ध अध्ययन है।

(iii) वाक्य-विन्यास में भाषा में प्रयुक्त विभिन्न पदों के परस्पर सम्बन्ध का विचार किया जाता है।

(iv) इससे वाक्यों में शब्दों के प्रयोग के नियमों का ज्ञान होता है।

144. विकल्प (1) उचित है।

व्याख्या—इनमें से असहकालिक सम्प्रेषण का उदाहरण समाचार-पत्र है।

असहाकालिक सम्प्रेषण—

(i) इसमें लोगों की बातचीत का एक समय नहीं होता।

(ii) इसमें सूचनाओं को पढ़ा और लिखा जा सकता है।

(iii) उदाहरण के लिए— समाचार पत्र, वर्चुअल लाइब्रेरी इत्यादि।

(iv) ऐसा सम्प्रेषण जिसमें दोनों पक्षों का एक साथ, एक साथ में एक स्थान में उपस्थित होना आवश्यक नहीं होता।

145. विकल्प (1) उचित है।

व्याख्या—प्राथमिक स्तर पर व्याकरण के ज्ञान को मुख्य रूप से बोलने और लिखने में दक्षता के लिए प्रयोग किया जाना चाहिए।

व्याकरण के ज्ञान की आवश्यकता—

(i) भाषा को सीखने में सहायक है।

(ii) भाषा शुद्ध लिखने, बोलने के कौशल का विकास करती है।

(iii) भाषा के नियमों का ज्ञान व्याकरण है।

(iii) नियमों और सिद्धान्तों के ज्ञान में सहायक है।

(iv) सम्प्रेषण कौशल के सुधार में सहायक है।

146. विकल्प (1) उचित है।

व्याख्या—यदि भाषा सीखना एक स्वाभाविक प्रक्रिया नहीं है। तब भाषा प्रयास से सीखी जाती है। इसमें अनुकरण की प्रधानता होती है।

भाषा अधिगम—

(i) भाषा को सीखना भाषा अधिगम कहलाता है।

(ii) मनुष्य अपने विचारों को अभिव्यक्त करने के लिए समाज के साथ सामंजस्य स्थापित करने के लिए जिस प्रक्रिया द्वारा अपनी भाषा क्षमता का विकास करता है, वह भाषा अधिगम कहलाता है।

भाषा अधिगम को प्रभावित करने वाले कारक—

(i) सामाजिक परिवेश

(ii) भाषा अर्जन की इच्छा

147. विकल्प (2) उचित है।

व्याख्या—भाषा शिक्षण की व्याकरण – अनुवाद विधि मुख्य रूप से भाषा के पढ़ने – लिखने के कौशल विकास पर बल देती है।

व्याकरण-अनुवाद विधि—

(i) नियमों और सिद्धान्तों पर आधारित है।

(ii) इसे शास्त्रीय और पारम्परिक विधि भी कहा जाता है।

(iii) इसमें लेखन कौशल को अधिक महत्व दिया गया है।

(iv) बालकों के शब्दकोष में वृद्धि होती है।

148. विकल्प (3) उचित है।

व्याख्या—सुनना-पढ़ना अधिग्रहण भाषायी दक्षता के लिए महत्वपूर्ण है।

भाषायी दक्षता—

(i) किसी भी भाषा को बोलने, समझने, लिखने, पढ़ने में प्रवीणता प्राप्त करना ही भाषायी दक्षता है।

(ii) भाषा सीखने के लिए बालक के मस्तिष्क में सारी व्यवस्थाएँ प्राकृतिक रूप से होती हैं।

(iii) शब्दों का शुद्ध श्रवण, वाचन शुद्ध लेखन में वृद्धि करता है।

149. विकल्प (2) उचित है।

व्याख्या—शिक्षक ने विद्यार्थियों को दिए गए विषय पर स्लाइड प्रस्तुतीकरण करने का निर्देश दिया। विद्यार्थियों को इसमें चित्रों, आरेखों, वीडियो के अंशों तथा लिंकों को सम्मिलित करना है। इस प्रोजेक्ट के पूरा होने के बाद विद्यार्थी सूचना देने तथा प्रभाव बताने की दक्षता का प्रदर्शन करेंगे।

150. विकल्प (1) उचित है।

व्याख्या—शिक्षा का अधिकार अधिनियम मातृभाषा के माध्यम से अधिगम की अनुशंसा VIII कक्षा तक के लिए करता है।

नई शिक्षा नीति 2020

(i) भारत की शिक्षा नीति है जिसे भारत सरकार द्वारा 29 जुलाई 2020 को लागू किया।

नई शिक्षा नीति का उद्देश्य—

(i) शिक्षक प्रशिक्षण को मजबूत करना।

(ii) मौजूद परीक्षा प्रणाली में सुधार करना।

(iii) मातृभाषा शिक्षा के माध्यम से अधिगम अधिक प्रभावी होता है।