

CTET Solved Paper

Paper-2
19th December 2019

Time: 2 hours 30 mins.

Total Marks: 150

Child Development and Pedagogy

Directions: Answer the following questions (Q. Nos. 1 to 30) by selecting the correct/most appropriate options.

- Noor forgot to bring her tiffin to school and asked Tanya to share her tiffin saying "You should share your tiffin with me today because I shared my tiffin with you yesterday." According to Lawrence Kohlberg's theory of moral development, Noor's statements represent _____ orientation typical at _____ stage.
 - law and order; post-conventional
 - obedience; pre-conventional
 - being nice; conventional
 - exchange; pre-conventional
- Widely held beliefs about typified characteristics deemed appropriate for different sexes in society are referred to as:
 - gender discrimination
 - gender roles
 - gender identity
 - gender stereotypes
- Recently there have been conscious efforts to include stories in the curriculum where a father is involved in household work and a mother is doing adventure activities. This move is important because:
 - it aims to strengthen gender bias
 - it aims to eliminate gender stereotyping
 - it aims to encourage gender constancy
 - it aims to increase gender discrimination
- According to Vygotsky, when adults adjust the support to extend the child's current level of performance, it is called:
 - discovery learning
 - zone of proximal development
 - scaffolding
 - inter-subjectivity
- According to Jean Piaget's theory of cognitive development, hypothetico-deductive reasoning develops during:
 - sensori-motor stage
 - pre-operational stage
 - concrete operational stage
 - formal operational stage
- According to _____, it is important to understand the social processes and influence of the cultural context on children's thinking.
 - Lawrence Kohlberg
 - Jean Piaget
 - Lev Vygotsky
 - Albert Bandura
- Drawing implications from Piaget's theory of cognitive development, a teacher of grades 6-8 in his classroom should:
 - discourage the use of logical arguments
 - present problems that require reasoning-based solutions
 - use only concrete material to teach a concept
 - rely solely on the prescribed syllabus
- As per Howard Gardner's theory of multiple intelligence, what would be the characteristics of a person with 'Logico-mathematical' intelligence?
 - Sensitivity to the sounds, rhythms and meaning of words.
 - Ability to perceive the visual-spatial world accurately.
 - Ability to produce and appreciate pitch, rhythm and aesthetic quality of musical expressiveness.
 - Sensitivity to and capacity to detect patterns, and handle long chains of reasoning.
- The process by which children develop habits, skills, values and motives that make them responsible, productive members of society is called:
 - socialization
 - inclusion
 - mainstreaming
 - differentiation
- Which of the following statements about the role of heredity and environment in human development is correct?
 - The only reason for individual differences is heredity.
 - Environmental influences totally shape the development of a human.
 - Neither heredity nor environment influences human development.
 - Heredity and environment both influence human development in a complex interplay.
- In a progressive classroom:
 - knowledge is constructed by the learner
 - knowledge is received passively by the learner
 - knowledge is reproduced by the learner as it is
 - knowledge is recalled by the learner as per instructions of the teacher
- Continuous and comprehensive evaluation includes:
 - only formative assessment
 - only summative assessment
 - neither formative nor summative assessment
 - both formative and summative assessments using a wide variety of strategies.
- A student in your class has been told again and again from different sources that people from his social group typically perform poorly in academics. To reduce the impact of this stereotype and resultant stereotype threat, a teacher's initial step can be:
 - ignoring such concerns
 - organizing competitions between students from different social groups
 - suggesting the student leave academics and join some other domain
 - presenting stories and examples of role models from different social groups.

14. In an inclusive classroom, a teacher should:
 - (1) believe that every child has the potential to learn as per their abilities and strength
 - (2) show an attitude of pity and sympathy toward disabled learners
 - (3) use labels such as 'handicapped child' and 'retarded child' to categorize children
 - (4) pay attention only to the gifted and talented children
15. A student shows the following signs in the classroom:
 - (i) Anxiety around reading.
 - (ii) Difficulty in recognizing words or letters.
 - (iii) Poor vocabulary skills.
 - (iv) Difficulty with understanding or remembering what was read.
 There are an indication of:
 - (1) an autistic student
 - (2) a creative student
 - (3) a student with a learning disability
 - (4) a student with 'mental impairment'
16. A teacher can address the needs of specially-abled learners in an inclusive classroom by:
 - (1) emphasizing upon practice and drill and using paper-pencil tests for assessment
 - (2) following uniform ways of instructing the students
 - (3) giving a lot of written homework and stressing on copying answers from other 'bright students'
 - (4) developing specific learning objectives based on an analysis of each student's learning strengths and weaknesses
17. A teacher can encourage creative learners in her classroom by:
 - (1) emphasizing convergent thinking
 - (2) discouraging divergent thinking
 - (3) encouraging multiple perspectives and appreciating original ideas
 - (4) discouraging the students from taking risks and undertaking challenges
18. Which of the following factors supports meaningful learning in the classroom?
 - (1) Increasing the number of tests to motivate children to learn.
 - (2) Increasing rewards to motivate children to learn.
 - (3) Following only the lecture mode of instruction.
 - (4) Showing genuine interest in the content matter and having concern for children's overall well-being and learning.
19. An example of effective problem solving strategy is:
 - (1) Not paying any attention to evaluating the solution.
 - (2) Functional fixedness- focusing on only the conventional function of an object.
 - (3) Response set- getting stuck on one way of representing a problem.
 - (4) Means-end analysis- dividing the problem into number of sub-goals.
20. Which of the following is NOT an effective strategy for teaching-learning?
 - (1) Encouraging children to make intuitive guesses.
 - (2) Experimentation and exploration.
 - (3) Dialogue and discussion.
 - (4) Focusing on reproduction of knowledge as given.
21. How can teachers deal with children who are non-attentive in the classroom?
 - (1) Ask the children to go out of the class.
 - (2) Scold them frequently in front of the entire class.
 - (3) Talk to them and find out reasons for their disinterest.
 - (4) Give them a lot of worksheets as homework.
22. Constructivist approach suggests that _____ is crucial for constructing knowledge.
 - (1) prior knowledge of the learner
 - (2) conditioning
 - (3) punishment
 - (4) note memorization
23. Children construct 'naive theories' about various phenomenon. In this background a teacher should:
 - (1) challenge these conceptions of the children through dialogue
 - (2) dismiss these ideas that children have
 - (3) ignore children's ideas and theories
 - (4) scold the children for having these ideas that interfere with her teaching
24. The relationship between cognition and emotion is:
 - (1) independent of each other
 - (2) uni-directional- emotions influence cognition
 - (3) uni-directional- cognition influences emotions
 - (4) bi-directional- a dynamic interplay between both
25. Which of the following factors affect learning?
 - (i) Interest of the student.
 - (ii) Emotional health of the student.
 - (iii) Pedagogical strategies.
 - (iv) Social and cultural context of the student.
 - (1) (i), (ii)
 - (2) (ii), (iii)
 - (3) (i), (ii), (iii)
 - (4) (i), (ii), (iii), (iv)
26. _____ are an important aspect of the process of meaningful construction of knowledge.
 - (1) Social interactions.
 - (2) Drill and repetitive recall.
 - (3) Rewards and punishment
 - (4) Stimulus-response associations.
27. When students repeatedly engage in an activity (such as designing and conducting an experiment) to earn a reward that is not directly related to that activity (such as earning a 'star' or 'badge') they are likely to:
 - (1) develop a materialistic attitude toward learning
 - (2) enjoy learning for the sake of understanding
 - (3) persist in doing the activity even without the reward
 - (4) set mastery goals for themselves rather than work to please others
28. The concept of childhood is:
 - (1) universally the same across different cultural contexts
 - (2) a social construction according to contemporary socio-constructivist theorists
 - (3) that children are born evil and have to be civilized
 - (4) that children begin with nothing at all and their characteristics are shaped entirely by environment

29. Which of the following characterizes the period of 'middle childhood'?
- Physical growth and development occur at a very rapid pace.
 - Ability to think abstractly and use scientific reasoning develops.
 - Children begin to think logically but concretely.
 - Learning occurs primarily through sensory and motor activities.
30. Family and neighbourhood are:
- psychological agencies for children
 - primary socializing agencies
 - middle socializing agencies
 - secondary socializing agencies

Mathematics and Science

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

31. How many pairs of twin primes are there between the integers 1 to 100?
- 5
 - 6
 - 7
 - 8
32. If $21168 = 2^a \times 3^b \times 7^c$, where a , b and c are natural numbers, then what is the value of $(4a - 5b + c)$?
- 0
 - 1
 - 2
 - 3
33. Let x be the least number which when divided by 8, 12, 20, 28, 35 leaves a remainder 5 in each case. What is the sum of digits of x ?
- 11
 - 14
 - 15
 - 17
34. What number should be subtracted from each of 50, 61, 92, 117 so that the numbers, so obtained in this order, are in proportion?
- 14
 - 17
 - 19
 - 23
35. A sum of ₹ 1,710 is divided among A, B and C such that 4 times of A, 6 times of B and 9 times of C are equal. What is the difference between A and C?
- ₹ 360
 - ₹ 450
 - ₹ 480
 - ₹ 540
36. The number of fruits in baskets A and B are in the ratio 7 : 9. If six fruits are taken out from A and put in B, then this ratio becomes 1 : 3. The total number of fruits in A and B is:
- 28
 - 32
 - 36
 - 40
37. $\triangle ABC$ and $\triangle ADB$ are on the common base AB and on the same side of AB. $DA \perp AB$, $CB \perp AB$ and $AC = BD$. Which of the following is true?
- $\triangle ABC \cong \triangle ABD$
 - $\triangle ABC \cong \triangle ADB$
 - $\triangle ABC \cong \triangle BAD$
 - $\triangle ABC \cong \triangle BDA$
38. The sides of four triangles are given below:
- 20 cm, 22 cm, 24 cm
 - 15 cm, 32 cm, 37 cm
 - 11 cm, 60 cm, 61 cm
 - 19 cm, 40 cm, 41 cm
- Which of them forms a right triangle?
- (i)
 - (ii)
 - (iii)
 - (iv)
39. The angles of a quadrilateral are in the ratio 3 : 5 : 7 : 9. What is the difference between the smallest and the greatest angles of the quadrilateral?
- 50°
 - 60°
 - 72°
 - 90°
40. The perimeter of a triangle is 12 cm. If all the three sides have lengths (in cm), in integers, then how many such different triangles are possible?
- 2
 - 3
 - 4
 - 5
41. A godown is in the shape of a cuboid whose length, breadth and height are 56 m, 42 m and 10 m respectively. How many (maximum) cuboidal boxes each measuring $2.8 \text{ m} \times 2.5 \text{ m} \times 70 \text{ cm}$ can be stored into the godown?
- 2400
 - 3600
 - 4800
 - 5400
42. The circumference of the base of a right circular cylinder is 528 cm and its height is 2 m. What is the volume of the cylinder? (Take $\pi = \frac{22}{7}$)
- 2.2176 m^6
 - 3.3264 m^3
 - 4.4352 m^3
 - 6.6528 m^3
43. The area of a quadrilateral is 227.2 cm^2 and the length of the perpendiculars from the opposite vertices to a diagonal are 7.2 cm and 8.8 cm. What is the length of the diagonal?
- 26.8 cm
 - 28.4 cm
 - 30.2 cm
 - 32.6 cm
44. If $5(3x + 4) - 8(6x + 7) = 9x - 8$, then what is the value of $(x^2 - 2x + 1)$?
- $\frac{2}{3}$
 - $\frac{4}{9}$
 - $\frac{5}{3}$
 - $\frac{25}{9}$
45. What is the value of $a(a + b^2 + c) + b^2(a^2 + b^2 + c^2) - c(a + b^2)$, when $a = 1$, $b = -3$ and $c = -2$?
- 138
 - 154
 - 162
 - 176
46. The expression $(x - y)(x^2 + xy + y^2) + (x + y)(x^2 - xy + y^2) - (x + y)(x^2 - y^2)$ is equal to:
- $x^3 - y^3 + xy(x + y)$
 - $y^3 - x^3 + xy(y + x)$
 - $x^3 + y^3 + xy(y - x)$
 - $x^3 + y^3 + xy(x - y)$
47. What is the mean of the median, mode and range for the data given below?
- 11, 25, 0, 8, 25, 30, 44, 50, 30, 18, 20, 17, 11, 9, 24, 25, 29
- 31
 - 32
 - 33
 - 34
48. A mathematical theorem is:
- a statement that has been proven by logical arguments based on axioms.
 - a statement which is always true and doesn't need proof.
 - a statement whose truth or falsity is not known.
 - is a statement without sufficient evidence or proof.

49. "Things which are equal to the same thing are equal to one another." This axiom which is basis to arithmetic and algebra is given by:
 (1) Euclid (2) Pythagoras
 (3) Descartes (4) Euler
50. Which of the following can be used as assessment strategy to encourage interdisciplinary in Mathematics?
 A. Projects B. Field trips
 C. Anecdotal records D. Olympiad
 (1) A & B (2) A & C
 (3) B & C (4) C & D
51. Which method can be used to prove "The sum of two even integers is always even"?
 (1) Proof by induction
 (2) Direct proof
 (3) Proof by contradiction
 (4) Counter positive proof
52. Which of the following skills are promoted by mathematics at upper primary stage?
 A. Visualisation B. Transposition
 C. Memorisation D. Generalisation
 E. Estimation
 (1) A, B, D, E (2) A, B, C, D
 (3) B, C, D, E (4) A, C, D, E
53. Which of the following tasks is least likely to develop critical thinking among students?
 (1) Evaluate 72×73 in three different ways and compare the result.
 (2) Formulate any two situations to represent the equation $7x + 3 = 24$.
 (3) A student calculated the volume of a right circular cylinder of radius 3.5 cm and height 10 cm as 38.5 cm^3 . Where did she go wrong?
 (4) Calculate the volume of a right circular cylinder of radius 3.5 cm and height 10 cm.
54. Which of the following aligns with the overall objective of achieving 'Mathematics for All' as per NCF-2005?
 (1) It should be acknowledged that Mathematics is meant for selected few students.
 (2) Textbooks should only include problems of average difficulty.
 (3) Contributions of mathematicians from different regions and different social groups should be highlighted.
 (4) Mathematically talented students should be groomed in isolation.
55. Which of the following is considered as a characteristic of an effective mathematics classroom?
 (1) Group work and group problem-solving is discouraged.
 (2) It is emphasized that mathematics is essentially a concrete subject.
 (3) Multiple ways of approaching a problem are encouraged.
 (4) Steps for solving a new problem are neatly demonstrated on the board by the teacher.
56. Which of the following is a desirable practice in the context of teaching and learning of measurement of volume?
 (1) Begin by writing the formula of volume of a cube.
 (2) Encourage precise calculation right from the beginning.
 (3) Begin by introducing students to the volume of 2-D figures.
 (4) Encourage students to figure out ways to calculate the volume of different objects.
57. Which of the following is NOT true according to Piaget's view of children's understanding of space?
 (1) Progression geometric ideas follows a definite order
 (2) Progression of Geometric ideas follows a historical rather than a logical order.
 (3) Early understanding of space is formed by child's sensory motor experiences.
 (4) Co-ordination of different visual and tactile experiences is required for understanding projective space.
58. If $-12 \times (-3) + [20 \div (-4) - (-24) \div 8] - [16 \div (-2)] = (-28 \div 7) + x$, then the value of x is
 (1) 29 (2) 39
 (3) 46 (4) 47
59. If an 8-digit number $30x0867y$ is divisible by 88, then what is the value of $(3x + y)$?
 (1) 4 (2) 5
 (3) 6 (4) 7
60. The value of:
 $6\frac{2}{3} \div 2\frac{1}{2} \times 3\frac{3}{4} - 5\frac{1}{2} \times 4\frac{1}{4} + 1\frac{2}{3} \left(\frac{7}{8} + \frac{3}{4} \times \frac{2}{3} \right)$
 is
 (1) $-11\frac{1}{12}$ (2) $11\frac{1}{2}$
 (3) $6\frac{1}{2}$ (4) $-6\frac{1}{2}$
- Directions:** Answer the following questions by selecting the correct/most appropriate options.
61. 'X' is a chemical present in our stomach and is necessary for digestion of food. When 'X' is secreted in excess, it causes health problems like indigestion. 'Y' is a chemical used to treat this condition. What could be 'X' and 'Y'?
 (1) X is hydrochloric acid & Y is sodium carbonate.
 (2) X is milk of magnesia & Y is hydrochloric acid.
 (3) X is hydrochloric acid & Y is milk of magnesia.
 (4) X is milk of magnesia & Y is ascorbic acid.
62. In which of the following processes, Bacteria is NOT used?
 (1) Formation of curd
 (2) Baking of bread
 (3) Fermentation of Sugarcane juice
 (4) Nitrogen fixation
63. Which of the following is different from the rest?
 (1) Deforestation (2) Desertification
 (3) Erosion (4) Conservation

64. Which of the following statement is NOT correct?
(1) Digestion is a chemical change.
(2) Photosynthesis is a chemical change.
(3) Respiration is a chemical change.
(4) Crystallisation is a chemical change.
65. Which of the following represents an ascending order as per the size of particles?
(1) Rock, Clay, Sand, Gravel, Silt
(2) Clay, Silt, Sand, Gravel, Rock
(3) Silt, Clay, Sand, Gravel, Rock
(4) Rock, Gravel, Sand, Silt, Clay
66. The function of gills in the fish is to:
(1) take in oxygen from air
(2) absorb nutrients present in water
(3) absorb dissolved oxygen from water
(4) excrete waste into water
67. Which of the following can be used to complete an electric circuit if one runs out of connecting wire?
(1) A paper strip (2) A rubber belt
(3) A wooden stick (4) A blade
68. Manjula is observing her image in a plane mirror. The distance between herself and the mirror is 5 m. She moves 1 m towards the mirror. The distance herself and her image now is:
(1) 1 m (2) 4 m
(3) 8 m (4) 10 m
69. A pendulum oscillates 30 times in 3 seconds. Choose the correct statement from the following:
(1) It's time period is 10 s and frequency is 3 Hz.
(2) It's time period is 0.1 s and frequency is 10 Hz.
(3) It's time period is 10 s and frequency is 0.3 Hz.
(4) It's time period is 0.3 s and frequency is 0.3 Hz.
70. Identify the incorrect statement.
(1) Ball bearings are used to increase friction between parts of a machine.
(2) Friction between two surfaces in contact can never be eliminated on earth.
(3) Rolling friction is less than sliding friction.
(4) The friction force on an object moving through a fluid depends upon its shape.
71. Which of the following statements is/are correct?
A. Iron can replace zinc from zinc sulphate solution.
B. Zinc can replace copper from copper sulphate solution.
C. Copper can replace Iron from Iron sulphate solution.
(1) Only A (2) Only B
(3) A and B (4) B and C
72. Identify the correct statement from the following:
(1) Clinical Thermometer can be used to measure the temperature of boiling liquids.
(2) Room thermometers have a range from 30°C to 100°C.
(3) Laboratory thermometers have a range from 35°C to 42°C.
(4) The range of a laboratory thermometer is greater than that of a clinical thermometer.
73. Identify the incorrect statement.
(1) The calorific value of Kerosene is more than that of Coal.
(2) The calorific value of coal is more than that of Wood.
(3) The calorific value of Biogas is more than that of LPG.
(4) The calorific value of CNG is more than that of Diesel.
74. A bus travels at a speed of 50 km/h for 12 minutes & then at a speed of 40 km/h for the next 18 minutes. Total distance covered by the bus during this time is:
(1) 20 km (2) 22 km
(3) 24 km (4) 28 km
75. Identify the incorrect statement among the following:
(1) The motion of earth around its axis is periodic motion.
(2) The motion of light is rectilinear motion.
(3) The motion of plucked string of a sitar is oscillatory motion.
(4) All periodic motions are circular motions.
76. Which of the following statements is/are correct regarding image formation in plane mirror?
A. Image is erect.
B. Image is real.
C. Image is laterally inverted.
D. The image size is same that of object.
(1) A,B,C (2) A,C,D
(3) B,C,D (4) A,B,D
77. Which of the following is a NOT true *w.r.t.* the nature of Science?
(1) Science is an interdisciplinary area of learning.
(2) Science is always tentative.
(3) Science promotes scepticism.
(4) Science is equivalent to a set of facts.
78. As per NCF 2005, good Science education should be the:
(1) true to science teacher
(2) true to the child
(3) true to the environment of the school
(4) true to the classroom culture
79. Which of the following validities of a good science education curriculum is satisfied by Activity and Experiment?
(1) Cognitive (2) Historical
(3) Environmental (4) Process
80. Anu took her class VIII children to field trip. Which of the following could be the most appropriate objective/s for this activity?
A. It encourages interaction among children.
B. It promotes process skills through concrete experiences.
C. It enhances observation skills among the children.
D. It breaks the monotony of class as well as of teacher.
(1) A, B and C (2) B and C only
(3) A, C and D (4) A and C only
81. Which of the following should NOT be an objective of science education at the upper primary level?
(1) Nurturing the natural curiosity of children.
(2) Inculcating the values of co-operation and concern for life.
(3) Cultivating scientific temper.
(4) Emphasising the textbook definitions of concepts.

Language: English

Directions: Read the passage given below and answer the questions that follow (Q. Nos. 91-99) by selecting the correct/most appropriate options:

Learning a language under any circumstances requires hard work and concentration. However, the circumstances can make a difference in both quality and quantity. Most foreign language students learn in a classroom, from a text-book. In a classroom, language learning can be controlled so that all the necessary structures are taught. Highly motivated students can thus learn the language efficiently and quickly. Learning on the streets and in the markets from experience and need can be effective although the student learns only what he happens to need, in a haphazard way.

Some language students find this real-life situation more meaningful because the students' success in fulfilling their needs depends on their language ability. However, shop-keepers are more likely to be tolerant of incorrect grammar than classroom teachers, so mispronunciations and errors will not matter much. Nevertheless, the rewards are different for the type of language learning situations. They are immediate (goods, bought in a store) in the real-life but delayed until a quiz or oral recital for the classroom learner.

The kind of language learnt in each setting differs too. In the classroom, the student is more likely to learn the grammatical language of educated people. The language learnt out of necessity often lacks the fine details of the classroom variety and might include informal expressions such as slang. The people learning on the street must be easily understood. Therefore, they might actually sound more like native speakers although not necessarily educated people. So a combination of classroom instruction and the experience of using language in the street will result in the best language learning of all.

91. Language needs of real-life situations are fulfilled by:

- (1) studying textbooks carefully.
- (2) learning the language structures.
- (3) learning on the streets.
- (4) learning proper pronunciation.

92. Which of the following statements is NOT true?

- (1) Shopkeepers are intolerant of incorrect pronunciation.
- (2) Real-life situations are more meaningful for language learning.
- (3) Classroom learning can be tested in an oral recital.
- (4) Foreign students learn language mostly from textbooks.

93. Study the following statements:

- (a) At school one learns the language of educated people.
- (b) Language learned on the street Includes the use of slang,

- (1) (a) is right and (b) is wrong.
- (2) (a) is wrong and (b) is right.
- (3) Both (a) and (b) are right.
- (4) Both (a) and (b) are wrong

82. Which of the following can enhance critical thinking among children?

- (1) Asking children to read science textbook in the class.
- (2) Asking children to read the extended learning given at the end of the textbook.
- (3) Asking children to discuss among themselves in groups followed by sharing in large group.
- (4) Demonstration of experiments by the teacher.

83. A teacher begins the class by demonstrating the chemical test of starch in a given sample of food. The cognitive process associated with the underlined word in the above statement is:

- (1) Creating
- (2) Analysing
- (3) Applying
- (4) Understanding

84. Which of the following activities will NOT provide active learning among children?

- (1) Establishing science club
- (2) Organisation of field trip
- (3) Developing a science corner
- (4) Listening to a lecture in class

85. Which of the following is used for finding the learning gaps of learners in Science?

- A. Concept map
- B. Anecdotal record
- C. Portfolio
- D. Term end achievement test
- (1) D only
- (2) A and D
- (3) A, B and C
- (4) B, C and D

86. Which of the following test is based on the technique of observation?

- (1) Oral test
- (2) Written test
- (3) Paper-pencil test
- (4) Anecdotal record

87. Which of the following statements are correct?

- A. Pashmina shawl is made from hair of goats.
- B. Angora is a type of wool obtained from Rabbits.
- C. Camel wool is used to make carpets.
- D. Pashmina wool is obtained from rabbits.
- (1) A & C
- (2) A & B
- (3) B & C
- (4) C & D

88. Identify the animal on the basis of features listed below:

- A. Long back bone
- B. Many muscles
- C. Body curves into many loops for moving forward
- (1) Snake
- (2) Earthworm
- (3) Snail
- (4) Hook worm

89. Which of the following statement is NOT true ?

- (1) All arteries carry oxygen rich blood.
- (2) All arteries carry oxygen from heart to other parts.
- (3) Arteries have thick walls.
- (4) Arteries have elastic walls.

90. Which of the following represents correct matching order?

A.	Acetic acid	I.	Curd
B.	Lactic acid	II.	Spinach
C.	Oxalic acid	III.	Citrus fruits
D.	Ascorbic acid	IV.	Vinegar

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

94. Which part of speech is the underlined word in the following sentence?
The kind of language learned in each setting differs too.
(1) Pronoun (2) Determiner
(3) Conjunction (4) Preposition
95. Study the following phrase. Which part of speech is the underlined word?
"but delayed until a quiz..."
(1) Pronoun (2) Determiner
(3) Conjunction (4) Preposition
96. What does the word 'motivated' mean in the following phrase?
'Highly motivated students can thus...'
(1) intelligent (2) resourceful
(3) muddled (4) interested
97. '...in a haphazard way.'
The word 'haphazard' means
(1) dangerous (2) unorganized
(3) safe (4) proper
98. The best place to correctly and quickly learn a foreign language is:
(1) only the classroom.
(2) only the marketplace.
(3) both the classroom and the market place.
(4) home.
99. A text-book:
(1) controls language learning.
(2) motivates the students.
(3) teaches what a student needs.
(4) is an inexpensive tool for learning.
- Directions:** Read the extract given below and answer the questions that follow (Q. Nos. 100-105) by selecting the correct/most appropriate options:
- Great, wide, beautiful, wonderful world,
With the wonderful water around you curled,
And the wonderful grass upon your breast
World, you are beautifully drest.
The wonderful air is over me,
And the wonderful wind is shaking the tree,
It walks on the water, and whirls the mills,
And talks to itself on the tops of the hills.
You friendly Earth, how far do you go,
With the wheat-fields that nod and the rivers that flow
With cities and gardens, and cliffs and isles,
And people upon you for thousands of miles ?
Ah! You are so great and I am so small,
I tremble to think of you, world, at all;
And yet when I said my prayers today,
A whisper inside me seemed to say,
'You are more than the Earth, though you are such a dot,
You can love and think, and the Earth cannot !'
100. The cities, gardens, cliffs and isles show that the Earth is:
(1) huge (2) friendly
(3) small (4) well populated
101. In the extract, the poet has compared:
(1) Man with the Earth. (2) World with the Earth.
(3) World with the air. (4) The Earth with the air.
102. The mood of the speaker in all of these lines is:
(1) serious (2) joyous
(3) sad (4) introspective
103. The figure of speech used in the first stanza of the extract is:
(1) Simile (2) Synecdoche
(3) Onomatopoeia (4) Personification
104. The figure of speech used in the phrase 'and whirls the mills' is:
(1) Simile (2) Synecdoche
(3) Onomatopoeia (4) Personification
105. The beautiful dress worn by the Earth is made of:
(1) mills and the hills.
(2) gardens and wheat-fields.
(3) water and grass.
(4) mountains and forests.
106. A teacher asks her learners to collect words/phrases on various aspects they see and notice in their markets and streets. Later, the learners write the words and phrases according to the category and discuss them in the class. What is this practice known as?
(1) Topic words learning
(2) Genre-based words
(3) Active vocabulary
(4) Thematic vocabulary learning
107. What does CLIL stand for?
(1) Content Language Inter Learning
(2) Content and Language based Interesting Learning
(3) Content and Language Integrated Learning
(4) Context for Language Integrated Learning
108. Which of the following statements is correct?
(1) Receptive vocabulary is words we speak and productive vocabulary are words we hear.
(2) Receptive vocabulary are words we recognize when we hear or see and productive vocabulary are words we speak or write.
(3) Receptive vocabulary are words we discourse with people and productive vocabulary are words in written text.
(4) Words from other languages are receptive vocabulary and words from native languages are productive vocabulary.
109. A teacher divides her class into groups of four and reads out a text of about six sentences. Learners listen to and jot down important words and phrases. The teacher reads out the text the second time. Then learners discuss in groups the jotted-down words and recreate the text nearer to the one read out by the teacher. What is this task known as ?
(1) Composition Dictation
(2) Mutual Dictation
(3) Punctuation Dictation
(4) Real Dictation
110. Intensive reading refers to
(1) reading a text for detailed information.
(2) reading a text for pleasure.
(3) reading a text for editing.
(4) reading a text for someone else.
111. Knowing a word means
(1) how, where and when it is used.
(2) how the word is spelled.
(3) who speaks the word.
(4) to know to write the word.

112. Which typology of question does the following question belong to ?
Imagine you are the narrator of the story. Write an entry in your diary about your experiences in about 100 words.
- (1) Informative question (2) Inferential question
(3) Cloze question (4) Extrapolative question
113. Poetry teaching is,
- (1) to learn words and phrases.
(2) to learn poetic devices.
(3) for enjoyment and appreciation.
(4) to write a critical commentary.
114. Learning outcomes aim at
- (1) output oriented learning
(2) achieving maximum levels of learning
(3) achieving minimum levels of learning
(4) ensuring all the competencies are acquired by learners.
115. A teacher brings a newspaper to her class VIII students and asks them to find some advertisements. She then asks them to list out how advertisements are designed and what an advertisement contains. What is the newspaper here?
- (1) For reading.
(2) An instrument of language learning.
(3) A technique of language learning.
(4) Materials for language learning.
116. National Curriculum Framework 2005 assigns 'supplementary and 'complimentary roles to the English language. This means that
- (1) English language teaching should support the learning of other languages and subjects.
(2) English language teaching has nothing to do with teaching-learning of other languages.
(3) English language teaching is a hindrance to learning of other languages.
(4) English language teaching violates the mother tongue-based language education.
117. A reader uses her prior knowledge, makes semantic cues and syntactic cues then moves to other more specific information. What model of reading does the reader here adopt?
- (1) Bottom-up model (2) Top-down model
(3) Interactive model (4) Whole language model
118. Drilling is a teaching-learning technique or a strategy in
- (1) Constructivist language teaching
(2) Structuralism
(3) Communicative learning teaching
(4) Lexical approach
119. Which of the following statements is TRUE of language learning?
- (1) First language interferes in the learning of a second language.
(2) First language supports the learning of a second language.
(3) Language learning has nothing to do with content learning.
(4) Every language is different and learning of languages is also discreet.

120. Multilingualism as a resource in education aims at
- (1) making use of the languages of learners for teaching-learning.
(2) making learners learn as many languages as possible.
(3) using classical languages for teaching-learning.
(4) enabling them to learn the English language for jobs and their mother tongue for culture.

Language: Hindi

निर्देश (121-129): निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प चुनिए—

हम श्वास द्वारा ऑक्सीजन ग्रहण करते और कार्बन डाई-ऑक्साइड छोड़ते हैं। ऐसा ही अधिकतर जानवरों, चिड़ियों, रेंगनेवाले जन्तुओं, कीड़े-मकोड़ों के द्वारा भी किया जाता है। दूसरी ओर सभी प्रकार की वनस्पतियाँ कार्बन डाई-ऑक्साइड ग्रहण करती और ऑक्सीजन छोड़ती हैं। यदि हवा में लम्बे समय तक ऑक्सीजन और कार्बन डाई-ऑक्साइड का अनुपात एक जैसे रहे तब उसका अर्थ होगा कि पौधों और प्राणियों का जीवन एक दूसरे के अस्तित्व के मामले में समान स्तर पर आ जायेगा। लेकिन यदि हम कार्बन डाई-ऑक्साइड का अनुपात वातावरण में बढ़ा दें तब प्रकृति के द्वारा लाखों सालों से बनाकर रखा गया संतुलन बदल जायेगा।

वातावरण और वनस्पतियाँ कार्बन डाई-ऑक्साइड का लगातार विनिमय करती रहती हैं। वातावरण से वह वनस्पतियों में जाती है। जब वनस्पतियाँ सड़ने लगती हैं तब उनमें से कार्बन डाई-ऑक्साइड निकलकर पुनः वातावरण में समा जाती है। वनस्पतियाँ इस प्रकार कार्बन डाई-ऑक्साइड वसंत और ग्रीष्म ऋतु में ग्रहण करती हैं और जब वे सर्दियों में नष्ट होने लगती हैं तब उसे छोड़ती हैं। इस प्रकार वातावरण में मौजूद कार्बन डाई-ऑक्साइड की मात्रा में मौसम दर मौसम फर्क होता है।

121. वनस्पतियाँ जब सड़ने लगती हैं तो वातावरण को मिलती है।

- (1) ऑक्सीजन (2) नाइट्रोजन
(3) कार्बन डाई-ऑक्साइड (4) जैविक खाद

122. पौधों और प्राणियों का जीवन एक-दूसरे के अस्तित्व के समान आ आया, जब हवा में लम्बे समय तक

- (1) सूर्य का प्रकाश मिलता रहे।
(2) कार्बन डाई-ऑक्साइड मिलना बन्द हो जाए।
(3) कार्बन डाई-ऑक्साइड और ऑक्सीजन का अनुपात समान रहे।
(4) वनस्पतियाँ कार्बन डाई-ऑक्साइड का विनिमय करती रहें।

123. 'वातावरण' का विग्रह और समास होगा—

- (1) वात और आवरण — द्वंद्व
(2) वात का आवरण — तत्पुरुष
(3) वात का बना ऐसा आवरण — बहुव्रीहि
(4) वातावरण रूपी वात — कर्मधारय

124. 'श्वास' और 'ऑक्सीजन' शब्द हैं—

- (1) तत्सम तद्भव
(2) तद्भव देशज
(3) देशज आगत
(4) तत्सम आगत

125. 'लम्बे समय तक' पद व्याकरण की दृष्टि से है—

- (1) संज्ञा
(2) सर्वनाम
(3) विशेषण
(4) क्रिया-विशेषण

126. गद्यांश का मुख्य विषय है—

- (1) ऑक्सीजन और कार्बन डाई-ऑक्साइड का संतुलन
- (2) श्वास द्वारा ऑक्सीजन ग्रहण
- (3) पौधों और प्राणियों का जीवन
- (4) वसंत और ग्रीष्म ऋतु में वनस्पतियाँ

127. 'विनिमय' का अर्थ है—

- (1) लेना-पहुँचाना
- (2) देना-खरीदना
- (3) लेना-देना
- (4) आना-जाना

128. हम सौँस के साथ—

- (1) ऑक्सीजन छोड़ते और ग्रहण करते हैं।
- (2) ऑक्सीजन लेते और कार्बन डाई-ऑक्साइड छोड़ते हैं।
- (3) कार्बन डाई-ऑक्साइड लेते और छोड़ते हैं।
- (4) कार्बन डाई-ऑक्साइड लेते और ऑक्सीजन छोड़ते हैं।

129. ऑक्सीजन ग्रहण करने में अधिकांश जीवधारियों का स्वभाव—

- (1) मानव से भिन्न है।
- (2) मानव के विपरीत है।
- (3) मानव की तरह है।
- (4) विचित्र प्रकार का है।

निर्देश (130-135): निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए—
वह आता—

दो टूक कलेजे के करता पछताता पथ पर आता।

पेट-पीठ दोनों मिलकर हैं एक,

चल रहा लकुटिया टेक,

मुट्ठी-भर दाने को — भूख मिटाने को

मुँह फटी पुरानी झोली को फैलाता

दो टूक कलेजे के करता पछताता पथ पर आता।

130. 'पेट-पीठ दोनों मिलकर हैं एक' इसका कारण क्या हो सकता है?

- (1) सिकुड़कर बैठना।
- (2) झुककर चलना।
- (3) कुछ भी भोजन न करना।
- (4) भीख माँगने का नाटक करना।

131. 'कलेजे के दो टूक करना' का आशय है—

- (1) टुकड़े-टुकड़े करना।
- (2) मन को कष्ट पहुँचाना।
- (3) दिल की चीर-फाड़ करना।
- (4) कठिनाई पैदा करना।

132. भिखारी अपनी झोली क्यों फैलाता है?

- (1) भूख मिटाने के लिए कुछ अन्न चाहता है।
- (2) झोली में कुछ छिपाना चाहता है।
- (3) मुट्ठी-भर अनाज दिखाना चाहता है।
- (4) अपनी गरीबी के बारे में बताना चाहता है।

133. 'मुँह' शब्द में प्रयुक्त चंद्रबिन्दु है—

- (1) अनुस्वार
- (2) अनुनासिक
- (3) नासिक्य
- (4) शिरोरेखा

134. काव्यांश से हमारे मन में उठने वाला मुख्य भाव है—

- (1) शृंगार
- (2) हास्य
- (3) करुणा
- (4) वीरता

135. 'वह आता' में 'वह' सर्वनाम किसका द्योतक हो सकता है?

- (1) गांधीजी
- (2) अतिथि
- (3) भिक्षुक
- (4) विकलांग

136. उच्च प्राथमिक स्तर पर भाषा सीखने का उद्देश्य है—

- (1) प्रश्नोत्तरी, भाषण, अन्त्याक्षरी का मात्र आयोजन करना।
- (2) भाषा की बारीकी और सौंदर्यबोध को सही रूप में समझना।
- (3) दूसरों के अनुभवों से जुड़कर सवालों के जवाब देना।
- (4) निजी अनुभवों को केवल लिखकर अभिव्यक्ति करना।

137. 'ज्ञान से संबंधित अन्य विषयों की समझ का विकास तथा उससे आनंद उठाने की क्षमता का विकास' उच्च प्राथमिक स्तर का भाषा सीखने का—

- (1) एकमात्र उद्देश्य है।
- (2) एक महत्वपूर्ण उद्देश्य है।
- (3) सर्वाधिक महत्वपूर्ण उद्देश्य है।
- (4) सबसे कम महत्वपूर्ण उद्देश्य है।

138. पढ़ने का अर्थ है—

- (1) पढ़कर समझना
- (2) वर्णमाला का ज्ञान
- (3) वाक्यों को पढ़ना
- (4) शब्दों को पढ़ना

139. कविता में कई बार 'अभी भी' का प्रयोग करके बातें रची गई हैं... बिना रूके चलने वाले किसी कार्य का भाव निकल रहा है या नहीं? प्रश्न की ओर संकेत करता है।

- (1) व्याकरणिक ज्ञान
- (2) भाषा की बारीकी
- (3) व्याकरण की परिभाषा
- (4) भाषा-संरचना

140. उच्च प्राथमिक स्तर पर भाषा सीखने में पाठ्य-पुस्तक के अतिरिक्त कौन-सी संसाधन सामग्री सर्वाधिक महत्वपूर्ण है?

- (1) रेडियो नाटक
- (2) कविता पाठ
- (3) आयु अनुरूप साहित्य
- (4) समाचार-पत्र

141. गणित, विज्ञान आदि विषयों की कक्षाओं में भी बच्चे भाषा सीखते हैं। यह विचार—

- (1) पूर्णतः सत्य है।
- (2) पूर्णतः असत्य है।
- (3) आंशिक रूप से सत्य है।
- (4) निराधार है।

142. उच्च प्राथमिक स्तर पर पाठ्य-पुस्तकों में हिन्दीतर भाषा को ही जगह मिलनी चाहिए ताकि बच्चे—

- (1) भाषा की विभिन्न रंगतों से परिचित हो सकें।
- (2) हिन्दीतर भाषी साहित्यकारों से परिचित हो सकें।
- (3) सामाजिक संस्कृति से परिचित हो सकें।
- (4) ये सभी।

143. बच्चे भाषा तक बेहतर तरीके से सीखते हैं जब—

- (1) अनेक पाठ्य-पुस्तकें हों।
- (2) भाषा का समृद्ध परिवेश हो।
- (3) सरल साहित्य का चयन हो।
- (4) परीक्षाओं का आयोजन हो।

144. उच्च प्राथमिक स्तर पर भाषा-आकलन की दृष्टि से सर्वाधिक महत्वपूर्ण है—

- (1) अवलोकन
- (2) जाँच सूची
- (3) साक्षात्कार सूची
- (4) लिखित परीक्षा

145. द्वितीय भाषा की पाठ्यचर्या का एक लक्ष्य है—

प्राकृतिक भाषा ज्ञान में अर्जित दक्षता के अनुरूप दक्षता प्राप्त करना।

- (1) उच्च
- (2) सर्वोच्च
- (3) औसत
- (4) बुनियादी

146. भाषा के विभिन्न कौशलों को रूप में पढ़ाने की अनुशंसा की जाती है।

- (1) क्रमिक
- (2) एकीकृत
- (3) उच्च
- (4) निम्न

147. व्याकरण शिक्षण की कौन-सी विधि अपेक्षाकृत प्रभावी है?

- (1) आगमन विधि
- (2) निगमन विधि
- (3) सूत्र विधि
- (4) पाठ्यपुस्तक विधि

148. उच्च प्राथमिक स्तर पर भाषा की पाठ्य-पुस्तक में 'रक्त और हमारा शरीर' पाठ शामिल करने का विचार से जुड़ा है।

- (1) विषयों की विभिन्न भाषाओं
- (2) सम्पूर्ण पाठ्यचर्या में भाषा
- (3) हिन्दी भाषा की विभिन्न रंगतों
- (4) विज्ञान संबंधी शब्दावली

149. त्रिभाषा-फार्मुला भारत की की चुनौतियों और को संबोधित करने का एक प्रयास है।

- (1) संस्कृति, समाधानों
- (2) समस्याओं, अवसरों
- (3) भाषा-स्थिति, संस्कृति
- (4) भाषा-स्थिति, अवसरों

150. लिखने की क्षमता का विकास बोलने, सुनने और पढ़ने की क्षमता की संगति में होना चाहिए। यह विचार—

- (1) पूर्णतः असत्य है।
- (2) पूर्णतः सत्य है।
- (3) आंशिक रूप से सत्य है।
- (4) पूर्णतः निराधार है।

ANSWER KEY

Child Development and Pedagogy

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

Mathematics and Science

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

Language: English

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

Language: Hindi

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

Child Development and Pedagogy

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

Explanation: Lawrence Kohlberg's stage 2 of moral development:

Stage 2 (Exchange/Preconventional morality-young children under nine). The second stage of moral development relies mainly on the exchange of favours. Children at this stage are motivated not by friendship or respect but by personal advantages. Consequently, the child may be inquisitive about the benefit of doing any favours.

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

Explanation: Gender stereotyping refers to ascribing roles based on gender. (Men and Women).

Gender stereotyping in a school environment can affect a young person's classroom experience, academic performance, subject choice and well-being.

Hence, a school giving preference to boys for badminton competitions and girls for music competitions is an example of gender stereotyping.

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

Explanation: Gender stereotyping refers to ascribing roles based on gender. (Men and Women).

Gender inequality grants males more rights, privileges and opportunities as key decision-makers and influencers. However, females do not get opportunities to develop themselves and improve their social conditions.

Parents' treatment of their children also reflects this belief system. For example, in the gendered division of household work, boys will get maintenance chores like mowing the lawn or painting, and girls will get domestic chores like cooking and cleaning.

However, parents' conscious gender bias within their society can significantly challenge gender roles, break stereotypes and educate their children.

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

Explanation: Scaffolding is the help/support (provided by the teacher) in the zone of proximal development. As the child begins to learn and master the skill, the support provided by the teacher decreases. Eventually, the child can begin to do the task on their own.

Hence, when a teacher adjusts the support offered to the child to fit the child's current level of performance and help her to reach her zone of proximal development, the teacher is scaffolding the child.

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

Explanation: At about age 11, adolescents can think abstractly and combine and classify items more sophisticatedly during the formal operational stage.

They can understand division and fractions without dividing things and solve theoretical problems.

Significant Characteristics and Developmental Changes:

- Concrete operations relate to things, whereas formal operations relate to ideas. Formal operational thought is free from physical and perceptual constraints.

- Adolescents can deal with theoretical problems with many possible solutions, which helps them to engage in scientific reasoning, politics, ethics and more.

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

Explanation: Vygotsky's socio-cultural theory states that a child learns language and gains knowledge through social interactions. His theory states that "learning is a crucially social process instead of an independent journey of discovery."

In his theory, culture is essential in shaping cognitive development and varies in different cultures. He also emphasized the role of language as the root of all learning, an essential tool for communication and cognitive development.

He emphasized the role of cultural tools. (Technical tools such as books, media, computers, and social software) and psychological tools (language, signs, writing, and symbols) in cognitive development.

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

Explanation: Jean Piaget's Formal Operational Stage, Ages: 12 and Over

- In the formal operational period (age 11), adolescents can think abstractly, combine and classify items more sophisticatedly, and have the capacity for higher-order reasoning.

- They can think systematically and reason, making them understand politics, ethics, and science fiction and engage in scientific reasoning.

- Adolescents can understand division and fractions without dividing things to solve hypothetical (imaginary) problems.

- From about 12 years, children can argue logically, think abstractly and logically test hypotheses.

This stage sees the emergence of scientific thinking, formulating abstract theories and hypotheses when faced with a problem.

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

Explanation: In his multiple intelligence theory, Howard Gardner states that people have multiple kinds of intelligence, such as musical, interpersonal, spatial-visual, and linguistic intelligence. He further suggests that a person may possess a range of abilities. For example, an individual might have good verbal, musical, and naturalistic intelligence skills.

Eight kinds of intelligence he proposed are:

- Linguistics
- Musical
- Logical-mathematical
- Spatial
- Bodily-kinesthetic
- Interpersonal
- Intrapersonal
- Naturalist

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

Explanation: Socialization:

- This learning process begins shortly after birth.

- Early childhood sees the most intense and crucial socialization, and home, family, peers, and friends play a key role in learning.

- A child acquires the language and learns the fundamentals of the culture.

In the development of children, socialization plays a key role and is affected by family, school, peers, and mass media. So, traditional agencies and other factors like family, friends, and social groups play a vital role in a child's development.

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

Explanation: Heredity (Genetic factors) plays an essential role in creating individual variations. For example, parents' genes decide a child's height, intellect and personality.

The impact of environmental factors may vary for each individual, like friends, economic class, access to basic needs, social amenities, housing, weather, climate, and hygiene.

Socioeconomic factors such as income, education, employment, community safety, and social support can affect development in a positive as well as negative way.

Hence, individual variations result from the complex interplay between heredity and environment.

11. Option (1) is correct.

Explanation: Progressivists believe people learn best from the facts most relevant to their lives. Hence, the curricula are planned based on student's needs, experiences, interests, and abilities.

In the progressive classroom based on exploration and experience, teachers act as facilitators, and students explore their physical, mental, moral, and social growth. To create learning, the teacher may include small groups debating, custom-made activities, and learning stations.

Hence, in a progressive classroom, learners play an active role in their learning.

12. Option (4) is correct.

Explanation: Features of Continuous and Comprehensive Evaluation (CCE):

- It enables effective teaching.
- It conducts a continuous assessment of student progress.
- It helps to create teaching-learning plans for the future.
- It creates a good attitude and imbibes good values in students.
- It helps to improve Scholastic as well as Co-Scholastic growth.

Hence, CCE entails planning on parameters and tools of evaluation, meticulous record keeping by the teacher, and integration with the teaching-learning process.

13. Option (4) is correct.

Explanation: Stereotype threat puts children at risk of being stereotyped about their social group, leading to racial and gender gaps in academic performance.

Hence, it is crucial for a teacher to:

- Create happy and personalized teacher-student relationships.
- Affirm students' sense of belonging.
- Build students' self-efficacy.
- Create authentic opportunities for students to affirm their individuality.
- Hold students to high standards.
- Teach students about the nature of intelligence and stereotype threat.
- Value multiple perspectives.
- Create cooperative learning environments.
- Provide role models.
- Address test-taking anxiety.

14. Option (1) is correct.

Explanation: In an inclusive classroom, Multilingual ways of reading, writing, and speaking give students

access to more than one culture and improve their understanding of their cultures. Moreover, expand access to knowledge through texts in more than one language.

The teacher's primary role in a multidimensional language class is to create an environment and develop activities so that students can practice the language in a meaningful context. In the multilingual classroom, speakers practice Translanguaging. Teachers can direct learners to use different languages at distinct stages in a lesson to help them communicate and ask children to share their language knowledge as part of formal education by Embedding multilingualism into teaching, storytelling, and shared reading.

15. Option (3) is correct.

Explanation: Children with disabilities need the treatment of normal human beings.

They do not require any sympathy, pity, or mercy. All they require is an opportunity to live a life with dignity. Sympathy connotes dependency, suffering, compassion and how we interact with others.

Below mentioned are some problems faced by children with disability:

- Poor decoding skills.
- Reading fluency needs to be improved.
- Slow reading rate.
- Lack of self-monitoring reading skills.
- Poor comprehension or retention.
- Difficulty identifying important ideas in context.
- Extreme difficulty building ideas and images.

16. Option (4) is correct.

Explanation: Inclusive education means all students are equal participants in the learning process, even with disabilities, based on the belief that those with disabilities should not depend on specialized services alone to benefit from educational resources, activities and practices that are otherwise available to all.

A teacher is expected to treat all his/her students equally, irrespective of their diverse backgrounds even if they are belonging to disadvantaged and deprived groups.

The main reason for the low participation could be their low sense of belonging, mainly belonging to a disadvantaged group that will result in harmful, possibly antisocial or delinquent, behaviours.

Suppose the students belong to a deprived group and are unwilling to participate in class activities. In that case, a teacher should continue to teach and make an effort to improve children's involvement by encouraging them through teaching

by different methods and making them more inclusive and comfortable so that they feel open to participate. Thus, a teacher would reflect on her teaching and find ways to improve student involvement.

17. Option (3) is correct.

Explanation: Creative children can create or produce something. They can solve problems or tasks creatively by generating many original ideas. A child with a creative mind will display high levels of ability to create original and imaginative ideas.

18. Option (4) is correct.

Explanation: Learning is meaningful when the individual completely comprehends a concept or a fact, and that specific fact relates to other stored facts in the brain.

Characteristics of meaningful learning:

- Discourage Rote Memorization.
 - Encourage Self-Testing.
 - Students should get the opportunity to figure out the problem.
 - No harsh punishment for errors.
- Hence, the teacher should provide diverse learning opportunities to all children who have the potential to learn.

19. Option (4) is correct.

Explanation: The 'Thinking' in problem-solving concludes it to be cyclical in that the solution to a problem—often serves as the input of another—is a new problem to be solved.

Robert J. Sternberg, an American Psychologist propounded seven steps of Problem-Solving which are as follows:

- 1. Problem identification:** This is the first step of problem-solving, where an individual recognizes that there is a problem that needs to be solved.
- 2. Problem definition:** In the second step, an individual determines which type of problem has arisen in front of him/her.
- 3. Resource Allocation:** Now, when the type of problem is identified, an individual discovers the kind of resources to devote solve the problem.
- 4. Problem Representation:** In this step, an individual will organize the information that he/she is having to solve the problem.
- 5. Strategy Construction:** After problem representation, an individual identifies criteria to be used, and decides how to prioritize or combine them.
- 6. Monitoring:** In the second last step, an individual assesses whether the problem is solved as per his/her intentions or solution thought or not.

7. **Evaluation:** In the final step, an individual evaluates that the problem is successfully solved.
20. **Option (4) is correct.**
Explanation: Focusing on the reproduction of knowledge the teacher gives is ineffective since it limits the opportunities for active exploration and learning through the environment. Learning by doing is more effective for students as experiencing the consequences of one's actions helps students retain information and concepts for extended periods.
21. **Option (3) is correct.**
Explanation: Boredom or disinterest disengages many learners from educational activities, seriously decreasing their abilities to acquire knowledge. In addition, students who feel bored often lose interest in the material covered, disrupt the pace of the class, and interrupt other learners. In order to prevent boredom, a teacher should:
- Add an Activity to Spur Creativity.
 - Give short breaks for healthy snacks.
 - Motivate Students to Cultivate Positive Habits.
 - Vary the Routines.
- Hence, to prevent boredom, a teacher must reflect on the lesson's content and the teaching method.
22. **Option (1) is correct.**
Explanation: Constructivism states that learners construct knowledge rather than passively take in information. With their reflections and experiences of the world, people build their representations and incorporate new information into their pre-existing knowledge (schemas). Thus, constructivists remain focused on the process of meaning-making.
23. **Option (1) is correct.**
Explanation: The naive theory is a logical and consistent set of knowledge and beliefs about a specific subject (such as physics or psychology) dealing with the relationship between the concepts and categories in a subject, skills, traits and understanding of the subject, and appeal to an entity whose existence, nature, properties, qualities or relations is unobserved by humans directly. Most developmental psychologists believe children have three naive theories: naive physics, naive psychology and naive biology. They can use these theories to look at the world logically by presenting counter-evidence and examples. The theory has the characteristics of scientific theory, such as abstractness and cohesiveness.

24. **Option (4) is correct.**
Explanation: Emotions of an individual are influenced by his/her cognitive processes, which might also include perception, attention, learning, memory retention, reasoning ability, and problem-solving. Emotion has a powerful influence on attention, significantly modulating the selectivity of attention and motivating action and behaviour. Emotional biases typically occur spontaneously based on an individual's feelings when deciding. Cognitive biases generally involve decision-making based on established concepts that may or may not be accurate. Hence, they are bi-directional.
25. **Option (4) is correct.**
Explanation: Learning is a lifelong knowledge acquisition through reading, listening, and watching content. Learning is both social and cognitive. The factors affecting learning include intelligence, motivation, emotions, interests, attitudes, beliefs, values, and learning styles. In addition, certain other factors belong to the environment or the surroundings with which the individual continuously interacts.
26. **Option (1) is correct.**
Explanation: Social interaction plays a vital role in learning. Interacting with others has proven effective in assisting the learner in organizing their thoughts, reflecting on their understanding, and finding gaps in their reasoning. From a constructivist perspective, learning involves experiencing the world and building on prior knowledge (social context). Authentic and real-world environments foster the construction of knowledge. Learning is associated with children's prior knowledge in the context: of cultural knowledge, personal knowledge, metacognitive knowledge, and tacit knowledge. Therefore, learning should move toward a child-centered approach in which their background, interests, questions, learning, and meaning creation are central to training. Knowledge and skills should be introduced to children in diverse manners, multiple formats, and different situations and challenge them to view information from multiple and diverse perspectives.
27. **Option (1) is correct.**
Explanation: The motivation to perform a task can be Intrinsic or extrinsic. Extrinsic motivation uses rewards or incentives—like praise, fame, or money—as motivation for specific activities. Excessive extrinsic rewards can lead to a decrease in intrinsic

motivation. A significant drawback to extrinsic motivation is helplessness when the reward is gone or its value is exhausted. There is also the possibility of dependency on the reward.

There is also the possibility of dependency on the reward and developing a materialistic attitude toward learning.

Teaching focused on the student's intrinsic motivation should replace rewards. A common goal should be to have the student's interest be at the center of their learning, not a reward.

28. **Option (2) is correct.**
Explanation: The socio-constructivist theory of childhood reinforces that childhood (socially constructed) differs from society to society and from context to context based on differences in cultures and beliefs. Also, childhood differs in the same society depending on other social factors, such as gender and social class. Therefore, not all societies in the world have the same concept of childhood, which proves that childhood is neither universal nor natural.
29. **Option (3) is correct.**
Explanation: According to Piaget, in the concrete-operational stage (Middle childhood, 6-12 years), thinking is followed by logical operations, such as conservation, reversibility or classification, allowing logical reasoning. Decreases in egocentrism also mark the concrete operational stage. Children in the concrete stage can think about things like others see them. Kids in the preoperational stage focus on just one aspect of a situation or problem. However, in the concrete operational stage, they can engage in "decentration" and can concentrate on many aspects of a situation simultaneously, which plays a critical role in understanding conservation.
30. **Option (2) is correct.**
Explanation: Families and neighbourhoods serve as crucial socialization contexts whereby children learn the rules and regulations necessary to become competent members of society. Acquisition of these competencies, such as behavioural and emotion-regulatory skills, has been hypothesized to occur through multiple processes, including observational learning, parental instruction, and daily interactions with neighbours and family members.

Mathematics and Science

31. **Option (4) is correct.**
Explanation: If there is only one composite number in between two prime numbers, they are said to be twin primes. Alternatively, twin

primes are two prime numbers that differ from each other by two. The twin primes from 1 to 100 are: (3, 5), (5, 7), (11, 13), (17, 19), (29, 31), (41, 43), (59, 61), (71, 73). So, there are eight pairs of twin primes.

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

Explanation: The prime factorization of

$$21168 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 7 \times 7 \\ = 2^4 \times 3^3 \times 7^2$$

So, $a = 4, b = 3, c = 2$.

Putting the value of a, b and c in given expression,

$$(4a - 5b + c) = \{(4 \times 4) - (5 \times 3) + 2\} \\ = 16 - 15 + 2 \\ = 18 - 15 \\ = 3$$

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

Explanation: LCM of 8, 12, 20, 28 and 35 = 840. Remainder = 5

So, the least number which when divided by 8, 12, 20, 28 and 35

Required number

$$= \text{LCM of given numbers} \\ + \text{Remainder}$$

$$840 + 5 = 845$$

Thus, sum of the digits will be $8 + 4 + 5 = 17$.

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

Explanation: Let the number which must be subtracted from 50, 61, 92 and 117 to make it in proportion be 'a'.

$$\text{Then, } \frac{(50-a)}{(61-a)} = \frac{(92-a)}{(117-a)}$$

$$\text{Or, } (50-a) \times (117-a) \\ = (92-a)(61-a)$$

$$\text{Or, } 5850 - 50a - 117a + a^2 \\ = 5612 - 92a - 61a + a^2$$

$$\text{Share of } (A + B + C)$$

$$= 9 + 6 + 4$$

$$= 19 \text{ units}$$

$$\text{Or, } 5850 - 167a + a^2 \\ = 5612 - 153a + a^2$$

Cancelling a^2 from both sides,

$$\text{Or, } -167a + 153a \\ = 5612 - 5850$$

$$\text{Or, } -14a = -238$$

Cancelling (-) sign from both sides,

$$\text{Or, } 14a = 238$$

$$\text{Or, } a = \frac{238}{14}$$

$$\text{So, } a = 17$$

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

Explanation: Given, total sum divided among A, B and C = ₹ 1,710

According to question,

$$4A = 6B = 9C$$

$$\text{Let } 4A = 6B = 9C = k$$

where k is constant.

Taking LCM of 4, 6 and 9

LCM of 4, 6 and 9 is 36

$$k = 36$$

Now, putting value of k in A, B and C to find their share

$$A = \frac{k}{4}$$

$$\text{or, } A = \frac{36}{4}$$

$$\text{So, } A = 9$$

$$\text{Similarly, } B = \frac{k}{6}$$

$$\text{or, } B = \frac{36}{6}$$

$$\text{So, } B = 6$$

$$\text{Now, } C = \frac{k}{9}$$

$$\text{or, } C = \frac{36}{9}$$

$$\text{So, } C = 4$$

$$\text{Then, } A = \frac{k}{4}; B = \frac{k}{6}; C = \frac{k}{9}$$

$$\text{So, } A : B : C = 9 : 6 : 4$$

$$\text{So, Share of } A = \frac{9}{19} \times ₹ 1,710$$

$$= ₹ 810$$

$$\text{Share of } B = \frac{6}{19} \times ₹ 1,710$$

$$= ₹ 540$$

$$\text{Share of } C = \frac{4}{19} \times ₹ 1,710$$

$$= ₹ 360$$

Thus, Difference between A and C

$$= 810 - 360$$

$$= ₹ 450$$

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

Explanation: Let the number of fruits in the baskets A and B be $7x$ and $9x$ respectively.

According to question,

$$\frac{(7x-6)}{(9x+6)} = \frac{1}{3}$$

$$\text{Or, } (7x-6) \times 3 \\ = (9x+6) \times 1$$

$$\text{Or, } 21x - 18 = 9x + 6$$

$$\text{Or, } 21x - 9x = 6 + 18$$

$$\text{Or, } 12x = 24$$

$$\text{Or, } x = \frac{24}{12}$$

$$\text{So, } x = 2$$

Total number of fruits in the basket

$$= 9x + 7x$$

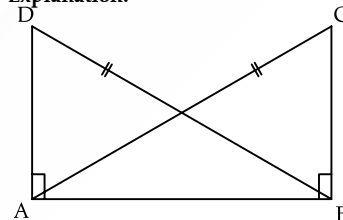
$$= 16x$$

Putting value of x ,

$$16x = 16 \times 2 = 32$$

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

Explanation:



Given, $DA \perp AB$ and $CB \perp AB$.

Also, $AC = BD$

Now, In $\triangle ABC$ and $\triangle BAD$, we have;

$$\angle BAD = \angle ABC = 90^\circ$$

(Since, $DA \perp AB$ and $CB \perp AB$)

$$AC = BD \text{ (given)}$$

$$AB = AB \text{ (common)}$$

Hence, $\triangle ABC \cong \triangle BAD$ (by R.H.S Congruence)

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

Explanation: For a triangle to be a right triangle, it must satisfy the Pythagoras theorem which states that square of the longest side is equal to the sum of the squares of the other two sides.

According to theorem,

$$(i) \quad (20)^2 + (22)^2 = (24)^2$$

$$\text{Or, } 400 + 484 = 576$$

$$\text{Or, } 884 \neq 576$$

Given sides can't form right angled triangle.

$$(ii) \quad (15)^2 + (32)^2 = (37)^2$$

$$\text{Or, } 225 + 1024 = 1369$$

$$\text{So, } 1249 \neq 1369$$

Hence, given sides can't form right angled triangle.

$$(iii) \quad (19)^2 + (40)^2 = (41)^2$$

$$\text{Or, } 361 + 1600 = 1681$$

$$\text{So, } 1961 \neq 1681$$

Hence, given sides can't form right angled triangle.

$$(iv) \quad (11)^2 + (60)^2 = (61)^2$$

$$\text{Or, } 121 + 3600 = 3721$$

$$\text{So, } 3721 = 3721$$

Hence, given sides of the triangle can form right angled triangle.

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

Explanation: Let the angles of quadrilateral be $3x, 5x, 7x$ and $9x$.

Sum of all the 4 angles of a quadrilateral = 360°

According to question,

$$3x + 5x + 7x + 9x = 360^\circ$$

$$\text{Or, } 24x = 360^\circ$$

$$\text{Or, } x = \frac{360^\circ}{24}$$

$$\text{So, } x = 15^\circ$$

Putting the value of x to get angles,

$$3x = 3 \times 15^\circ = 45^\circ$$

$$5x = 5 \times 15^\circ = 75^\circ$$

$$7x = 7 \times 15^\circ = 105^\circ$$

$$9x = 9 \times 15^\circ = 135^\circ$$

Thus, difference between the smallest and the greatest angles of the quadrilateral = $135^\circ - 45^\circ = 90^\circ$.

The smallest angle of the quadrilateral = 45°

The greatest angle of the quadrilateral = 135°

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

Explanation: We know that sum of any two sides of a triangle is greater than the third side.

It is possible only if sum of two sides is greater than 6. (Since, perimeter of the triangles is 12 cm)

So, the possible combinations of the triangle are:

$$2, 5, 5$$

$$3, 4, 5$$

$$4, 4, 4$$

Thus, 3 different triangles possible.

41. Option (3) is correct.

Explanation: Given,
Length of the cuboidal godown
= 56 m
Breadth of the cuboidal godown
= 42 m
Height of the cuboidal godown
= 10 m
Length of the cuboidal boxes = 2.8 m
Breadth of the cuboidal boxes = 2.5 m
Height of the cuboidal boxes = 70 cm
We know that,

$$\begin{aligned} 1 \text{ m} &= 100 \text{ cm} \\ 70 \text{ cm} &= \frac{70}{100} = 0.07 \text{ m} \\ \text{Required number of boxes that to be stored in the godown} &= \frac{\text{Volume of cuboidal godown}}{\text{volume of cuboidal boxes}} \\ &= \frac{56 \times 42 \times 10}{2.8 \times 2.5 \times 0.70} \\ &= 4800 \end{aligned}$$

42. Option (3) is correct.

Explanation: Given, circumference of the right circular cylinder = 528 cm
Height of the right circular cylinder = 2 m

According to question,
 $2\pi r = 528 \text{ cm}$

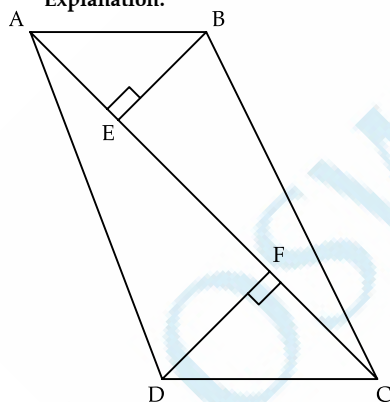
$$\text{Or, } r = \frac{528}{2\pi}$$

$$\text{Or, } r = \frac{528}{2} \times \frac{7}{22}$$

$$\begin{aligned} \text{So, } r &= 84 \text{ cm} = 0.84 \text{ m} \\ \text{Since, volume of the cylinder} &= \pi r^2 h \\ &= \frac{22}{7} \times (0.84)^2 \times 2 \\ &= \pi (0.84)^2 \times 2 \\ &= 4.4352 \text{ m}^3 \end{aligned}$$

43. Option (2) is correct.

Explanation:



In the above figure ABCD is a quadrilateral in which BE and DF are perpendiculars of length 8.8 cm and 7.2 cm respectively.

$$\begin{aligned} \text{So, the area of the quadrilateral} &= \frac{1}{2} \times \text{length of diagonal} \times (\text{sum of length of perpendiculars}) \\ &= \frac{1}{2} \times AC \times (DF + BE) \end{aligned}$$

According to question,

$$227.2 = \frac{1}{2} \times AC \times (8.8 + 7.2)$$

$$\text{Or, } 454.4 = AC \times 16$$

$$AC = \frac{454.4}{16}$$

$$\text{So, } AC = 28.4 \text{ cm}$$

Thus the length of the diagonal = 28.4 cm

44. Option (4) is correct.

Explanation:

$$5(3x + 4) - 8(6x + 7) = 9x - 8 \text{ [given]}$$

$$\text{Or, } 15x + 20 - 48x - 56 = 9x - 8$$

$$\text{Or, } -36 - 33x = 9x - 8$$

$$\text{Or, } -33x - 9x = -8 + 36$$

$$\text{Or, } -42x = 28$$

$$\text{Or, } x = \frac{-28}{42}$$

$$\text{So, } x = \frac{-2}{3}$$

Putting the value of x in given expression, we get,

$$\begin{aligned} (x^2 - 2x + 1) &= \left\{ \left(\frac{-2}{3} \right)^2 - 2 \left(\frac{-2}{3} \right) + 1 \right\} \\ &= \frac{4}{9} + \frac{4}{3} + 1 \\ &= \frac{25}{9} \end{aligned}$$

45. Option (2) is correct.

Explanation: Given values of a , b and c are 1, -3 and -2 respectively.

$$\begin{aligned} \text{Now, } a(a + b^2 + c) + b^2(a^2 + b^2 + c^2) - c(a + b^2) &= [1\{1 + (-3)^2 + (-2)\} + (-3)^2\{1 + (-3)^2 + (-2)^2\} - (-2)\{1 + (-3)^2\}] \\ &= [10 - 2] + 9[14] + 2 \times 10 \\ &= 8 + 126 + 20 \\ &= 154 \end{aligned}$$

46. Option (3) is correct.

Explanation:

$$\begin{aligned} (x - y)(x^2 + xy + y^2) + (x + y)(x^2 - xy + y^2) - (x + y)(x^2 - y^2) &\Rightarrow x^3 - y^3 + x^3 + y^3 - (x^3 - xy^2 + yx^2 - y^3) \\ &\quad x^3 + y^3 + xy(y - x) \end{aligned}$$

47. Option (3) is correct.

Explanation: The given terms are 11, 25, 0, 8, 25, 30, 44, 50, 30, 18, 20, 17, 11, 9, 24, 25 and 29.

Total number of terms = 17

After arranging the above terms in ascending order.

0, 8, 9, 11, 11, 17, 18, 20, 24, 25, 25, 25, 29, 30, 30, 44, 50.

Since, the number of terms is odd.

$$\text{Median} = \left(\frac{n+1}{2} \right)^{\text{th}} \text{ term of the series}$$

$$\begin{aligned} &= \left(\frac{17+1}{2} \right)^{\text{th}} \text{ term} \\ &= 9^{\text{th}} \text{ term} \\ &= 24 \end{aligned}$$

The value that appears most frequently in a dataset is the mode.

Terms	Frequency
0	1
8	1
9	1
11	2
17	1
18	1
20	1
24	1
25	3
29	1
44	1
50	1

Thus, mode = 25

The difference between the greatest and lowest values in a dataset is known as the range of that dataset.

Thus, Range = 50 - 0 = 50

Range of the given data = 50

Mean of range, median and mode

$$\begin{aligned} &= \frac{50 + 24 + 25}{3} \\ &= \frac{99}{3} \\ &= 33 \end{aligned}$$

48. Option (1) is correct.

Explanation: A statement that has been proven to be true through the application of logical arguments that are based upon pre-existing assertions or axioms that are accepted as self-evident is known as a mathematical theorem. In simple words, it is a conclusion that has been reached rationally based on a set of accepted truths or precepts.

49. Option (1) is correct.

Explanation: Euclid compiled and arranged all of the known mathematical works of his time in a renowned treatise known as Elements around 300 B.C. In this book, Euclid employed a number of presumptions that he categorised as Axioms and Postulates and which he regarded as obvious universal truths. One of his axioms states "Things which are equal to the same thing are equal to one another."

50. Option (1) is correct.

Explanation: An effective assessment technique could include integrating projects and field excursions into the educational process to encourage interdisciplinary thinking in mathematics. Through projects, students have the chance to assess their strengths and weaknesses and build abilities in any areas they may be lacking. Field visits, on the other hand, can aid in the growth of

students' critical thinking abilities, communication abilities and comprehension of the relevance of mathematics to everyday life. Students can learn to approach problems from several angles and gain a deeper comprehension of how mathematics can be incorporated with other subjects through the use of these evaluation methodologies.

51. Option (2) is correct.

Explanation: In mathematics, a direct proof is a technique for demonstrating a statement starting with the information provided in the proposition itself. The proof entails a logical chain of arguments that proceeds from the provided or assumed information directly to the conclusion that needs to be proven using axioms, definitions or theorems that have already been established. For instance, it is possible to directly demonstrate that "the sum of two even integers is always even" by adding any two even numbers together and demonstrating that the result is also an even number because it is divisible by 2.

52. Option (1) is correct.

Explanation: The study of mathematics fosters a number of crucial abilities, including estimation, generalisation, visualisation and transposition. These abilities include the capacity to mentally visualise a situation, transfer values from one side of an equation to another, develop more abstract representations of mathematical ideas and formulate estimates regarding solutions based on patterns or statistics.

53. Option (4) is correct.

Explanation: The ability to utilize logic and reasoning when confronted with unfamiliar situations, ideas or points of view is known as critical thinking. By using appropriate evaluation, inference and explanation techniques, it entails evaluating and analyzing information. To think critically, one must notice and evaluate information objectively while examining concepts from a variety of angles. Tasks requiring mathematical reasoning foster the growth of analytical and creative thinking abilities. Open ended questions help in development of critical thinking among students while close ended question don't. Calculation of volume of the right circular cylinder is a close ended question where student has to derive answer by putting the values in the formula.

54. Option (3) is correct.

Explanation: The 2005 National Curriculum Frame-work states that a child's education in mathematics should develop their capacity to think critically, reason logically, deal with abstractions and solve problems. Teachers must impart mathematical knowledge that is significant and founded in the experiences of the students in order to accomplish this goal. Teachers should promote the idea that every child has a right to achieve in mathematics by giving examples of accomplished mathematicians from various origins and places. By doing this, educators may engage all students with the belief that everyone can learn mathematics and contribute significantly to the subject.

55. Option (3) is correct.

Explanation: Create a supportive learning environment that encourages children to become more proficient in math, develops their problem-solving abilities, fosters their mathematical curiosity and gives them confidence in their ability to use math to analyze and solve problems while also allowing them to experiment with and come up with different problem-solving strategies.

56. Option (4) is correct.

Explanation: In a math class, a purely deductive approach to presenting formulas and performing calculations can hinder the child's creative thinking skills and should be avoided. Instead, it is beneficial to encourage practices that allow students to experiment with different methods for determining the volume of different objects, particularly when teaching and learning about volume measurement.

57. Option (2) is correct.

Explanation: According to Piaget, children in the concrete operational stage have the ability to use inductive reasoning to form a general principle to predict the outcome of a specific event in a creative manner while still following a logical sequence. Such children can also reason abstractly. The coordination of various visual and tactile experiences is required for understanding projective space and the progression of geometric concepts follows a specific order. During the concrete stage, children are capable of comprehending and relating to relational terms such as time, size, space and distance which are more easily conceptualised during this stage.

58. Option (3) is correct.

Explanation:

$$\begin{aligned} & -12 \times (-3) + [20 \div (-4) - (-24) \div 8] - [16 \div (-2)] \\ & = (-28 \div 7) + x \\ \text{Or, } & 36 + [(-5) + 3] - [-8] = (-4) + x \\ \text{Or, } & 36 + (-2) + 8 = (-4) + x \\ \text{Or, } & x = 36 - 2 + 8 + 4 \\ \text{Or, } & x = 36 + 12 - 2 \\ \text{Or, } & x = 48 - 2 \\ \text{So, } & x = 46. \end{aligned}$$

59. Option (2) is correct.

Explanation: $30 \times 0867y$ is divisible by 88. (given)

So, it must be divisible by both 8 and 11.

Now, for $30 \times 0867y$ to be divisible by 8, $67y$ should be divisible by 8.

It would be possible only when $y = 2$. So,

The value of $y = 2$.

Now, for 30×08672 to be divisible by 11.

$$\begin{aligned} \text{Sum of digits at odd places} &= 3 + x + 8 + 7 \\ &= 18 + x \end{aligned}$$

$$\begin{aligned} \text{Sum of digits at even places} &= 0 + 0 + 6 + 2 \\ &= 8 \end{aligned}$$

$$\begin{aligned} \text{Or, } 18 + x - 8 &= 10 + x \\ \text{So, } x &= 1 \end{aligned}$$

According to question,

$$(3x + y) = (3 \times 1 + 2) = 5$$

60. Option (1) is correct.

Explanation:

$$\begin{aligned} & 6\frac{2}{3} \div 2\frac{1}{2} \times 3\frac{3}{4} - 5\frac{1}{2} \times 4\frac{1}{4} \\ & + 1\frac{2}{3} \left(\frac{7}{8} + \frac{3}{4} \times \frac{2}{3} \right) \\ \Rightarrow & \frac{20}{3} \div \frac{5}{2} \times \frac{15}{4} - \frac{11}{2} \times \frac{17}{4} + \frac{5}{3} \left(\frac{7}{8} + \frac{1}{2} \right) \end{aligned}$$

$$\begin{aligned} \Rightarrow & \frac{20}{3} \times \frac{2}{5} \times \frac{15}{4} - \frac{187}{8} + \frac{5}{3} \left(\frac{11}{8} \right) \\ \Rightarrow & 10 - \frac{187}{8} + \frac{55}{24} \\ \Rightarrow & \frac{240 - 561 + 55}{24} \\ \Rightarrow & -\frac{266}{24} = -11\frac{1}{12} \end{aligned}$$

61. Option (3) is correct.

Explanation: Excessive hydrochloric acid production and secretion can cause health problems such as indigestion whereas milk of magnesia is a remedy commonly used to relieve symptoms caused by excess stomach acid, such as heartburn and indigestion.

Hence, X : Hydrochloric acid and Y : Milk of Magnesia

62. Option (2) is correct.

Explanation: Bacteria are used in the production of foods, antibiotics, probiotics, drugs, vaccines and other products. Lactic acid bacteria, such as *Lactobacillus*, *Lactococcus* and *Streptococcus*, are used to ferment milk, sugarcane juice and coliform bacteria are used to determine the level of contamination in bodies of water. *Rhizobium* bacteria perform nitrogen fixation in legume nodules. However, they are not used for baking breads.

The fungus *Saccharomyces cerevisiae* is used for making bread.

63. Option (4) is correct.

Explanation: Deforestation is the large-scale cutting down of trees while desertification is the persistent degradation of dryland ecosystems due to natural factors and human activities. Erosion is the movement of soil and rock particles by natural forces.

Conservation entails the responsible management and preservation of resources, ensuring their continuity and availability for future generations. This includes, among other things, protecting the diversity of species, genes and ecosystems.

64. Option (4) is correct.

Explanation: Digestion is the process of breaking down food into absorbable nutrients in the digestive system through mechanical and chemical activities.

Photosynthesis is the process by which plants, algae and cyanobacteria convert sunlight into chemical energy by capturing electrons and storing them in carbohydrate molecules. Respiration is the exchange of gases between an organism's cells and its surroundings, which provides energy for life through the chemical breakdown of food materials.

The process of forming solid crystals from a liquid solution by arranging constituent molecules, atoms, or ions into a fixed, repeating three-dimensional lattice structure to minimize their energy state is known as crystallisation.

65. Option (2) is correct.

Explanation: Clay, which is made up of microscopic particles less than 1/256 mm in diameter, is followed in size order by silt, sand, gravel and rock. When carried by water during floods, silt, with particle sizes ranging from 0.002 to 0.06 mm, forms a fertile deposit on valley floors. Sand is made up of mineral particles with diameters ranging from 0.002 to 0.08 inches, whereas gravel is made up of chipped or rounded fragments with diameters ranging from 0.125 to 3 inches. Weathering processes occur when rocks, which can be igneous,

sedimentary, or metamorphic, are exposed at or near the Earth's surface.

66. Option (3) is correct.

Explanation: Fish use its gills to absorb dissolved oxygen from water, which is taken in through the mouth and passes over the gill filaments where gas exchange takes place. The gills are made up of feathery structures called gill filaments, each of which has lamellae with capillaries, providing a large surface area for gas exchange in fish.

67. Option (4) is correct.

Explanation: Sea water, gold, silver, copper, aluminium, graphite, iron etc. are conductors of electricity. They allow free movements of electrons within them.

68. Option (3) is correct.

Explanation: If the original distance between Manjula and the mirror is 5 m and she moves 1 m closer to the mirror, the distance between them becomes 4 m. Since the distance of the image behind the mirror is the same as the distance of the object in front of the mirror, the distance between Manjula and her image behind the mirror is now 8 m (4 m + 4 m).

69. Option (2) is correct.

Explanation: If a pendulum oscillates 30 times in 3 seconds, then it oscillates 10 times in 1 second, which means it has a frequency of 10 Hz.

The formula for finding the time period (T) is $T = \frac{1}{f}$

So, the time period of this pendulum is $\frac{1}{10} = 0.1$ seconds.

70. Option (1) is correct.

Explanation: Bearings are mechanical components composed of rolling elements with inner and outer races. These assemblies are used in rotating or linear shaft applications. Bearings are classified into two types: ball bearings and roller bearings. A ball bearing, a type of rolling-element bearing, uses balls to separate the bearing races. Its primary goal is to reduce rotational friction while supporting both radial and axial loads.

71. Option (2) is correct.

Explanation: When Zinc metal is immersed in Copper sulphate solution, a reaction occurs due to the higher reactivity of Zinc compared to Copper. As a result, Zinc displaces Copper from the Copper sulphate solution to form Zinc sulphate and Copper. Also, Copper being less reactive than iron, it can not displace iron from iron sulphate solution.

72. Option (4) is correct.

Explanation: A clinical thermometer is designed to accurately measure human body temperature with a narrow mercury chamber that quickly shows temperature changes between 35°C to 42°C, whereas laboratory thermometers, which can be made of liquid in a glass device, a bimetallic strip, an electronic thermistor thermometer, or an infrared device, are used to measure temperature or temperature changes with high precision between -10°C to 110°C.

73. Option (3) is correct.

Explanation: Hydrogen has the highest calorific value of 150,000 kJ/kg followed by LPG of 55,000 kJ/kg, CNG of 50,000 kJ/kg and diesel of 45,000 kJ/kg. Biogas has a calorific value of 35,000 to 40,000 kJ/kg, whereas coal has a calorific value of 25,000 to 33,000 kJ/kg and wood has a calorific value of 17,000 to 22,000 kJ/kg. The calorific value of kerosene is 45,000 kJ/kg.

74. Option (2) is correct.

Explanation: First case, when the bus travels at 50 km/h for 12 minutes. Then, distance covered will be:

$$\text{Distance} = \text{Speed} \times \text{Time}$$

We know that,

$$1 \text{ hour} = 60 \text{ minutes}$$

Then,

$$12 \text{ minutes} = \frac{12}{60} \text{ hours}$$

$$\Rightarrow \text{Distance} = 50 \times \left(\frac{12}{60}\right)$$

$$\text{So, Distance} = 10 \text{ km}$$

Second case, when the bus travels at 40 km/h for 18 minutes. Then, distance covered will be:

$$\text{Distance} = \text{Speed} \times \text{Time}$$

We know that,

$$1 \text{ hour} = 60 \text{ minutes}$$

Then, 18 minutes

$$= \frac{18}{60} \text{ hours}$$

$$\Rightarrow \text{Distance} = 40 \times \left(\frac{18}{60}\right)$$

$$\text{So, Distance} = 12 \text{ km}$$

Hence, the total distance covered by the bus

$$\begin{aligned} &= \text{First case} + \text{Second case} \\ &= 10 \text{ km} + 12 \text{ km} \\ &= 22 \text{ km} \end{aligned}$$

75. Option (4) is correct.

Explanation: Circular motion is the movement of an object along a circular path while periodic motion is the repetitive motion that occurs at equal time intervals. Oscillatory motion is the back and forth movement of an object around its mean position while rectilinear motion is the movement of an object in a straight line with constant velocity and direction.

Rotation of the Earth is periodic as well as circular motion. Bouncing ball and motion of swing are examples of periodic motion but they don't follow circular motion.

Hence, all periodic motions are not circular motion.

76. Option (2) is correct.

Explanation: The image formed by a plane mirror is virtual and erect, because it appears as if it is behind the mirror and upright. The distance of the image from the mirror is the same as the distance of the object from the mirror and both image and object are situated at an equal distance from the mirror surface. The image is laterally inverted which means the right side of the object is seen as its left side and vice versa.

77. Option (4) is correct.

Explanation: Science is a human endeavor and a way of understanding the world that is interdisciplinary, addressing questions related to the natural and material world. It is based on empirical evidence and is open to revision as new evidence comes to light. Scepticism is encouraged and models, laws, mechanisms and theories help explain natural phenomena. Scientific knowledge is found on the assumption of order and consistency in natural systems. It is not about facts, rather, it is about developing an understanding of concepts and investigating the reasoning behind a fact.

78. Option (2) is correct.

Explanation: Science is an ever-evolving field of knowledge that can help to break the cycle of poverty, ignorance and superstition. When designing science education, it is important to keep these factors in mind. Effective science education should be child-centered, relevant to real-world situations and accurately represent scientific principles. It should also foster students' curiosity and improve their scientific reasoning abilities.

79. Option (4) is correct.

Explanation: To ensure process validity, the curriculum must involve students in learning techniques and procedures that aid in the creation and verification of scientific knowledge, while also cultivating their natural curiosity and imagination in the field of science. This is an important aspect of curriculum design because it allows students to develop skills like "how to learn science" through activities and experiments.

80. Option (1) is correct.

Explanation: Field trips are a valuable educational experience for students

that provide a unique opportunity to learn outside the classroom. These are both fun and educational, allowing students to interact with what they are learning, see it firsthand, manipulate it and participate physically. These also encourage social interaction and enhance observation skills while providing entertainment that can motivate students and break up the routine of classroom learning. Most important, field trips offer new experiences and places for children to explore.

81. Option (4) is correct.

Explanation: The goals of upper primary science education include providing practical knowledge, developing scientific appreciation and temper, promoting conservation of natural resources, pollution prevention, fostering scientific attitudes for objective decision making, critical thinking, understanding the global dimension of science, understanding the interdependence of science and technology. The primary goal is not to memorise textbook definitions; rather, the emphasis is on deep understanding and concept interlinking.

82. Option (3) is correct.

Explanation: It is recommended that children use the scientific method approach, encourage group discussions and sharing, challenge their minds with research, motivate them to ask questions, solve problems, give them responsibilities that require thinking and engage them in problem-solving games such as puzzles and board games.

83. Option (3) is correct.

Explanation: According to the statement, the cognitive process of applying is associated with the teacher's act of demonstrating the chemical test of starch in a sample of food at the beginning of the class. As this demonstrates the teacher's ability to use his/her knowledge, understanding of facts and principles.

84. Option (4) is correct.

Explanation: Active learning can be provided in a variety of ways, including involving children in Science Clubs and Associations, organizing field trips, creating a science corner for children and focusing on learner needs. It is critical to involve children in social services, literary and cultural activities because the more they participate, the more focused and engaged they will be. It should be noted that simply sitting through a lecture does not promote active learning in children.

85. Option (3) is correct.

Explanation: Concept mapping, anecdotal records and portfolios are visual and written tools for identifying and addressing the learning gaps of science students. These methods allow students to connect concepts and ideas, summarize events, demonstrate prior and experiential learning. It is important to note that achievement tests, particularly term-end tests, are ineffective at identifying learners' learning gaps in subjects.

86. Option (4) is correct.

Explanation: Anecdotal records are created by observing and documenting a child's behaviour during one or more events, providing insight into the child's behavioural responses and personality patterns in a variety of situations. These records are more concerned with the learner than the subject matter and they help teachers to understand how to plan curriculum and assign tasks based on the child's behaviour and skills.

87. Option (1) is correct.

Explanation: Pashmina shawls are made from goat hair whereas Angora wool is obtained from rabbits. Carpets can be made from camel wool, which is derived from camel coats found in Turkey, China and Siberia.

88. Option (1) is correct.

Explanation: Snakes, as carnivores, eat only meat. Snakes move forward by curving their bodies into loops. Most of them swallow their prey whole, though larger snakes, such as pythons, will strangle their prey before consuming it. Snakes do not have a diaphragm muscle. So, they breathe by expanding their chests and propelling themselves forward. Their skeletal system is made up of flexible backbones and rib structure covered by dry scales.

89. Option (1) is correct.

Explanation: Except Pulmonary artery, which transports deoxygenated blood from the right ventricle to the lungs, all arteries carry oxygenated blood. The Pulmonary artery, which has thick and elastic walls, transports blood from the right side of the heart to the lungs.

90. Option (3) is correct.

Explanation:

Acetic acid	Vinegar
Lactic acid	Curd
Oxalic acid	Spinach
Ascorbic acid	Citrus fruits

Language: English

91. Option (3) is correct.

- Explanation:** Quoting the passage's lines, "Learning on the streets and in the markets from experience and need can be effective although the student learns only what he happens to need, in a haphazard way." Thus, Language needs of real-life situations are fulfilled by learning on the streets. Colloquial language is an untrained conversation rather than in formal speech or academic writing. Every person gets influenced by the place he belongs to, how people around him speak, and the phrases they use. In such a scenario, colloquialism gets intertwined with the language. Thus, learning on the streets is imperative to understand the language needs of real life.
92. **Option (1) is correct.**
Explanation: Quoting the passage's lines, "However, shopkeepers are more likely to be tolerant of incorrect grammar than classroom teachers," Hence, shopkeepers are intolerant is not the correct statement.
93. **Option (3) is correct.**
Explanation: Quoting the passage's lines, "In the classroom, the student is more likely to learn the grammatical language of the educated people." Hence, statement A is correct. "The language learnt out of necessity often lacks the fine details of the classroom variety and might include informal expressions such as slang." Hence, statement B is also true.
94. **Option (2) is correct.**
Explanation: Determiners clarify what a noun refers to (e.g., your car) and indicate quantity or number. The quantifier 'each' is a determiner with a singular countable noun. Each means "everyone, regarded individually". Hence, in the sentence, "The kind of language learned in each setting differs too." Each is a determiner.
95. **Option (4) is correct.**
Explanation: 'Until' talks about when something begins and when it ends. "Until," a preposition of time, describes a continuous action that stops at a specific time. Hence, in the sentence, "but delayed until a quiz." Until is a preposition.
96. **Option (4) is correct.**
Explanation: Motivated means when an individual wants to do something and he/she is very determined or enthusiastic about doing the task or work. Thus, the synonym for Motivated is interested.
97. **Option (2) is correct.**
Explanation: The word 'Haphazard' means lacking organization or lack of planning. Hence, ".....in a haphazard way", haphazard means unorganized.
98. **Option (3) is correct.**
Explanation: Quoting the passage's lines, "So a combination of classroom instruction and the experience of using language in the street will result in the best language learning of all." Hence, the best place to correctly and quickly learn a foreign language is both the classroom and the marketplace.
99. **Option (3) is correct.**
Explanation: Quoting the passage's lines, "Most foreign language students learn in a classroom, from a text-book. In a classroom, language learning can be controlled so that all the necessary structures are taught." Hence, A text-book teaches what a student needs.
100. **Option (1) is correct.**
Explanation: "Great, wide, beautiful, wonderful world" is a poem by William Brighty Rands. The poem describes the Earth and praises its vastness and its physical features. "With cities and gardens, and cliffs, and isles, And people upon you for thousands of miles? Ah, you are so great, and I am so small," Hence, the hugeness of the Earth is defined by its cities, gardens, cliffs and isles.
101. **Option (1) is correct.**
Explanation: "Ah, you are so great, "You are more than the Earth, though you are such a dot: You can love and think, and the Earth cannot!" The above lines from the poem "Great, wide, beautiful, wonderful world" by William Brighty Rands show clearly that the poet compares himself (Man) with Earth.
102. **Option (2) is correct.**
Explanation: These lines from the poem "Great, wide, beautiful, wonderful world" by William Brighty Rand, "The wonderful air is over me, And the wonderful wind is shaking the tree, tops of the hills." Sets the poet's mood as joyous as he praises nature and Earth for all its beauty.
103. **Option (4) is correct.**
Explanation: Quoting the poem's lines, "And the wonderful grass upon your breast- World, you are beautifully dressed." The poet personifies nature as a beautiful lady wearing a colourful dress. Hence, the figure of speech used here is. 'Personification' (attributing personal nature or human characteristics to something non-human).
104. **Option (4) is correct.**
Explanation: Personification means attributing personal nature or human characteristics to something non-human. Hence, Personification is the figure of speech used in the lines "and whirls the mills," as the poet gives human form to the mills.
105. **Option (3) is correct.**
Explanation: These lines from the poem, "With the wonderful water round you curled, And the wonderful grass upon your breast- World, you are beautifully dressed." The poet states water and grass made Earth's beautiful dress.
106. **Option (4) is correct.**
Explanation: "This practice iThis practice is known as Thematic Vocabulary Learning as the teacher is asking her learners to collect words/phrases or various aspects they see and notice in their markets and streets, i.e., words/phrases of various aspects collected by learners will be related to specific themes. A thematic approach to learning is a powerful tool for integrating the curriculum with the help of various activities, helps to eliminate the isolated nature of the teaching-learning process, and encourages to analyze and describe a complex phenomenon in simple terms. In addition to this, it allows learning to be more engaging known as Thematic Vocabulary Learning as the teacher is asking her learners to collect words/phrases or various aspects they see and notice I their markets and streets, i.e., words/phrases of various aspects collected by learners will be related to specific theme."
107. **Option (3) is correct.**
Explanation: Content and Language Integrated Learning (CLIL) a learning approach where an individual learns the content as well as a second or foreign language at the same time. It motivates students to learn foreign languages and helps them learn a more extensive and varied vocabulary. In addition, it enhances students' confidence and competence in the target language.
108. **Option (2) is correct.**
Explanation: Receptive vocabulary words a person understands, including spoken, written, or manually signed terms. A teacher can practice the receptive vocabulary method in the class through face-to-face interaction with the child while talking and using

visuals such as signs, pictures, and books.

109. Option (1) is correct.

Explanation: Composition dictation is a method when a teacher comes up with a text and tests the students to listen and rewrite what they have heard with their own words. Composition dictation can help the students as they often involve many skills and competencies, such as pronunciation, punctuation, note-taking and spelling, are interactive and collaborative, require little material and encourage proofreading and editing skills.

110. Option (1) is correct.

Explanation: Intensive reading encourages learners for detailed reading with specific learning aims and tasks like reading blogs, newspapers and more, unlike extensive reading, where learners read texts to enjoy and develop general reading skills.

111. Option (1) is correct.

Explanation: Knowledge of words is recognizing words and their meaning from background knowledge. Knowing a word means:

- to be able to identify it when reading or listening,
- and use it when writing or speaking in a grammatically correct form.

112. Option (4) is correct.

Explanation: An extrapolation is like an educated guess or a hypothesis. When you extrapolate, you take facts and observations about a present or known situation to predict what might eventually happen. Hence, writing an entry in the diary based on experiences is an extrapolative question.

113. Option (3) is correct.

Explanation: Poetry is a form of expression that gives meaning to an individual's experience. Poetry encourages one to connect with their feelings and emotions while reading. Poetry can impact a child's social and emotional state in a positive manner. Hence, one must read the poem for enjoyment and appreciation.

114. Option (4) is correct.

Explanation: Learning Outcome refers to the overall desired goal of the course/programme. Learning Outcomes help a teacher to evaluate his/her teaching methodology by identifying the learner's skills and abilities so that desired results are achieved at the end of the lesson. Hence, learning outcomes should ensure that all the competencies are acquired by learners.

115. Option (4) is correct.

Explanation: Materials or learning languages enhances writing and communication skills, improve read-

ing habits, and awareness of local, national and international issues. For example, a good newspaper helps students become critical thinkers by synthesizing information and improving logical reasoning.

Other materials of learning in the classroom to aid understanding are:

- **Visuals Aids:** Blackboard, Posters, Flashcards, Presentations, Printed textbooks, Graphs and Infographics.
- **Audio Aids:** Radio, Tape-recorder and CDs.
- **Audio-visual aids:** Videos, Video recordings, Films and Documentaries, Virtual Classrooms.
- Language Laboratory.

116. Option (1) is correct.

Explanation: India is a multilingual country, and English is a global language here. English gains popularity due to a teacher's proficiency in English and students' exposure to English outside school. English teaching aims to create multilingual who can enrich all our languages. English needs to find its place along with other Indian languages in different states, where children's other languages strengthen English teaching and learning, and in "English-medium" schools, where other Indian languages need to reduce the perceived dominance of English. English language teaching should support the learning of different languages and subjects. This perspective will reduce the gap between "English as a subject" and "English as a medium". Hence, there is a need to create a standard school system that does not distinguish between "teaching a language" and "using a language as a medium."

117. Option (2) is correct.

Explanation: Top-down learning refers to learning explicit knowledge (straight forwardly expressed and shared between people) and then learning implicit knowledge (knowledge gained through incidental activities or without awareness that learning is occurring).

In the classroom, Learners can be encouraged to use bottom-up and top-down strategies to help them understand a text. For example, in reading comprehension, learners use their knowledge of the genre to predict what will be in the text (top-down) and their understanding of affixation to guess meaning (bottom-up). Hence, when a reader uses her prior knowledge, makes semantic and syntactic cues and then moves to other more specific information, the reader adopts the Top-Down model.

118. Option (2) is correct.

Explanation: Drilling is a technique used in structuralism to master language structure by practising and repeating the concept repeatedly. It emphasizes: practising to learn something effectively and getting the specific skills through repetition. Structuralism is a knowledge of nature and human life interested in relationships rather than individual objects.

Structuralism states that language is the communication method with words used in a structured and conventional way and conveyed by speech, writing, or gesture.

Hence, drilling is a teaching-learning technique or a strategy in structuralism.

119. Option (2) is correct.

Explanation: Students with strong first language skills can acquire a second language more quickly due to language transfer.

The first language is the acquisition of the native language, while the second language acquisition is learning a language after acquiring the first language.

Students use language one to facilitate their comprehension process and reduce any insecurities that may arise from their limited language proficiency. In addition, teachers use language one to consolidate students' knowledge about the foreign language, such as its vocabulary, sentence structures, and cultural aspects.

120. Option (1) is correct.

Explanation: Multilingualism refers to an individual speaker who uses two or more languages or a community of speakers where using more than one language is expected.

Multilingualism helps present a person before the world more confidently and makes one competent to face the world's challenges. Here, A teacher teaching English in a multilingual setting should use a multilingual pedagogy to build awareness of the language among her students.

Language: Hindi

121. विकल्प (3) उचित है।

व्याख्या—वातावरण और वनस्पतियों कार्बन डाई-ऑक्साइड का लगातार विनिमय करती रहती हैं। वातावरण से वह वनस्पतियों में जाती हैं। जब वनस्पतियाँ सड़ने लगती हैं तब उनमें से कार्बन डाई-ऑक्साइड निकलकर पुनः वातावरण में समा जाती है।

जब वनस्पतियाँ सड़ने लगती हैं तब उनमें से कार्बन डाई-ऑक्साइड निकलकर पुनः वातावरण में समा जाती है।

122. विकल्प (3) उचित है।

व्याख्या—सभी प्रकार की वनस्पतियाँ कार्बन डाई-ऑक्साइड ग्रहण करती और ऑक्सीजन छोड़ती हैं। यदि हवा में लम्बे समय तक ऑक्सीजन और कार्बन डाई-ऑक्साइड का अनुपात एक जैसा रहे तब उसका अर्थ होगा कि पौधों और प्राणियों का जीवन एक-दूसरे के अस्तित्व के मामले में समान स्तर पर आ जाएगा। प्रस्तुत अवतरण में उल्लेख किया गया है कि 'पौधे और प्राणियों का जीवन एक-दूसरे के अस्तित्व के समान आ जाएगा, जब हवा में कार्बन डाई-ऑक्साइड और ऑक्सीजन का अनुपात समान रहे'। अतः विकल्प 'कार्बन डाई-ऑक्साइड और ऑक्सीजन का अनुपात समान रहे' सही है।

123. विकल्प (2) उचित है।

व्याख्या—'वातावरण' का विग्रह और समास 'वात का आवरण-तत्पुरुष' समास होगा।

समास—

- समास अर्थात् संक्षिप्तीकरण।
- जब दो या दो से अधिक शब्दों से मिलकर जो नया और छोटा शब्द बनता है, उसे समास कहते हैं।

समास के भेद—

- अव्ययीभाव समास
- तत्पुरुष समास
- कर्मधारय समास
- द्विगु समास
- द्वन्द्व समास
- बहुव्रीहि समास

तत्पुरुष समास—

- इसमें दूसरा पद प्रधान होता है।
- तत्पुरुष समास में प्रथम पद संज्ञा या विशेषण होता है और लिंग-वचन का निर्धारण अंतिम या द्वितीय पद के अनुसार होता है।

'वातावरण' का विग्रह और समास 'वात का आवरण-तत्पुरुष' होगा। अन्य विकल्प असंगत हैं। अतः सही विकल्प 'वात का आवरण-तत्पुरुष' है।

स्पष्टीकरण—

'वातावरण' का विग्रह होगा—'वात का आवरण' जिस समास में उत्तर पद प्रधान हो और समास करने के बाद विभक्ति का लोप हो उसे 'तत्पुरुष समास' कहते हैं।

124. विकल्प (4) उचित है।

व्याख्या—शवास तत्सम शब्द है और ऑक्सीजन अंग्रेजी से आया हुआ शब्द है, इसलिए यह आगत शब्द है।

तत्सम—

- तत् + सम अर्थात् उसके समान।
- आधुनिक भारतीय भाषाओं में प्रयोग होने वाले ऐसे शब्द जिनको संस्कृत से बिना किसी रूप परिवर्तन के ले लिया गया है। 'शवास' तत्सम शब्द है और 'ऑक्सीजन' अंग्रेजी से आया हुआ आगत शब्द। अतः सही विकल्प 'तत्सम आगत' है। 'शवास' का तद्भव 'साँस' होगा।

125. विकल्प (4) उचित है।

व्याख्या—'लम्बे समय तक' पद व्याकरण की दृष्टि से क्रिया-विशेषण है।

क्रिया-विशेषण—

- जिन शब्दों के द्वारा क्रिया की विशेषता का बोध होता है, उसे क्रिया विशेषण कहते हैं।

उदाहरण के लिए—ह

- आज तेज बारिश होगी।
 - मुझे थोड़ा ही खाना चाहिए।
- 'विशेषण' अर्थात् 'जो संज्ञा या सर्वनाम की विशेषता बताए', 'क्रिया-विशेषण' अर्थात् 'जो क्रिया की विशेषता बताए', 'संज्ञा' नाम को प्रस्तुत करता है तथा 'सर्वनाम' जो 'संज्ञा' के बदले प्रयुक्त होता है। गद्यांश में 'लंबे समय तक' एक 'क्रिया विशेषण' है ऑक्सीजन और कार्बन डाई-ऑक्साइड के अनुपात 'रहने' के बारे में बता रहा है। अतः सही विकल्प क्रिया-विशेषण है।

126. विकल्प (1) उचित है।

व्याख्या—गद्यांश का मुख्य विषय है—ऑक्सीजन और कार्बन डाई-ऑक्साइड का संतुलन। हम शवास द्वारा ऑक्सीजन ग्रहण करते और कार्बन डाई-ऑक्साइड छोड़ते हैं। ऐसा ही अधिकतर जानवरों, चिड़ियाओं, रेंगनेवाले जन्तुओं इत्यादि द्वारा भी किया जाता है। दूसरी ओर सभी प्रकार की वनस्पतियाँ कार्बन डाई-ऑक्साइड ग्रहण करती और ऑक्सीजन छोड़ती हैं। वातावरण और वनस्पतियाँ कार्बन डाई-ऑक्साइड का लगातार विनिमय करती रहती हैं। वातावरण से वह वनस्पतियों में जाती है। जब वनस्पतियाँ सड़ने लगती हैं तब उनमें से कार्बन डाई-ऑक्साइड निकलकर पुनः वातावरण में समा जाती है। गद्यांश का मुख्य विषय 'ऑक्सीजन और कार्बन डाई-ऑक्साइड का संतुलन' है अन्य विकल्प असंगत हैं।

स्पष्टीकरण—

प्रस्तुत अवतरण में 'ऑक्सीजन' और 'कार्बन डाई-ऑक्साइड' के संतुलन और वातावरण पर पड़ने वाले प्रभाव के बारे में उल्लेख किया गया है। अतः विकल्प 'ऑक्सीजन और कार्बन डाई-ऑक्साइड का संतुलन' सही है।

127. विकल्प (3) उचित है।

व्याख्या—'विनिमय' का अर्थ है 'लेन-देन'। गद्यांश में बताया गया है कि वातावरण और वनस्पतियाँ कार्बन डाई-ऑक्साइड का लगातार विनिमय करती रहती हैं।

128. विकल्प (2) उचित है।

व्याख्या—हम साँस के साथ ऑक्सीजन लेते और कार्बन डाई-ऑक्साइड छोड़ते हैं। ऐसा ही अधिकतर जानवर, कीड़े-मकोड़े, रेंगने वाले जन्तु भी करते हैं। दूसरी ओर सभी प्रकार की वनस्पतियाँ कार्बन डाई-ऑक्साइड ग्रहण करती और ऑक्सीजन छोड़ती हैं।

129. विकल्प (3) उचित है।

व्याख्या—ऑक्सीजन ग्रहण करने में अधिकांश जीवनधारियों का स्वभाव मानव की तरह होता है। अधिकांश जीवधारी ऑक्सीजन को ग्रहण करते हैं और कार्बन डाई-ऑक्साइड छोड़ते हैं। विचित्र प्रकार का है—सामान्य मार्ग से अलग।

मानव से भिन्न है—मानव से इतर जाति से सम्बन्ध।

मानव के विपरीत है—मानव से अलग या उससे विरुद्ध।

130. विकल्प (3) उचित है।

व्याख्या—'पेट-पीठ दोनों मिलकर हैं एक' इसका कारण कुछ भी भोजन न करना है अर्थात् कवि जब उस भिक्षुक को देखता है तो उसकी दयनीय स्थिति को देखकर उनका हृदय द्रवित हो उठता है। भिक्षुक इतना कमजोर है कि उसका पेट और पीठ मिलकर दोनों एक हो गए हैं। प्रस्तुत पद्यांश में भिखारी के बारे में विवेचना की गई है जिसमें उसकी दुर्दशा का वर्णन किया गया है।

यहाँ पर पेट-पीठ दोनों एक हो जाने का तात्पर्य कुछ भी भोजन न करने से है जिसके कारण उसका पेट धँसा हुआ दिख रहा है।

अतः सही विकल्प 'कुछ भी भोजन न करना' है।

131. विकल्प (2) उचित है।

व्याख्या—'कलेजे के दो टुक करना' का आशय है कि मन को कष्ट पहुँचाना। कवि ने पद्यांश में बताया है कि जब भिक्षुक आता दिखाई देता है तो उसकी दयनीय दशा देखकर मन को अत्यन्त कष्ट पहुँचता है। वह स्वयं अपनी करुणाजनक स्थिति से सभी को वेदना से भर देता है। प्रस्तुत गद्यांश में रचनाकार में भिखारी की व्यथा का सचित्र वर्णन किया है। उसकी व्यथा को देखकर रचनाकार के मन को कष्ट का अनुभव होता है जिसे वह पंक्ति 'दो टुक कलेजे के करता पछताता पथ पर आता' से व्यक्त करता है।

अतः सही विकल्प 'मन को कष्ट पहुँचाना' है।

132. विकल्प (1) उचित है।

व्याख्या—भिखारी अपनी झोली इसलिए फैलाता है क्योंकि वह अपनी भूख मिटाने के लिए कुछ अन्न चाहता है। प्रस्तुत गद्यांश में एक भिखारी के बारे में व्याख्या की गई है जो बुरी अवस्था में तथा भूखा है। वह भूख मिटाने के लिए भिक्षा माँगता हुआ आया है।

कवि की दो पंक्तियों में इसकी व्याख्या की गई है 'मुड़ी-भर दाने को, भूख मिटाने को, मुँह फटी पुरानी झोली को फैलाता'। अतः यहाँ भिखारी अपनी झोली अन्न के लिए फैलाता है ताकि वह अपनी क्षुधा शांत कर सके। अतः विकल्प 'भूख मिटाने के लिए कुछ अन्न चाहता है' सही है।

133. विकल्प (2) उचित है।

व्याख्या—'मुँह' शब्द में प्रयुक्त चन्द्रबिन्दु अनुनासिक है।

अनुनासिक—

- जिन स्वरों के उच्चारण में मुख के साथ-साथ नासिका की भी सहायता लेनी पड़ती है उन्हें अनुनासिक कहते हैं।
- इन्हीं स्वरों को लिखते समय इनके ऊपर अनुनासिक के चिह्न चन्द्रबिन्दु (°) का प्रयोग किया जाता है।

उदाहरण के लिए—चाँद अँधेरा, मुँह इत्यादि।

जिस ध्वनि के उच्चारण में हवा नाक और मुख दोनों से निकलती है उसे अनुनासिक कहते हैं। अनुनासिक वाले अन्य शब्द हैं—‘आँख, माँ, गाँव, बाँसुरी आदि’।

134. विकल्प (3) उचित है।

व्याख्या—काव्यांश से हमारे मन में उठने वाला मुख्य भाव करुणा है।

करुणा रस—

- इसका स्थायी भाव शोक होता है।
- किसी के लिए सहानुभूति एवं दया मिश्रित दुःख के भाव को प्रकट करने के लिए इसका प्रयोग होता है।
- हृदय शोक से भरा हो तब करुण भाव उत्पन्न होता है।

‘करुणा’ अर्थात् ‘जिस भाव में करुणा और दया की भावना उत्पन्न हो’, ‘वीरता’ अर्थात् ‘जिस भाव में वीरता की भावना उत्पन्न हो’, ‘श्रृंगार’ अर्थात् ‘जिस भाव में प्रेम की भावना उत्पन्न हो’ तथा ‘हास्य’ अर्थात् ‘जिस भाव में हमें हंसी आये या आनंद का अनुभव हो’। प्रस्तुत काव्यांश में भिक्षार्थी के कष्ट को दिखाया गया जिसको पढ़ने के बाद दुःख की अनुभूति होती है अर्थात् यहाँ ‘करुणा’ का भाव है। अतः सही विकल्प ‘करुणा’ है।

135. विकल्प (3) उचित है।

व्याख्या—‘वह आता’ में ‘वह’ सर्वनाम भिक्षुक का द्योतक है क्योंकि यह कविता भिक्षुओं के जीवन पर आधारित है। कवि ने इस कविता में भिक्षुओं की दयनीय स्थिति का वर्णन किया है। **सर्वनाम**—संज्ञा के स्थान पर प्रयुक्त होने वाले शब्दों को सर्वनाम कहते हैं। जैसे—मैं, वह, वे, उन्हें, अपने तुम, हम आदि।

हिंदी में मूलतः सर्वनामों की संख्या 11 है—मैं, तू, आप, यह, वह, जो, सो, कौन, कोई, क्या और कुछ।

136. विकल्प (2) उचित है।

व्याख्या—उच्च प्राथमिक स्तर पर भाषा सीखने का उद्देश्य भाषा की बारीकी और सौन्दर्यबोध को सही रूप में समझना है।

मुख्य बिन्दु—

- भाषा के अनेक स्वरूपों की जानकारी प्रदान करना।
- भाषा के अनेक स्वरूपों को आलोचनात्मक दृष्टि से परखना।
- सामग्री का विश्लेषण करना।
- सृजनशीलता को बढ़ावा देना।

भाषा मुख से उच्चारित होने वाली वह ध्वनि है जिसका प्रयोग मनुष्य अपने मन के विचारों का आदान-प्रदान करने के लिए करता है। भाषा एक औजार है जिसका उपयोग मनुष्य जिंदगी से जुड़ने के लिए तथा जिंदगी के अनुभवों को साझा करने के लिए करता है।

उच्च प्राथमिक स्तर पर भाषा सीखने-सिखाने का एक उद्देश्य बच्चों को भाषा की नियमबद्ध प्रकृति की पहचान और उसका विश्लेषण करने योग्य बनाना होता है। भाषा शब्द, वाक्य और प्रोक्ति के स्तर पर नियमों से बंधी हुई है, अतः इन नियमों

को पहचानना तथा विश्लेषण करना बच्चों में उच्च स्तर के भाषाई कौशल को विस्तार देता है। उच्च प्राथमिक स्तर पर भाषा सीखने-सिखाने के अन्य उद्देश्य—

- हिंदी भाषा के विविध स्वरूपों की जानकारी प्राप्त करना।
- विभिन्न साहित्यिक विधाओं की समझ का विकास करना।
- भाषा की बारीकी और सौंदर्यबोध को सही रूप में समझना।
- भाषा के विभिन्न स्वरूपों को आलोचनात्मक दृष्टि से परखना।
- निजी अनुभवों के आधार पर भाषा का सृजनशील इस्तेमाल करना।

137. विकल्प (2) उचित है।

व्याख्या—‘ज्ञान से सम्बन्धित अन्य विषयों की समझ का विकास उससे आनन्द उठाने की क्षमता का विकास’ उच्च प्राथमिक स्तर पर भाषा सीखने का एक महत्वपूर्ण उद्देश्य है।

प्राथमिक स्तर पर भाषा सीखने के उद्देश्य—

- भाषा की बारीकी और सौंदर्यबोध को सही रूप में समझना।
- भाषा के अनेक स्वरूपों की जानकारी प्रदान करना।
- प्रस्तुत सामग्री का विश्लेषण करना।
- सृजनशीलता को बढ़ावा देना।

प्राथमिक स्तर पर भाषा सीखने के अन्य उद्देश्य—भाषा सीखने के निम्नलिखित सभी उद्देश्य बच्चों में उच्च स्तर के भाषाई कौशल को विस्तार देते हैं।

- हिंदी भाषा के विविध स्वरूपों की जानकारी प्राप्त करना।
- विभिन्न साहित्यिक विधाओं की समझ का विकास करना।
- बच्चे लिखी/छपी सामग्री को पढ़ और समझ सकें
- बच्चे विभिन्न संदर्भ में भाषा प्रयोग में सफल हो सकें
- बच्चों को हिंदी के विविध रूपों से परिचित कराया जा सके
- बच्चे भाषा के द्वारा अपने परिवेश एवम् अनुभव को समझ सकें
- बच्चों में भाषा की समझ तथा सहज अभिव्यक्ति का विकास हो सके

138. विकल्प (1) उचित है।

व्याख्या—पढ़ने का अर्थ है—पढ़कर समझना।

मुख्य बिन्दु—

- यह अत्यन्त जटिल कौशल है जिसमें अनेक प्रकार की क्षमताओं का विकास होता है।
- पढ़ना और समझना दोनों क्रियाएँ साथ-साथ चलती हैं।
- जब हम ध्यानपूर्वक पठन करते हैं तब हमारे मस्तिष्क की सोच, तर्क, चिन्तन, स्मृति आदि शक्तियाँ पाठ के अर्थ को ग्रहण करने लगती हैं।

मानव अपने विचारों को सुनकर, बोलकर, पढ़कर और लिखकर अभिव्यक्त करता है, भाषा से

संबंधित इन चारों प्रक्रियाओं को प्रयोग करने की क्षमता ही भाषा कौशल कहलाती है।

पढ़ना अथवा पठन भाषा के चार कौशलों में से एक है। यह एक उद्देश्यपूर्ण एवम् चिंतन प्रधान प्रक्रिया है जिसमें भाषा की संरचना की समझ तथा पढ़े जा रहे पाठ के साथ विद्यार्थी के भावनात्मक संबंध द्वारा अर्थ ग्रहण पर बल दिया जाता है।

पढ़ने अर्थात् सार्थक पठन प्रक्रिया का अर्थ है—

- पढ़कर समझना।
- एक निश्चित उद्देश्य से पढ़ना।
- संदर्भानुसार अर्थ ग्रहण करते हुए पढ़ना।
- आगे आने वाले तथ्यों का अनुमान लगाते हुए पढ़ना।

139. विकल्प (2) उचित है।

व्याख्या—कविता में कई बाद ‘अभी भी’ का प्रयोग करके बातें रची गई हैं... बिना रूके चलने वाले किसी कार्य का भाव निकल रहा है या नहीं? प्रश्न भाषा की बारीकी की ओर संकेत करता है।

मुख्य बिन्दु—

- भाषा की सृजनशीलता में सहायक।
- भाषा के सौंदर्यबोध और नियमबद्ध प्रकृति को पहचानने में सहायक।

(iii) भाषा का विश्लेषण करने में सहायक।

त्रिभाषा सूत्र के तहत भारतीय स्कूलों में तीन भाषाओं की शिक्षा दी जाने की सिफारिश की गई थी जो इस प्रकार हैं—

पहली भाषा—मातृभाषा या क्षेत्रीय भाषा।

दूसरी भाषा—हिंदी भाषी राज्यों में आधुनिक भारतीय भाषा या अंग्रेजी। गैर हिंदी भाषी राज्यों में हिंदी या अंग्रेजी।

तीसरी भाषा—हिंदी भाषी तथा गैर हिंदी भाषी दोनों राज्यों में अंग्रेजी या एक आधुनिक भारतीय भाषा।

140. विकल्प (3) उचित है।

व्याख्या—उच्च प्राथमिक स्तर पर भाषा सीखने में पाठ्य-पुस्तक के अतिरिक्त आयु अनुरूप साहित्य संसाधन सामग्री सर्वाधिक महत्वपूर्ण है।

मुख्य बिन्दु—

- अभिव्यक्ति में सहायक।
- अन्तर्दृष्टि को बढ़ाने में सहायक।
- बालक की सृजनात्मक शक्ति को बढ़ावा देने में सहायक।

हिंदी भाषा शिक्षण का उद्देश्य विविध साहित्यिक विधाओं से बच्चों को परिचित करा के उन्हें अपने अनुभवों के आधार पर विभिन्न संदर्भों में भाषा प्रयोग में सफल बना।

उच्च प्राथमिक स्तर पर भाषा सीखने में पाठ्य-पुस्तक के अतिरिक्त आयु अनुरूप साहित्य सर्वाधिक महत्वपूर्ण संसाधन सामग्री है। साहित्य कलात्मक कार्यों का एक समूह है जो कि यात्रा वृत्तान्त, एकांकी नाटक, कविता, नाटक और उपन्यास, आदि के रूप में होता है।

141. विकल्प (1) उचित है।

व्याख्या—गणित, विज्ञान आदि विषयों की कक्षाओं में भी बच्चे भाषा सीखते हैं। यह विचार पूर्णतः सत्य है।

मुख्य बिन्दु—

- भाषा अभिव्यक्ति का साधन है।
- इसका क्षेत्र अत्यन्त व्यापक है।
- भाषा सभी विषयों में केंद्रित होती है।
- बिना भाषा के किसी भी विषय या पाठ्यक्रम का निर्माण नहीं किया जा सकता है।

अधिगम अथवा सीखना किसी स्थिति के प्रति सक्रिय प्रतिक्रिया को दर्शाता है। यह एक ऐसी प्रक्रिया है जो जीवनपर्यंत चलती रहती है एवं जिसके द्वारा हम ज्ञान अर्जित करते हैं।

मनुष्य अपने विचारों को अभिव्यक्त करने और समाज के साथ सामंजस्य स्थापित करने के लिए जिस प्रक्रिया द्वारा अपनी भाषिक क्षमता का विकास करता है, वह भाषा अधिगम अथवा सीखी हुई भाषा कहलाती है।

सीखी हुई भाषा को समझने की क्षमता अर्पित करना तथा उसे दैनिक जीवन में प्रयोग में लाने को भाषा अर्जन कहते हैं। यह एक सहज एवं स्वाभाविक प्रक्रिया है जिसमें बच्चे घरेलू परिवेश में भाषा के नियमों को आसानी से आत्मसात् करते हैं।

गणित, विज्ञान आदि विषयों की कक्षाओं में भी बच्चे भाषा सीखते हैं। यह कथन पूर्णतः सत्य है क्योंकि—

- भाषा व्यापक है और यह सभी विषयों में केंद्रित है।
- भाषा की शिक्षा केवल एक विशेष विषय में नहीं होती है।
- भाषा का शिक्षण पाठ्यक्रम के प्रत्येक विषयों के माध्यम से होता है।
- भाषा से भिन्न कोई विषय पढ़ने के दौरान बच्चे साथ साथ भाषा भी सीखते हैं।
- गणित और विज्ञान की पुस्तक, हिंदी भाषा के पाठ्यपुस्तक के रूप में भी कार्य करती है।

अतः सभी विषयों का ज्ञान भाषा के माध्यम से ही बच्चों तक पहुंचता है। प्रत्यक्ष-अप्रत्यक्ष रूप से किसी भी विषय के शिक्षण में भाषा का अध्ययन स्वाभाविक रूप से होता है

142. विकल्प (4) उचित है।

व्याख्या—उच्च प्राथमिक स्तर पर पाठ्य-पुस्तकों में हिंदीतर भाषा को ही जगह मिलनी चाहिए ताकि बच्चे—

- सामाजिक संस्कृति में परिचित हो सकें।
- हिन्दीतर भाषी साहित्यकारों से परिचित हो सकें।
- भाषा की विभिन्न रंगतों से परिचित हो सकें।

उच्च प्राथमिक स्तर की हिंदी भाषा की पाठ्य-पुस्तकों में हिंदीतर भाषा को भी जगह मिलनी चाहिए ताकि बच्चे—

- सामाजिक संस्कृति से परिचित हो सकें।
- भाषा की विभिन्न रंगतों से परिचित हो सकें।

- हिंदीतर भाषी साहित्यकारों से परिचित हो सकें।
- हिंदीतर भाषा के साहित्य से परिचित हो सकें।
- हिंदीतर भाषा के रचना शैली से परिचित हो सकें।
- हिंदीतर भाषाओं के द्वारा संवेदनाओं को विस्तार दे सकें।

143. विकल्प (2) उचित है।

व्याख्या—बच्चे भाषा तब बेहतर तरीके से सीखते हैं जब भाषा का समृद्ध परिवेश हो।

मुख्य बिन्दु—

- भाषा विचारों की अभिव्यक्ति का माध्यम है।
- इसका क्षेत्र अत्यन्त व्यापक है।
- रचनात्मक गतिविधियों को प्रोत्साहित करना।

- कल्पनाशीलता को बढ़ावा देना।

भाषा मुख से उच्चारित होने वाली वह ध्वनि है जिसका प्रयोग मनुष्य अपने मन के विचारों का आदान-प्रदान करने के लिए करता है।

बच्चे भाषा तब बेहतर तरीके से सीखते हैं जब भाषा का समृद्ध परिवेश हो क्योंकि समृद्ध भाषिक वातावरण भाषा सीखने के लिए सर्वाधिक महत्वपूर्ण कारक है।

समृद्ध भाषिक परिवेश से तात्पर्य ऐसे परिवेश से है जिसमें बच्चे भाषा को अधिकाधिक देख, सुन और प्रयोग कर सकें।

यह बच्चों के भाषाई विकास में अत्यधिक लाभकारी होता है क्योंकि यह— बच्चों की समझ को शब्दों और वाक्यांशों की रचना के संबंध में विस्तार देता है।

बच्चे में अभिव्यक्ति, रचनात्मकता, सृजनात्मकता तथा कल्पनाशीलता को प्रोत्साहन देता है। बच्चों में भाषा ज्ञान के प्रति जिज्ञासा उत्पन्न करता है जिससे बच्चे सक्रिय होकर भाषा सीखते हैं। बच्चों में सहज भाषा विकास की नींव रखता है तथा उन्हें रचनात्मक गतिविधियों में संलग्न करता है।

बच्चों की भाषा संबंधी विविध आवश्यकताओं को विभिन्न भाषा मॉडलों तथा उपकरणों द्वारा पूर्ण करता है।

144. विकल्प (1) उचित है।

व्याख्या—उच्च प्राथमिक स्तर पर भाषा-आकलन की दृष्टि से सर्वाधिक महत्वपूर्ण अवलोकन है।

अवलोकन—

- अवलोकन वह प्रणाली है जहाँ अवलोकनकर्ता स्वयं घटना स्थल पर जाकर अपनी आँखों से उन घटनाओं को देखता है और जानकारी प्राप्त करता है।
- वैज्ञानिक अन्वेषण की एक शास्त्रीय विधि है।

भाषा-आकलन—

- संपादात्मक एवं रचनात्मक प्रक्रिया है।
- आकलन का उद्देश्य निदानात्मक होता है।

- आकलन द्वारा शिक्षण अधिगम में सुधार किया जाता है और अध्यापकों को पृष्ठपोषण दिया जाता है।

भाषा आकलन एक संवादात्मक तथा रचनात्मक प्रक्रिया माना जाता है, जिसके द्वारा शिक्षक विद्यार्थी का उचित अधिगम की जांच करता है। आकलन का उद्देश्य निदानात्मक होता है अर्थात् शिक्षण अधिगम कार्यक्रम में सुधार करना, छात्रों व अध्यापकों को पृष्ठपोषण प्रदान करना तथा छात्रों की अधिगम संबंधी कठिनाइयों को ज्ञात करना आदि।

उच्च प्राथमिक स्तर पर भाषा आकलन की दृष्टि से अवलोकन सर्वाधिक महत्वपूर्ण है क्योंकि अवलोकन, आकलन का वह भाग है जो शिक्षण प्रक्रिया के दौरान बच्चों के गतिविधियों को ध्यानपूर्वक देखने से संबंधित है।

अनिवार्यतः नियमित अवलोकन द्वारा बच्चों की सभी गतिविधियों का नियमित रूप से परीक्षण कर के ही उनकी क्रमिक प्रगति, शिक्षण संबंधी आवश्यकताओं तथा समस्याओं का सही आकलन किया जा सकता है।

145. विकल्प (4) उचित है।

व्याख्या—द्वितीय भाषा की पाठ्यचर्या का एक लक्ष्य है—प्राकृतिक भाषा ज्ञान में अर्जित दक्षता के अनुरूप बुनियादी दक्षता प्राप्त करना।

द्वितीय भाषा—

- द्वितीय भाषा अर्थात् अपनी मातृ भाषा से अतिरिक्त अन्य भाषा।
- यह बालक को अन्य भाषा के प्रयोग में दक्ष बनाती है।
- अन्य भाषा को समझने-बोलने के साथ-साथ लिखने में सहायक।
- औपचारिक विषयों में भाग ले पाने में सहायक।

अधिगम अथवा सीखना किसी स्थिति के प्रति सक्रिय प्रतिक्रिया को दर्शाता है। यह एक ऐसी प्रक्रिया है जो जीवनपर्यंत चलती रहती है एवं जिसके द्वारा हम ज्ञान अर्जित करते हैं। द्वितीय भाषा अधिगम से तात्पर्य मातृ भाषा के अतिरिक्त किसी अन्य भाषा को सीखने से है। यह एक ऐसी प्रक्रिया को संदर्भित करता है जो बच्चों को अन्य भाषा प्रयोग में भी दक्ष बनाती है।

द्वितीय भाषा की पाठ्यचर्या का लक्ष्य प्राकृतिक भाषा ज्ञान में अर्जित दक्षता के अनुरूप ही द्वितीय भाषा में बुनियादी दक्षता प्राप्त करना है। उपरोक्त वर्णित लक्ष्य बच्चों में द्वितीय भाषा प्रयोग की बुनियादी क्षमता के विकास को संदर्भित करता है।

यह बच्चों को द्वितीय भाषा में लिखी/छपी सामग्री को पढ़ने, समझने तथा विभिन्न संदर्भ में प्रयोग करने से संबंधित है।

146. विकल्प (2) उचित है।

व्याख्या—भाषा के विभिन्न कौशलों को एकीकृत रूप में पढ़ाने की अनुशंसा की जाती है क्योंकि भाषा समझने-बोलने के साथ-साथ लिखने और पढ़ने में सहायक होती है। भाषा विचार अभिव्यक्ति का साधन है।

मानव अपने विचारों का आदान प्रदान मुख्य रूप से चार प्रक्रियाओं यथा सुनना, बोलना, पढ़ना

और लिखना द्वारा करता है। भाषा से संबंधित इन चारों प्रक्रियाओं को सहज प्रयोग करने की क्षमता ही भाषा कौशल कहलाती है।

भाषा के इन विभिन्न कौशलों को एकीकृत रूप में पढ़ाने की अनुशंसा की जाती है क्योंकि ये चारों कौशल एक दूसरे से अतः संबंधित होते हैं। यहां सुनना और पढ़ना विचारों को ग्रहण करने से तथा बोलना और लिखना विचारों को अभिव्यक्त करने से संबंधित है।

श्रवण कौशल—इसका अर्थ है सुनकर भावग्रहण करना। यह एक मानसिक प्रक्रिया है जिसमें ध्यानपूर्वक सुनने, सुनी हुई बातों पर चिंतन मनन करने जैसी जटिल प्रक्रियाएँ हैं।

मौखिक कौशल—अपने भावों को सार्थक शब्दों में बोलकर व्यक्त करना इसमें शामिल होता है। इसमें शुद्ध उच्चारण, उचित गति, हाव-भाव, विचार क्रमबद्धता, और निःसंकोच भावाभिव्यक्ति जैसे पक्ष होते हैं—

पठन कौशल—इसमें लिपि प्रतिकों की पहचान करना, उच्चारण करना, अर्थ ग्रहण करना जैसी योग्यता का समावेश है।

लेखन कौशल—भाषाई कौशल का लिखित अभिव्यक्त रूप है। यह भावों और मौलिक विचारों को अर्थपूर्ण तरीके से लिखित रूप देने से संबंधित है।

147. विकल्प (1) उचित है।

व्याख्या—व्याकरण शिक्षण की आगमन विधि अपेक्षाकृत प्रभावी है।

आगमन विधि—

- शिक्षक किसी उदाहरण की सहायता से विषयवस्तु को स्पष्ट करते हुए किसी नियम तक पहुँचता है।
- इसमें शिक्षक सकारात्मक सूत्रों की सहायता लेता है।
- इसमें ज्ञात से अज्ञात की ओर जाते हैं।
- यह एक मनोवैज्ञानिक विधि है।
- यह बालक के तर्क व चिंतन का विकास करती है।

(iv) यह समस्या के समाधान में सहायक है। व्याकरण-शिक्षण की आगमन विधि अपेक्षाकृत बेहतर विधि है, क्योंकि इसमें 'बच्चे उदाहरणों से नियमों की ओर जाते हैं'।

यह शिक्षण विधि विशिष्ट से सामान्य की ओर, स्थूल से सूक्ष्म की ओर, मूर्त से अमूर्त की ओर, ज्ञात से अज्ञात की ओर, सरल से कठिन की ओर के सिद्धांत पर कार्य करती है।

इस विधि में बालक के समक्ष कुछ उदाहरण प्रस्तुत कर उनके विश्लेषण द्वारा सामान्य सिद्धांत निकलवाये जाते हैं अर्थात् विद्यार्थी स्वयं ज्ञान को खोजने का प्रयत्न करते हैं।

उदाहरण—शिक्षक श्यामपट्ट पर टेबल, कलम, राम, हंसना, सुंदर, पटना आदि लिख कर यह बता सकता है कि ये सभी संज्ञा के उदाहरण हैं अर्थात् किसी व्यक्ति, स्थान, वस्तु, भाव, गुण आदि के नाम को संज्ञा कहते हैं।

148. विकल्प (3) उचित है।

व्याख्या—उच्च प्राथमिक स्तर पर भाषा की पाठ्य-पुस्तक में 'रक्त और हमारा शरीर' पाठ शामिल करने का विचार हिन्दी भाषा की विभिन्न रंगतों से जुड़ा है। 'रक्त और हमारा शरीर' उच्च प्राथमिक स्तर पर कक्षा 7 के लिए यतिश अग्रवाल द्वारा लिखा गया एक सुप्रसिद्ध निबन्ध है।

'रक्त और हमारा शरीर' उच्च प्राथमिक स्तर पर कक्षा 7 के लिए यतिश अग्रवाल जी द्वारा लिखा गया एक सुप्रसिद्ध निबन्ध है।

इस निबन्ध में महत्वपूर्ण जानकारी तथा मानव शरीर में रक्त की महत्ता का वर्णन किया है।

उच्च प्राथमिक स्तर पर उपरोक्त वर्णित पाठ शामिल करने का विचार हिन्दी भाषा की विभिन्न रंगतों से जुड़ा है क्योंकि इस पाठ में हिन्दी भाषा प्रयोग द्वारा जीव विज्ञान से संबंधित तथ्यों की जानकारी हिन्दी भाषा के विभिन्न स्वरूपों को उजागर करती है।

149. विकल्प (4) उचित है।

व्याख्या—त्रिभाषा-फॉर्मूला भारत की भाषा-स्थिति, की चुनौतियों और अवसरों को सम्बोधित करने का एक प्रयास है।

त्रिभाषा-फॉर्मूला—

- बालक की प्रथम भाषा मातृभाषा होनी चाहिए।
- बालक की दूसरी भाषा देश की भाषा या अन्य भारतीय भाषा होनी चाहिए।
- बालक की तीसरी भाषा अंग्रेजी या कोई अन्य आधुनिक भारतीय भाषा होनी चाहिए।

त्रिभाषा-फॉर्मूला भारत की भाषा स्थिति की चुनौतियों और अवसरों को संबोधित करने का एक प्रयास है क्योंकि यह भाषा शिक्षण से संबंधित एक ऐसी नीति है जिसका प्राथमिक उद्देश्य भाषा शिक्षण के तहत बच्चों में बहु-भाषिकता और राष्ट्रीय सद्भाव को बढ़ावा देना है।

त्रिभाषा फॉर्मूला के तहत भारतीय स्कूलों में तीन भाषाओं की शिक्षा दी जाने की सिफारिश की गई थी जो इस प्रकार हैं—

पहली भाषा—मातृभाषा या क्षेत्रीय भाषा।

दूसरी भाषा—हिन्दी भाषी राज्यों में आधुनिक भारतीय भाषा या अंग्रेजी। गैर हिन्दी भाषी राज्यों में हिन्दी या अंग्रेजी।

तीसरी भाषा—हिन्दी भाषी तथा गैर हिन्दी भाषी दोनों राज्यों में अंग्रेजी या एक आधुनिक भारतीय भाषा।

150. विकल्प (2) उचित है।

व्याख्या—लिखने की क्षमता का विकास बोलने, सुनने और पढ़ने की क्षमता की संगति में होनी चाहिए। यह विचार पूर्णतः सत्य है।

मुख्य बिन्दु—

- भाषा विचारों की अभिव्यक्ति का माध्यम है।
- सुनने, बोलने, पढ़ने और लिखने के द्वारा हम विचारों को अभिव्यक्त करते हैं।
- भाषा को श्रवण एवं वाचक द्वारा ग्रहण किया जा सकता है।
- भाषा में चार प्रकार के कौशल होते हैं—
(1) श्रवण कौशल
(2) वाचिक
(3) लेखन कौशल
(4) पठन कौशल
- व्यक्ति नित्य नवीन शब्दों को सुनता है और अपने भाषायी ज्ञान में विकास करता है।

भाषा के इन विभिन्न कौशलों को एकीकृत रूप में पढ़ाने की अनुशंसा की जाती है क्योंकि ये चारों कौशल एक दूसरे से अतः संबंधित होते हैं। यहां सुनना और पढ़ना विचारों को ग्रहण करने से तथा बोलना और लिखना विचारों को अभिव्यक्त करने से संबंधित है।

लिखने की क्षमता का विकास बोलने, सुनने और पढ़ने की क्षमता की संगति में होना चाहिए क्योंकि ये चारों भाषाई क्षमताएँ एक दूसरे से अतः संबंधित होती हैं तथा मानव में भाषाई विकास के विस्तार को आवश्यक गति प्रदान करती हैं।

श्रवण कौशल—इसका अर्थ है सुनकर भावग्रहण करना। यह एक मानसिक प्रक्रिया है जिसमें ध्यानपूर्वक सुनने, सुनी हुई बातों पर चिंतन मनन करने जैसी जटिल प्रक्रियाएँ हैं।

मौखिक कौशल—अपने भावों को सार्थक शब्दों में बोलकर व्यक्त करना इसमें शामिल होता है। इसमें शुद्ध उच्चारण, उचित गति, हाव-भाव, विचार क्रमबद्धता, और निःसंकोच भावाभिव्यक्ति जैसे पक्ष होते हैं—

पठन कौशल—इसमें लिपि प्रतिकों की पहचान करना, उच्चारण करना, अर्थ ग्रहण करना जैसी योग्यता का समावेश है।

लेखन कौशल—भाषाई कौशल का लिखित अभिव्यक्त रूप है। यह भावों और मौलिक विचारों को अर्थपूर्ण तरीके से लिखित रूप देने से संबंधित है।