Exemplar Items for CTET: December 2021

Paper 1

PART - 1
CHILD DEVELOPMENT AND PEDAGOGY

Q1. During a task, Saina is talking to herself about ways she can proceed on the task. According to Lev Vygotsky's ideas on language and thought; this kind of 'private speech' is a sign of _____.

(A) cognitive immaturity
(B) self-regulation
(C) ego-centrism
(D) psychological disorder

Q2. A child argues that no person should steal a drug from a Chemist's shop even if it is to save a human life because he/she will be caught and sent to jail if he/she does so. According to Kohlberg, which stage of moral understanding does the child fall under?

(A) Instrumental purpose orientation
(B) Social-order maintaining orientation
(C) Punishment and obedience orientation
(D) Universal ethical principle orientation

Q3. Which one of the following questions invites children to engage in critical thinking?

(A) Do you know the answer to this?
(B) What is the right answer for this question?
(C) Is the concept clear to you all?
(D) What are the different ways to solve this?

Q4. Which of the following statements about intelligence is correct?

(A) Intelligence is the ability to think in a convergent manner.
(B) Intelligence is a relatively permanent change in behavior as a result of experience.
(C) Intelligence is the ability that helps in predicting how good a person would be in a particular profession.

(D) Intelligence is multidimensional involving several abilities not entirely measurable by intelligence tests.

Q5. Repeatedly asking children to engage in learning activities either to avoid punishment or to gain a reward _____

(A) decreases extrinsic motivation.
(B) increases intrinsic motivation.
(C) would encourage children to acquire knowledge and skills for their own development.
(D) decreases children's natural interest and curiosity involved in learning.

Q6. The teacher was observing Vinod as he was engaged in making a model. The model was a replica of the city of Mirzapur and Vinod had built a new monorail transport system with plaster of Paris. He had created a mental map of the proposed transport network and translated it on the replica connecting the key junctions of the city. Vinod presents us an example of which of the following types of intelligence?

(A) Kinesthetic intelligence
(B) Inter-personal intelligence
(C) Spatial intelligence
(D) Emotional intelligence

Q7. Which of the following are the key postulates of constructivism?
I: Individual learners actively build knowledge and skills
II: Information exists within the constructs of our minds
III: Behaviour of the learner must be reinforced to ensure learning
IV: Learning is a socially mediated process.

(A) I, II, III
(B) II, III, IV
(C) I, III, IV
(D) I, II, IV

PART - 2
MATHEMATICS

Q1. In a division sum, the divisor is 5 times the quotient and twice the remainder. If the remainder is 5, what is the dividend?

(A) 52
(B) 15
(C) 25
(D) 48

Q2. A beaker is $\frac{3}{7}$th filled with water. Another 16 L of water is needed to fill the beaker to its brim. What is the capacity of the beaker?

(A) 14 L
(B) 21 L
(C) 28 L
(D) 70 L

Q3. Which one of the following is the best approximation of $\frac{7.1 \times 3.85}{9.09}$?

(A) $\frac{7 \times 3}{9}$

(B) $\frac{7 \times 4}{9}$

(C) $\frac{7 \times 4}{10}$

(D) $\frac{7 \times 3}{10}$

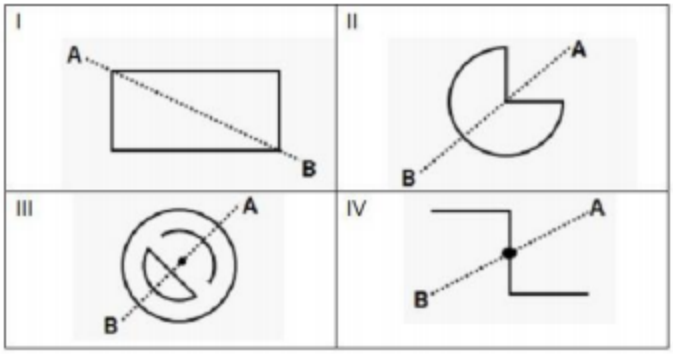
Q4. A child subtracted two numbers as shown below :

$$\begin{array}{r} 83 \\ -\ 27 \\ \hline 64 \end{array}$$

Which one of the following statements gives an idea about the child's learning of subtraction?

(A) The child has misconceptions about place value in the process of subtraction.
(B) The child does not know how to subtract.
(C) The child knows the process of subtraction of two-digit numbers.
(D) The child is making a mistake and it can be rectified by repeated practice.

Q5. Given below are four figures with line AB passing through them. In which of the figure or figures AB is the axis of reflection symmetry?



(A) In figures II and III
(B) In figures I, II and III
(C) In figures I, II and IV
(D) In all the figures – I, II, III and IV

Q6. Ramesh is traveling by train from Mysuru to Shimoga. He leaves Mysuru at 17:40 (in 24-hour clock) and reaches Shimoga at 00:20 (in 24-hour clock). What is the duration of his travel?

(A) 17 hours 20 minutes
(B) 6 hours 20 minutes
(C) 6 hours 40 minutes
(D) 17 hours 40 minutes

Q7. How many axes of symmetry does the following image have?

(A) 2
(B) 3
(C) 4
(D) 6

Q8. In an assessment conducted by Class IV teacher Ms. Parul, a majority of her students identified 1/7 as being greater than 1/3. Which of the following exercises should Ms. Parul conduct to address the misconception?

(A) Ask a student to pick one block from seven given blocks and another student to pick one block from three given blocks. Ask the other students to comment on which is a bigger fraction.
(B) Draw two equal circles, each with four equal parts. Shade two parts in one and three parts in the other. Ask the students which is a bigger fraction to test whether they can compare fractions with the equal number of total parts.

(C) Explain to the students that while comparing unit fractions, the fraction with the bigger number in the denominator is always smaller.
(D) Draw two equal circles. Ask students to divide one circle into five equal parts and the other into eight equal parts. Ask them part of which circle is bigger.

Q9. You have given three different tasks to three groups in your classroom -
Group 1: Compare the given figures and find out which one occupies more area.
Group 2: Calculate the perimeter of the given shapes using a ruler.
Group 3: Find out how many steps you can take along the sides of the classroom walls by walking heel to toe.
On what basis have these groups most likely been created?

(A) Based on student learning styles.
(B) Based on student learning levels.
(C) Based on student interest in Maths.
(D) Based on students' cognitive ability.

PART - 3
ENVIRONMENTAL STUDIES

Q1. With respect to the location of Delhi, in which directions are Gandhinagar (Capital of Gujarat) and Patna (Capital of Bihar) located respectively?

(A) south-east and south-west
(B) south-west and south-east
(C) north-east and south-west
(D) south-west and north-east

Q2. What should be avoided in anecdotal records?
a. Identifying mainly problematic situations.
b. Identifying strengths and weaknesses.
c. Making statements of judgement.
d. Identifying areas of interest and relationships, etc.

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

Q3. Certain regions have houses smeared with cow dung. Why do people in these regions cover the floors and walls of their huts with cow dung and mud?

(A) The smell of cow dung keeps the animals away.
(B) To make the floors and walls smooth.

(C) These are easily available materials in that region.
(D) To make it water-resistant and work as an insulator.

Q4. X is the capital city of a state in India. If you travel north from X and cross four inter-state borders you get to Y which is the capital city of another Indian state. If Chandigarh is located to the north-west of Y, identify X and Y.

(A) X = Bengaluru, Y = Jaipur
(B) X = Panaji, Y = Bhopal
(C) X = Chennai, Y = Lucknow
(D) X = Hyderabad, Y = Dehradun

Q5. A postal address has a six-digit Postal Index Number (PIN). The first two digits represent the region and subregion to which the address belongs. What do the first three digits represent?

(A) Sorting district
(B) Sorting headquarter
(C) Delivery route
(D) Delivery state

Q6. Which of the following is the **least** appropriate pedagogical resource to develop a sense of historical analysis of events from our past?

(A) A physical map of ancient Magadh
(B) An ancient city in ruins - Vijaynagar
(C) A political figure in history - Vikramaditya
(D) A literary text from the Gupta Empire

Q7. In addition to the content, subjects taught in class must be used to build "broader thinking skills" in students. Certain thinking patterns are shown through misconceptions on various topics (within and outside the classroom). 'Context dependency' is an example of a thinking pattern that leads to student misconceptions because they use a concept that works in one context wrongly in another. Which of the following is **most** likely to be an example of a misconception due to 'context dependency'?

(A) Cities are dirty because they have slums.
(B) Villagers move to cities because cities have electricity.
(C) Cities need more transport because they have more people.
(D) Farmers are unemployed because there are no factories in villages.

Q8. Dr. Sharma undertook an experiment where she made one group of students do breathing exercises for 10 minutes and another group was not given any special treatment. Next, both the groups were given a set of 10 problems to solve. She compared how quickly the two groups solved the set of problems. What was the dependent variable in this experiment?

(A) The time spent in the breathing exercises.
(B) The age of the students.
(C) The breathing exercises.
(D) The time it took to complete the set of problems.

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Paper 2

PART - 1
CHILD DEVELOPMENT AND PEDAGOGY

Q1. 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 statement represents _____ orientation typical at _____ stage.

(A) law and order; post-conventional
(B) obedience; pre-conventional
(C) being nice; conventional
(D) exchange; conventional

Q2. Drawing implications from Piaget's theory of cognitive development, a teacher teaching students of age 6-8 years in the classroom should _____

(A) discourages thinking of alternate solutions to a problem.
(B) present problems that require logical and analytical thinking.
(C) use situations that fit into the child's existing schemas.
(D) not use visual aids and models.

Q3. A student shows the following signs in the classroom:
– Anxiety around reading.
– Difficulty in recognizing words or letters.
– Poor vocabulary skills.
– Difficulty with understanding or remembering what was read.
These are an indication of _____

(A) a student with autism.
(B) a creative student.
(C) a learning disability.
(D) mental impairment.

Q4. As per Howard Gardner's theory of multiple intelligence, how would the intelligence of a person with the following characteristics be categorized?

Characteristics: “Ability to detect and respond appropriately to the moods, temperaments, motivations and, intentions of others.”

(A) Naturalistic
(B) Intrapersonal
(C) Interpersonal
(D) Therapeutic

Q5. Which of these is an example of extrinsic motivation?

(A) “I enjoy completing my homework because it is so much fun.”
(B) “I learn so much when I complete my homework.”
(C) “I complete my homework because it makes me understand concepts better.”
(D) “I do my homework because my teacher gives us marks for each assignment.”

Q6. Which of the following statements made by four different teachers is **most** appropriate about the use of Diagnostic Assessments?

(A) Mr. Sinha: I am going to conduct a Diagnostic Assessment to find out which concepts taught in the previous year have the students mastered.
(B) Ms. Farheen: I am going to conduct a Diagnostic Assessment to find out what topics students would be most interested in learning today.
(C) Ms. Karen: I am going to conduct a Diagnostic Assessment for a scholarship at the end of the year.
(D) Mr. Tejinder: I always conduct a Diagnostic Assessment after a Formative Assessment to learn more about students' misconceptions.

Q7. Simmi’s mother saw that Simmi had completed a very tough assignment after devoting a dedicated time of an hour. To encourage this good study habit, Simmi’s mother gave her a beautiful pen. Which one of the following psychological principles is Simmi’s mother applying?

(A) Gratification
(B) Reinforcement
(C) Token
(D) Cue

PART - 2
MATHEMATICS AND SCIENCE

Q1. Let x be the least number which when divided by 8, 12, 20, 28, 35 leaves a remainder of 5 in each case. What is the sum of digits of x?

(A) 11
(B) 14

(C) 15
(D) 17

Q2. Which of the following is the **most** appropriate strategy for introducing the concept of multiplication of two decimal numbers in middle school?

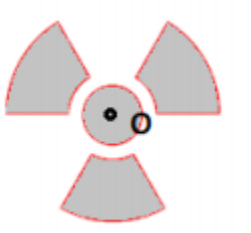
(A) The algorithm should be used to introduce the concept.
(B) The process should be visually represented.
(C) Multiplication as repeated addition should be emphasized.
(D) Multiplication as the inverse of division should be emphasized.

Q3. The following data shows the rainfall in Bhopal for the last 10 years. If we consider rainfall for the last 7 years, then which of the following statements is true?

Year	1	2	3	4	5	6	7	8	9	10
Rainfall in cm	5.8	10.4	9.5	6.9	3.2	7.8	6.9	4.5	6.9	4.8

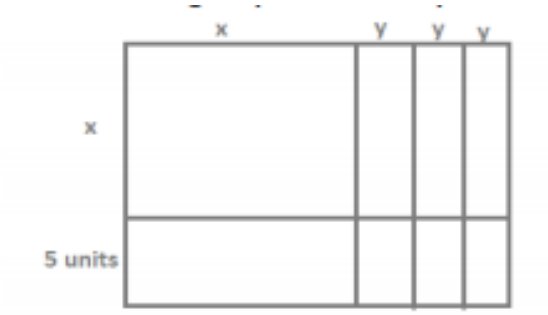
(A) The mean, median, and mode are all unchanged.
(B) The mean and median changes, the mode is unchanged.
(C) The mean changes, the median and mode are unchanged.
(D) The mean and mode changes, the median is unchanged

Q4. What is the rotational symmetry about the point O and line of symmetry of the given figure?



(A) Rotational symmetry 90 and line of symmetry as 4
(B) Rotational symmetry 120 and line of symmetry as 3
(C) Rotational symmetry 120 and line of symmetry as 4
(D) Rotational symmetry 90 and line of symmetry as 3

Q5. Which of the following expression represents the area of the rectangle given below?



(A) $x^2 + xy + y$
(B) $x^2 + 5xy + 5y + 5x$
(C) $x^2 + xy + y + x$
(D) $x^2+ 3xy + 15y + 5x$

Q6. Geeta has the following solid figures made of wax (as detailed in the options). She wants to melt one of these figures to create small cubes of side $\frac{r}{12}$ so that she can sell each of them at Rs. 50.

Which of these figures should she melt in order to maximize her revenue?

(A) Cone: Radius r and height r
(B) Cylinder: Radius r and height r
(C) Sphere: Radius r
(D) Cube: Side r

Q7. A middle school Math teacher wanted to start the topic of algebraic equations for his students. Before that, he wanted to check if the students are ready for it and decided to give a few problems to check their concepts. Which of these problems would be **least** relevant for this purpose?

(A) If you have 4 milk chocolate bars and 6 dark chocolate bars in a bag, and pick one chocolate bar randomly, what is the chance that it will be a milk chocolate bar?
(B) If you want to distribute 50 chocolate bars equally among 12 children, after keeping 5 for yourself, how many chocolate bars will finally be left?
(C) Plot the following points on an X-Y graph: (3, 4), (0, 1), (10, 5).
(D) You were 10 years old when your father was 40. Today you are 35 years old. How old is your father today?

Q8. Which method can be used to prove “The sum of two even integers is always even”?

(A) Proof by induction
(B) Direct proof
(C) Proof by contradiction
(D) Counter positive proof

Q9. Study the following table:

Fuel	**Calorific value**	**State**	**Ignition temp.**
A	High	solid	High
B	Moderate	gas	High
C	Moderate	gas	Moderate
D	Low	liquid	Low

Which is best suited as domestic fuel?
(A) A
(B) B
(C) C
(D) D

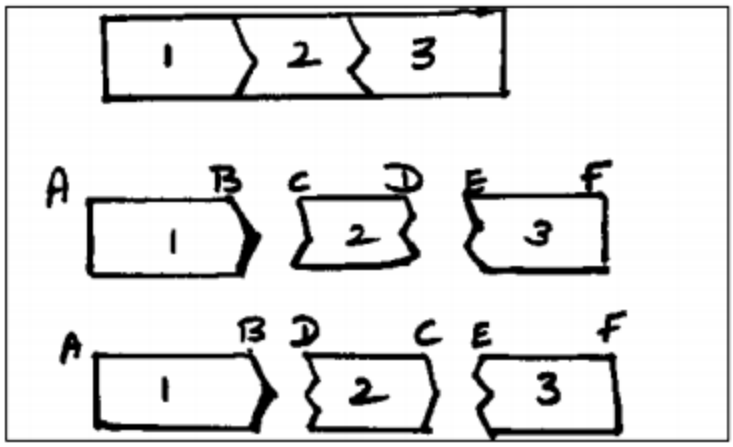
Q10. Which of the following sets comprises chemical changes?

(A) Boiling of water, breaking of glass, rusting of iron.
(B) Dissolving salt in water, digestion of food, shredding of paper.
(C) Cooking of food, boiling of water, dissolving sugar in water.
(D) Rusting of iron, burning of paper, digestion of food.

Q11. Which one of the following is **least** amenable to verification by experimentation?

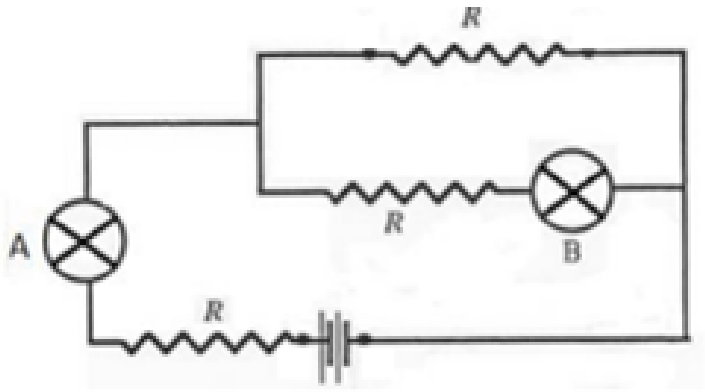
(A) Sunlight has an impact on the growth of a plant.
(B) Dinosaurs were wiped out because of a meteor.
(C) Tadpoles metamorphosis into frogs.
(D) Sugar dissolves more easily in warm water.

Q12. As shown in the figure, a magnet is broken into three pieces and the middle piece is reversed. Which of the following statements, according to you, holds true?



(A) 1 & 2 attract each other but 2 & 3 repel each other
(B) 1 & 2 repel each other but 2 & 3 attract each other
(C) All three repel each other
(D) All three attract each other

Q13. In the given picture, if we remove bulb B from its holder, the brightness of bulb A will:



(A) Show no effect as resistance remains constant
(B) Increase as the total resistance increases
(C) Decrease as the total resistance decreases
(D) Decrease as the total resistance increases

Q14. Meena is performing an experiment with two substances, X and Y. When she puts a few granules of X in Y, she decides to collect Z- the gas produced, into a balloon. When she leaves the balloon, it floats in the air. Which of the following can be the substances X, Y and Z?

(A) X: Tin, Y: Hydrochloric Acid, Z: Hydrogen
(B) X: Mercury, Y: Nitric Acid, Z: Nitric Oxide
(C) X: Copper, Y: Sulphuric Acid, Z: Hydrogen
(D) X: Potassium Permanganate, Y: Hydrogen Peroxide, Z: Hydrogen

Q15. Ms. Cherian wanted to demonstrate Newton's first law of motion to her students. She kept a long cloth on a table and a cup on the center of the cloth and then asked her students to perform a few activities or experiments. Which of the following would be relevant to her purpose?

(A) Ask one student to pull the cloth and another student to hold the cup, and see what happens.
(B) Ask one student to pull the cloth slowly and see what happens, and another student to then pull the cloth quickly and see what happens.
(C) Ask one student to pull the cloth from one side and another student to pull the cloth from the opposite side, with equal strength, and see what happens.
(D) Ask one student to pull the cloth from one side and another student to pull the cup from the opposite side and see what happens.

Q16. When does the process of respiration take place in plants?

(A) Only when there is no photosynthesis.
(B) Only when stomata are open.
(C) Only when there is a high oxygen concentration.
(D) Throughout day and night.

PART - 3
SOCIAL STUDIES / SOCIAL SCIENCE

Q1. Imagine if the earth is not inclined towards the plane of its orbit, then

a. the circle of illumination will match with longitudinal lines.
b. the circle of illumination will match with latitudinal lines.
c. there will be no seasonal variation in a particular region.
d. there will be more seasonal variation in a particular region.

Choose the correct option.
(A) a and c
(B) a and d
(C) b and c
(D) b and d

Q2. Consider the statements a to e. They form jumbled links in a chain of markets, wherein 'Ketchup' reaches a consumer.

a. Sona orders ketchup from a neighborhood shop.
b. Farmer buys tomato seeds from a local trader.
c. Wholesale merchant bids for tomatoes in the vegetable mandi.
d. A small city-based food processing unit buys tomatoes.
e. Marketing companies supply ketchup to stores.

Choose the option that represents the correct sequence in the chain of markets:

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

Q3. Match the following with appropriate choices:

a. Coniferous forests	i. Eastern margin of the Continents
b. Mediterranean vegetation	ii. Hardwood trees
c. Tropical evergreen forests	iii. Softwood evergreen trees
d. Temperate evergreen forests	iv. West and south-west margin of the continents

(A) a-i, b-ii, c-iii, d-iv
(B) a-iii, b-iv, c-ii, d-i
(C) a-iii, b-ii, c-iv, d-i
(D) a-i, b-iv, c-ii, d-iii

Q4. A mountain range is formed by the thrusting, collision and buckling of rocks near plate boundaries. Which type of mountain is it most likely to be? And which mountain range is an example of that?

(A) Fold mountain; Satpura
(B) Fold mountain; Aravalli
(C) Fault-Block mountain; Satpura
(D) Fault-Block mountain; Aravalli

Q5. For an upcoming set of History classes, pick the most well-defined learning objective from the statements below.

(A) "After reading this book about 10 great leaders, students will be able to define courage in three different ways, and when given a situation description, almost always identify which form of courage is demonstrated there".
(B) "After reading this book about 10 great leaders, students will understand the meaning of life".
(C) "After reading this 100-page book written in the 1980s, describing the specific achievements of 10 great leaders, students will become much more courageous in their day-to-day lives, and when faced with a difficult situation, will deal with it boldly".
(D) "After reading this book about 10 great leaders, students will discuss three possible definitions of courage on a regular basis, with each other, and debate which form of courage is better".

Q6. Ms. Devpriya is teaching her students about the roles and responsibilities of the Members of the Legislative Assembly.

Arrange the following questions in the **most** appropriate pedagogical sequence, first to last, in which they should be covered.
(i) What does it mean to represent a constituency?
(ii) What happens if a particular MLA's seat falls vacant before completion of the term?
(iii) What is an MLA supposed to do in the Legislative Assembly?
(iv) Is an MLA responsible for the maintenance of schools in their areas?
(v) What is the difference between the responsibilities of a Sarpanch and those of an MLA?

(A) v, iv, i, iii, ii
(B) iv, ii, iii, v, i
(C) iii, iv, i, ii, v
(D) i, iii, iv ,v ,ii

Q7. Which of the following advertisements is **not** an example of gender stereotype?

(A) A girl playing football in an advertisement for a sports shoe.
(B) A boy playing tennis in an advertisement for tennis racquets.
(C) A girl doing makeup in an advertisement for lipsticks.
(D) A woman being dropped by her husband to the office in an advertisement for a car.

Q8. While teaching the chapter ‘Every drop counts’, the teacher also wishes to develop the process skills of analyzing data. Which of the following learning experience should she devise to ensure this?

(A) Ask the students to survey the school premises and record the points of wastage of water.
(B) Take the students on a trip to a water purifying plant.
(C) Ask the students to bring their water bill and calculate the average consumption of water of each member of their family.
(D) Show the students a short film on water pollution.

Exemplar questions of Language section will be uploaded later on.