

## Part I: Child Development and Pedagogy

**Directions (Q. 1–30): Answer the following questions by selecting the most appropriate option.**

- 1. Which of the following is the intelligence theory that incorporates the mental processes involved in intelligence (i.e., meta-components) and the varied forms that intelligence can take (i.e., creative intelligence)?**  
(1) Spearman's 'g' factor  
(2) Sternberg's triarchic theory of intelligence  
(3) Savant theory of intelligence  
(4) Thurstone's primary mental abilities
- 2. Acceleration with reference to gifted children means**  
(1) accelerating the transaction of scholastic activities  
(2) speeding up the transaction of co-scholastic activities  
(3) promoting such students to next higher grade by skipping the present grade  
(4) accelerating the process of assessment
- 3. Individual learners differ from each other in**  
(1) principles of growth and development  
(2) rate of development  
(3) sequence of development  
(4) general capacity for development
- 4. Which one of the following factors often leads to maladjustment of children?**  
(1) Lack of spiritual maturity  
(2) Lack of emotional maturity  
(3) Illiterate parents  
(4) Impulsive nature
- 5. A child learns socially acceptable norms \_\_\_\_\_.**  
(1) Gradually  
(2) Swiftly  
(3) Randomly  
(4) Frequently
- 6. Which of the following may be the best way to deal with an inattentive child in the classroom?**  
(1) Nag the child frequently in front of the class to make her/him realise.  
(2) Make the child sit in the most distraction-reduced area.  
(3) Allow the child to stand while working so as to enable her/him to focus attention.  
(4) Provide the child frequent breaks to refresh her/his attention.
- 7. Which one of the following is least important in an inclusive classroom?**  
(1) Lesser stress on competition and grades  
(2) More cooperative and collaborative activities  
(3) More choice for students  
(4) More efforts by teachers to cover the course

- 8. Socialisation is a process that helps a child to gradually transform into a good \_\_\_\_\_.**  
(1) Social being  
(2) Student  
(3) Teacher  
(4) Social worker
- 9. A creative learner refers to the one who is**  
(1) very talented in drawing and painting  
(2) highly intelligent  
(3) capable of consistently scoring good marks in tests  
(4) good at lateral thinking and problem solving
- 10. Which of the following thinkers advocated child-centred education?**  
(1) B. F. Skinner  
(2) John Dewey  
(3) Eric Erickson  
(4) Charles Darwin
- 11. The concept of 'private speech' of children as proposed by Vygotsky**  
(1) illustrates that children are egocentric  
(2) shows that children are stupid and thus need guidance of adults  
(3) shows that children love themselves  
(4) illustrates that children use speech to guide their own actions
- 12. What is a major criticism of Kohlberg's theory?**  
(1) Kohlberg proposed a theory without any empirical basis.  
(2) Kohlberg proposed that moral reasoning is developmental.  
(3) Kohlberg did not account for cultural differences in moral reasoning of men and women.  
(4) Kohlberg did not give clear-cut stages of moral development.
- 13. Learning-disabled children generally show**  
(1) conceptual disorders  
(2) perceptual disorders  
(3) habitual disorders  
(4) physical disorders
- 14. "Every learner is unique" means that**  
(1) no two learners are alike in their abilities, interests and talents  
(2) learners do not have any common qualities, nor do they share common goals  
(3) a common curriculum for all learners is not possible  
(4) it is impossible to develop the potential of learners
- 15. Continuous and comprehensive evaluation is**  
(1) teacher-centred  
(2) student-centred  
(3) assessment-centred  
(4) performance-centred
- 16. At which stage of cognitive development does egocentrism occur?**  
(1) Sensorimotor stage  
(2) Preoperational stage

(2) He does not understand the value of 7 in the mixed number.  
 (3) The student does not have any number sense at all.  
 (4) The student does not know how to convert a mixed number into a fraction.

**52. Lalit is able to solve all addition and subtraction sums, but he often forgets to carry over numbers while adding and to deduct the borrowed number while subtracting. The best remedial strategy to remove these errors is**

(1) punishing Lalit for every mistake he commits  
 (2) rewarding Lalit for every correct answer  
 (3) giving Lalit a long worksheet to practice the sums of carrying over and borrowing  
 (4) asking Lalit to be cautious while carrying over and borrowing and do self-checking to ensure that his answer is correct

**53. Prasad has added 55 to 67 in the following manner:**

$$\begin{array}{r}
 1 \\
 67 \\
 +55 \\
 \hline
 113
 \end{array}$$

**What is wrong in this?**

(1) Prasad has problem in regrouping.  
 (2) Prasad has done this due to carelessness.  
 (3) Prasad has added the digits from left to right.  
 (4) Prasad lacks the knowledge of basic facts.

**54. Ramesh was not able to understand division problems. So, to teach division by 4, his teacher asked him to take out four marbles at a time and see how many times he is doing it to divide all the marbles. He repeated the activity with other numbers also and understood the concept. Ramesh**

(1) is a visual learner  
 (2) needs personal attention  
 (3) is an auditory learner  
 (4) is a kinaesthetic learner

**55. A teacher assigned the students of Class V an activity of finding different types of trees, their names and their total number growing in their colony. She asked the students to make tallies for counting purposes and then make a smart chart of it. This activity has been suggested in the book mainly for the purpose of**

(1) helping the students communicate with one another and enjoy the learning process

(2) helping the students to make connections between mathematical concepts and real life  
 (3) teaching the students through project approach  
 (4) enhancing the reasoning power of the students

**56. Which of the following problems from a textbook of Class IV refers to a multidisciplinary problem?**

(1) Find the length, breadth and height of a brick.  
 (2) Find the life spans of different animals.  
 (3) Make designs using compass and circular objects.  
 (4) Draw a line of symmetry in a given geometrical figure.

**57. Rajni, studying in Class II, finds it difficult to differentiate between operation symbols. In place of subtraction, she would do multiplication, subtraction in place of division and so on. She also finds difficulty in reading time on clock. Rajni has problem with her**

(1) auditory memory (2) working memory  
 (3) visual processing (4) language processing

**58. For assessing the performance of Class III students in solving problem sums and selecting the right operation for their solution, the most appropriate rubric is:**

**The student is able to**

(1) understand the problem, and selects and applies the right operation to solve it  
 (2) understand the language of the problem sum and identify the operations to be performed  
 (3) understand and solve the problem  
 (4) solve the problem in a correct way

**59. Which one of the following activities is not appropriate for data representation and data interpretation?**

(1) Project (2) Newspaper report  
 (3) Survey (4) Debate

**60. To assess the competence of Class III students in the addition of 3-4 digit numbers with carrying over and regrouping, the best rubric is:**

**The students**

(1) can add two numbers correctly  
 (2) can add two numbers with carrying over  
 (3) can add 3-4 digit numbers with regrouping  
 (4) can add two numbers of 3-4 digits each with regrouping and without any mistake

### Part III: Environmental Studies

**Directions (Q. 61–90): Answer the following questions by selecting the most appropriate option.**

**61. How is robin's nest different from crow's nest?**

(1) Robin makes its nest with thorns of a cactus plant while crow makes its nest with straw and soft twigs.  
 (2) Robin makes its nest in a hole in a tree trunk while crow makes its nest on a tree.  
 (3) Robin makes a hanging nest while crow makes it on the support.  
 (4) Robin's nest is soft while crow's nest is hard.

**62. Which of the following trees are commonly seen in Kerala?**

(1) Betelnut and banana (2) Poplar and coconut  
 (3) Chir and banana (4) Poplar and chir

**63. Which of the following teeth are needed to gnaw?**

(1) Elephant's external teeth (2) Squirrel's front teeth  
 (3) Cow's front teeth (4) Tiger's side teeth

**64. Which of the following is the responsibility of a leader for mountain trekking?**

(1) Let the others go and keep to the last.  
 (2) Finding a suitable place to rest for long.

(3) Ask those to stay back who cannot climb properly.  
 (4) Commanding the members not to stop even if they are unwell.

**65. What is the minimum age of girls to get married in our country?**  
 (1) 17 (2) 18 (3) 19 (4) 20

**66. Read the following pairs of vitamins and the deficiency diseases associated with them:**  
**I. Vitamin B1: Beriberi**  
**II. Vitamin A: Rickets**  
**III. Vitamin C: Scurvy**  
**IV. Vitamin D: Night blindness**

**Identify the incorrect pairs of vitamins and the deficiency diseases associated with them.**  
 (1) I and III (2) II and III  
 (3) II and IV (4) I and IV

**67. Study each pair of symptoms and diseases:**  
**I. Swelling of legs and feet: Kwashiorkor**  
**II. Very underweight body: Goitre**  
**III. Bulky body: Obesity**  
**IV. Protruding eyes: Marasmus**

**Identify the correct pair:**  
 (1) I and III (2) II and III (3) II and IV (4) III and IV

**68. Which of the following is the incorrect match of diseases and types?**  
 (1) Autism, sickle-cell anaemia: Congenital  
 (2) Night blindness, anaemia: Deficiency disease  
 (3) Diabetes, kidney stones: Degenerative diseases  
 (4) Asthma, hay fever: Infectious disease

**69. You are given some kilos of carrots to preserve them for summers. Which one of the following ways of preserving them is good?**  
 (1) Making their pickle  
 (2) Putting them in a plastic bag  
 (3) Putting them in refrigerators  
 (4) Storing them in airtight containers

**70. Salt and sugar help in the preservation of food by**  
 (1) adding water to food  
 (2) removing water from food  
 (3) plasmolysing the microbial cells  
 (4) making food indigestible for microbes

**71. Cholesterol-free labelled food items available in the market must contain the cholesterol level less than**  
 (1) 2 mg per labelled serving  
 (2) 12 mg per labelled serving  
 (3) 1 mg per labelled serving  
 (4) 10 mg per labelled serving

**72. In a balanced diet, the largest part of our food is contributed by**  
 (1) vitamins and minerals (2) carbohydrates and fats  
 (3) proteins and minerals (4) fats and proteins

**73. Bhima Sangh in Karnataka was discussed in a chapter of grade 4. After their great efforts, they got successful in**  
 (1) rejuvenating the tanks on slopes for collecting rainwater  
 (2) building a bridge for crossing a river  
 (3) making a gobar gas plant  
 (4) conserving trees

**74. Pochampalli is a famous form of**  
 (1) boat (2) dyeing (3) painting (4) sweet dish

**75. People of Mizoram are mostly involved in growing rice through Jhoom farming. They celebrate the completion of their work by getting together eating, singing and performing a special dance form called**  
 (1) Bihu dance (2) Cheraw dance  
 (3) Kalbelia dance (4) Kuchipudi dance

**76. Which of the following activities is the best way to make students learn the topic of 'Cultural diversity in food' through active learning?**  
 (1) Assigning a group project to collect related information from their families and discuss the data  
 (2) Showing flash cards having pictures of various food items eaten in different states  
 (3) Giving examples of food items eaten by people belonging to different cultures  
 (4) Drawing pictures of different food items eaten in India

**77. Which of the following is the most essential component of the preparation for a field visit?**  
 (1) Asking students to carry a notebook and a pencil  
 (2) Asking students to carry water bottle and some food to eat  
 (3) Making arrangements for assistant teachers and caretaker  
 (4) Grouping students and sharing with them the plan about the scheduled visit in the form of a prepared structured format of activity sheet before the visit

**78. Mid-day meal is the right of**  
 (1) every child  
 (2) poor children  
 (3) middle-class children  
 (4) poor children who perform good in exams

**79. Why is it important to give space to children in the teaching-learning process?**  
 (1) Students differ in their level of thinking.  
 (2) Some students like to talk less than others.  
 (3) Students get irritated with more attention of teacher towards them.  
 (4) Some students show no sign of improvement even after good attention.

**80. The concept of comprehensive under CCE aims at**  
 (1) the long form of assessment  
 (2) assessment of half of the syllabus  
 (3) assessing both scholastic and non-scholastic areas  
 (4) assessing all the students on all indicators quarterly

**81. Sonali wants to emphasise more on preparing application-based questions for a class test. Which of the following types of question should have been drafted by her for the same?**  
 (1) How many forms of water are there?  
 (2) How would you explain the water cycle?

## ANSWER KEY & EXPLANATORY NOTES

### Part I: Child Development and Pedagogy

1. (2) The triarchic theory of intelligence was proposed by Robert Sternberg in 1986, who believed that defining and measuring intelligence will translate to success in real life. The triarchic theory of intelligence organised intelligence into three dimensions that work together namely, componential, experiential and contextual. The componential dimension specifies set of mental processes that generates behaviour.

2. (3) Acceleration involves assigning a sixth-grade student the curriculum that is covered in the seventh standard. Acceleration is also called grade skipping and double promotion.

3. (2) The rate of development of an individual child is different from that of another child. This principle is known as the 'principle of individual differences'. For instance, some children may learn to walk in 8 months, while some may take more than a year to start walking.

4. (2) Maladjusted children are emotionally disturbed or immature as they feel that their family does not fulfil their needs, their teachers treat them unfairly and their peers do not understand them. This state does not let them prepare for the demands of life, and their behaviour might also become offensive as they grow up.

5. (1) According to Malver, social beings establish wider and profounder relationships with one another, in which they become more bound up with, and more perceptive of their own and others' personality and build up the complex structure of nearer and wider association. A child realises gradually that other individuals have their own needs and wants. When children grow and enter schools, they encounter adults and children from other backgrounds.

6. (2) An inattentive child should be seated at the front of the classroom or nearby the teacher so that the teacher, through constant eye contact and questioning, can ensure that the child's focus on learning is maintained throughout the class.

7. (4) The real aim of inclusive education is not to be limited only to completion of the course. It is broader in meaning and significance. It should also target the overall development of each and every child.

8. (1) As a process, socialisation consists of social development whereby a child is gradually transformed into a social being.

9. (4) Creative children fall under the category of gifted children. They are divergent thinkers and try to solve a problem in best possible ways.

10. (2) The child-centred approach stresses on the needs and interests of the child. The famous American philosopher, John Dewey highly advocated a child-centred education system. He believed that a child's mind is not a blank slate when he or she enters into the classroom. Children should be allowed to discover their environments, according to him.

11. (4) Private speech is the speech children use for self-guidance and self-regulation of behaviour. This speech is not intended to be heard by others though children may be audible enough while using it. Private speech is used by children in the age group 2–7 years.

12. (3) Kohlberg's theory was widely criticised for emphasising just one gender, i.e., the masculine. His morality scale clearly discriminated against women by placing them lower than men.

13. (1) Conceptual disorders are characterised by disrupted cognitive and psychological processes, leading to problems in understanding written or spoken language, or performing calculations. It is more of an age-related impairment.

14. (1) Every learner has his/her own style of learning and expression, and set of goals. There may be variance in the choices of same-age children.

15. (2) CCE was introduced to remove the fear of examination from students and realise their overall development. The basic motto of CCE is to inculcate positive values of assessment in learners. It is a student-centred approach.

16. (2) The preoperational stage of cognitive development lasts from 2 years to 7 years. At this stage, children's thoughts relate to themselves. A child is unable to see a situation from another's point of view.

17. (4) According to E. Hurlock, the study of human development judges an individual's growth from infancy to maturity or from dependency to autonomy.

18. (4) The Midday Meal project is a humanistic way of motivation. The objectives of this scheme include protecting students from study-room hunger, improving socialisation among them, increasing their attendance and enrollment, eliminating malnutrition, social empowerment, etc.

19. (1) Learning is a process of building knowledge, understanding and skills. This process leads to permanent behavioural changes, constantly modified by further learning.

20. (4) A school has three major components: teachers, classes and texts and culture. For an effective social development of a student, it is necessary that all these components work together to shape the social ideology of the student. Library is not a major component but is a required part of school as it provides conducive atmosphere for student's academic growth.

21. (2) For a child, peer groups are basically constituted by same-age friends who do not belong to the child's immediate family. They broaden the socialisation process of a child and help him/her in learning the basic rules of group interaction.

mathematical concept of angles, the focus should be on developing the understanding of angles. Measurement should come at the end.

**48.** (2) Rajat has used an incorrect operation. In place of addition, he did subtraction. Rajat should be asked to be careful and look at the signs seriously before starting to solve the sum.

**49.** (4) It is a careless error. Leela knows the algorithm but has done a careless mistake of not putting 0 in the quotient.

**50.** (4) Role play would be best suited for this purpose as students will find the activity related to their daily life experiences. They will learn to communicate in mathematical terms; calculate the amount of money to be paid for different quantities, some of them in fractions (onion 2 kg, ladyfinger  $\frac{1}{2}$  kg, green chillies  $\frac{1}{4}$  kg, etc.); and, while doing so, also enjoy enacting the play.

**51.** (4) The student does not know how to convert a mixed number into a fraction. This concept is usually difficult for some students. Hands-on activities in the classroom can help such students to be efficient in converting mixed numbers into fractions and vice versa.

**52.** (4) Though punishments and rewards may help sometimes, a habit of working carefully and ensuring that the sums are correctly solved can be developed through practice. The habit of self-checking the answers helps minimise such errors. For example:

$$\begin{array}{r}
 \text{5 self check 1 Self check} \\
 \begin{array}{r}
 \begin{array}{r}
 65 & 57 & 48 & 104 \\
 -57 & +8 & +56 & -56 \\
 \hline
 8 & 65 & 104 & 48
 \end{array}
 \end{array}$$

**53.** (3) Prasad has added the digits from left to right, whereas it should be from right to left when numbers are added in columns. He needs a proper understanding about the correct procedures of addition, the concept of place value and a lot of practice.

**54.** (4) Ramesh is a kinaesthetic learner. Such learners learn by touching

and doing things. Their tactile sense is stronger. If manipulatives like marbles, pebbles, beads, blocks, etc., are used, they learn better.

**55.** (3) This activity aims to help the students learn through project approach. The students will visit their respective colonies in teams, try to find the names of the trees over there and collect data, and organise and present it in the form of a smart chart. It will also help the students make connections between mathematical concepts and real life. They will develop the habit of keeping themselves aware of the things around them.

**56.** (2) The multidisciplinary problem given here is related to environmental studies and mathematics. The student will collect data about the life spans of different animals from books, encyclopaedias and the Internet.

**57.** (3) Students like Rajni have difficulty in visual processing. They are unable to memorise and discriminate numbers and operation symbols, and use number-represented objects such as coin, clock, calculator, phone dial, etc. Sometimes, they cannot even differentiate between left and right. They also have difficulty in manipulating simple visual patterns or maintaining their orientation to see things in space and estimating or comparing visual lengths or distances without measuring them.

**58.** (2) Problem sums in mathematics pose a challenge to students because they require students to read and understand the text of the problem and create a numerical equation in solution.

**59.** (4) Data representation involves collecting, analysing and presenting data. On the other hand, data interpretation means deriving meaning from the data thus represented. Data can be represented and interpreted better if the information or statistics are illustrated by diagrams, tables or graphs, as in surveys, projects, newspaper reports, etc. Such type of illustration is not

possible with debates, as they are more of a discussion or an argument at formal level.

**60.** (4) Students should be able to describe and apply mental mathematical strategies for adding two 3-4 digit numbers.

### Part III: Environmental Studies

**61.** (4) Robin's nest is soft and made of soft things like grass, twigs, wool, etc. A crow's nest is made of soft and hard things such as pieces of wire and wood.

**62.** (1) Coconut, banana, papaya, betelnut and jackfruit are commonly found in Kerala.

**63.** (2) The front teeth of squirrels continue to grow throughout their life. Squirrels keep gnawing on things to control the length of their front teeth.

**64.** (1) A group leader for mountain trekking should have the responsibility of keeping the group ahead and himself at the end. He should help those who cannot climb properly and find a suitable place to rest for some time. He should also help others in carrying their bags, and look after those who are not well.

**65.** (2) According to the Prohibition of Child Marriage Act, the minimum age of marriage for a girl is 18 years and 21 years for a boy in India.

**66.** (3) Rickets is caused by the deficiency of Vitamin D, while night blindness is caused by the deficiency of Vitamin A.

**67.** (1) Marasmus is caused by the deficiency of proteins and carbohydrates. Its symptoms are thin face, sunken eyes, very underweight body and weak muscles. Obesity is a problem of being overweight. It is caused by overeating and insufficient exercise. Goitre is caused by the deficiency of iodine. It is characterised by protruding eyes, low intelligence, etc. Kwashiorkor is a severe protein deficiency disease. Its symptoms are swelling of legs and feet, anaemia, etc.

**68.** (4) Asthma and hay fever are allergic diseases caused by the exaggerated immune response of the body towards allergens such as dust particles, pollens, etc. Congenital diseases are present from the time of birth in individuals and are genetically controlled; for example, autism, sickle-cell anaemia, haemophilia, etc. Degenerative diseases are characterised by the malfunctioning of vital organs. For example, diabetes, kidney stones, etc. Night blindness and anaemia are deficiency diseases.

**69.** (1) Pickling is one of the best ways to preserve fruits and vegetables such as carrots for a long time. Pickles are prepared by drying out the moisture and then adding preservatives such as salt and vinegar.

**70.** (3) Salt and sugar act as food preservatives. They plasmolyse microbial cells (agents responsible for spoiling of food). Plasmolysis is the process of losing water by microbial cells.

**71.** (1) According to FDA (Food and Drug Administration), food items claiming to be cholesterol free must contain cholesterol level less than 2 mg per labelled serving.

**72.** (2) The largest part of a balanced diet is represented by carbohydrates and fats. These are energy giving foods. A normal person requires about 400-500 g of carbohydrates per day.

**73.** (1) Bhima Sangh got successful in rejuvenating the tanks on slopes for collecting rainwater. They cleaned dust, stones and wastes and grew plants around the tank. The rainwater filled in the tank was used by the people.

**74.** (2) Pochampalli is a famous form of dyeing involving traditional geometric patterns. Pochampalli saris are popularly weaved by the people in the Pochampalli district in Andhra Pradesh.

**75.** (2) People of Mizoram celebrate the completion of their work of growing rice by eating and performing a special dance form called 'Cheraw' dance. This dance form involves beating bamboo sticks on the ground following the drum beat.

**76.** (1) Experimenting, exploring, investigating and questioning are the important components of active learning. Active learning follows the rule of 'learning by doing'. It can be best achieved through project work, discussion, group task, quiz, etc.

**77.** (4) Preparing a structured activity sheet (including information of the place to be visited and what to be observed there) and discussing it with students before the visit will give students enough time to do their own preparation and research about the place for a meaningful learning. One of the purposes of a field trip is that students learn from hands-on experience, correlating with what they have read, heard or discussed in the classroom.

**78.** (1) Mid-day meal is the right of every child. This scheme was initiated by the Government of India to improve the nutritional status of school-going children.

**79.** (1) Students in a class are at different levels of thinking. It is important to give them space to explore their own ideas so that they can learn by doing themselves.

**80.** (3) Comprehensive refers to both scholastic and non-scholastic areas of a student's growth. The objective of making the school-based evaluation process comprehensive is that the function of a school is not only to build the cognitive capacities of a student, but also to develop his non-cognitive abilities. This can be ensured when the overall evaluation procedure of the school is comprehensive.

**81.** (3) Among the given questions, 'Do you know of any other instance where evaporation of water helps in cooling?' best represents the application-based question.

Application-based questions assess whether students are able to connect the knowledge gained with day-to-day situations. For solving such questions, a student needs to be good at many indicators of learning such as observing, expressing, explaining and analysing.

**82.** (1) Debate helps children look at any issue from different angles. It also encourages children to express their opinions in the class.

**83.** (2) Under the indicator of explanation, a student is able to provide reasons and make logical connections.

**84.** (4) Map is a diagrammatic description of an area of land or sea. Reading maps develops the ability to determine the positions, distances and directions of various places of which we come to know in our daily life.

**85.** (4) Games and plays can be integrated with formal learning to make it more interactive and long-lasting.

**86.** (1) Asking students questions such as 'Is there air in the soil?', etc. promotes their thinking skills and lets them apply the idea in a simple situation.

**87.** (4) Performing simple experiments and demonstrations in an EVS class helps introduce students to the general science activities and increases the process of scientific thinking in students. These activities involve prior imagination followed by experimentation and logical deduction.

**88.** (1) Remembering the concepts is not a component of active learning. The teacher should let students discover by themselves through the essential components of active learning of EVS such as observation, exploring, experimenting, questioning, etc.

**89.** (2) A good home assignment in EVS should primarily focus on giving challenge and bringing excitement for extended learning instead of focusing on revision and reinforcement.

**90.** (1) Community develops socio-cultural aspects among students. This method provides learning opportunity in real settings in the absence of a teacher. In this method, a student acts as a teacher and all others as students. This resource