

## CTET (MATHEMATICES)

1. In how many ways, 48 small squares 1 cm can be arranged so that the resulting area is 48 cm<sup>2</sup> ?

(1) 6

(2) 4

(3) 5

(4) 2

2. In school assembly, students of a class are standing in a line. Ruhi is 19th from both ends. How many students are present in that class ?

(1) 38

(2) 37

(3) 36

(4) 40

3. Asmita reaches school for a meeting 15 minutes before 8.30 am. She reached half an hour earlier than her colleague who is 40 minutes late for meeting. What is the scheduled time of the meeting ?

(1) 8.15 am

(2) 9.10 am

(3) 8.45 am

(4) 8.05 am

4. A number is larger than half of 100. It is more than 6 tens and less than 8 tens. The sum of its digits is 9. The tens digit is the double of the ones digit. What is the number ?

(1) 72

(2) 63

(3) 54

(4) 81

5. The rates of various stationery items are given below :

A packet of crayons - ₹ 15.50      A packet of pencils - ₹ 14.00

A packet of sketch pens - ₹ 22.50      One scissors - ₹ 17.00

One eraser - ₹ 2.00      One sheet of glazed paper - ₹ 2.50

A pack of decorative stickers - ₹ 5.00      Sohail buys one packet of crayons, two packets of pencils, one packet of sketch pens, one scissors, 5 sheets of glazed papers and one pack of decorative stickers. How much would he be required to pay ?

- (1) ₹ 98.00      (2) ₹ 86.50      (3) ₹ 100.50      (4) ₹ 102.00

6. A train starts from Patna on 30th May, 2020 at 23:40 hours and reaches Mumbai on 1st June, 2020 at 5:15 hours. What is the total travel time of train ?

- (1) 28 hours 20 minutes  
(2) 29 hours 35 minutes  
(3) 29 hours 15 minutes  
(4) 28 hours 25 minutes

7. In a five digit number, the digit at the hundreds place is three-fourth of the digit at ten thousands place and the digit at tens place is two-third of the digit at hundreds place. The digit at tens place is square of the smallest prime number and the digit at thousands place is the largest single digit prime number. If the digit at unit place is the largest single digit odd number, then the number is

- (1) 87649  
(2) 49327  
(3) 83419  
(4) 42937

8. What should be subtracted from the sum of 8008, 8088 and 8808 to obtain 17863 ?

- (1) 6121  
(2) 6131  
(3) 7041  
(4) 7141

**9. A bucket of 16 litres capacity is filled to the brim with water. Water from this bucket is to be transferred into smaller utensils. A mug filled to capacity has to be dipped 50 times to completely transfer the water in the bucket into the utensils. What is the capacity of the mug ?**

- (1) 225 mL
- 2) 250 mL
- (3) 275 mL
- (4) 320 mL

**10. A taxi meter shows charges of ` 50 for the first two kilometres of journey and ` 16 for every subsequent kilometre travelled. Manju pays ` 258 as fare to travel from her house to the railway station. How far is the railway station from her home ?**

- (1) 12 km
- (2) 13 km
- (3) 15 km
- (4) 18 km

**11. The following table shows marks obtained out of 100 by Maria and Shehnaz in five subjects :**

	<b>Maria</b>	<b>Shehnaz</b>
<b>English</b>	<b>74</b>	<b>81</b>
<b>Maths</b>	<b>88</b>	<b>78</b>
<b>Social Science</b>	<b>65</b>	<b>77</b>
<b>Hindi</b>	<b>73</b>	<b>72</b>
<b>Science</b>	<b>90</b>	<b>82</b>

**Based on the table above identify the correct statement from among the following :**

- (1) Maria has scored more marks than Shehnaz in all the subjects except the languages.
- (2) Maria has scored more marks than Shehnaz in only two subjects.
- (3) Shehnaz's aggregate marks in Maths and Science are more than Maria's aggregate marks in these subjects.
- (4) The aggregate marks of Maria and Shehnaz are equal.

**12. Which of the following is a desirable teaching-learning practice in the context of Mathematics ?**

- (1) Open ended questions should be avoided to prevent confusion.
- (2) Intuitive understanding of concepts should be encouraged.
- (3) Open book tests should be avoided.
- (4) Students should be told to follow the prescribed steps of solving problems.

**13. Following are some questions posed by the teacher in the mathematics classroom :**

**A. What is the area of the rectangle whose one side is 5 cm and perimeter is 30 cm ?**

**B. Find a set of numbers whose median is 4.**

**C. List all prime numbers between 0-8.**

**D. Tell me anything mathematical information you know about rectangles.**

- (1) A & B are closed ended questions and C & D are open ended questions.
- (2) A, B & C are closed ended and D is open ended question.
- (3) A is closed ended and B, C & D are open ended questions.
- (4) A & C are closed ended and B & D are open ended questions.

**14. Rohit realises that square is both a rhombus and a rectangle. He is at what stage of Van Hiele's visual thinking ?**

- (1) Level 0 (Recognition)
- (2) Level 1 (Analysis)
- (3) Level 2 (Relationship)]
- (4) Level 3 (Deduction)

**15. Which of the following statements is/are true regarding teaching 'Numbers' at primary level ? A. Intuitive understanding of numbers should be encouraged. B. Writing numbers should be taught in sequence. C. Writing of numbers as Numerals should precede counting. D. Order irrelevance of numbers should be encouraged.**

- (1) A and B
- (2) B and C
- (3) A and D
- (4) C and D

**16. Which of the following is the most important aspect of teaching of mathematics at primary level ?**

- (1) Making mathematics part of children's life experiences.
- (2) Developing rigour in calculations.
- (3) Preparing for higher education and employment.
- (4) Promoting and preparing for technology.

**17. Which of the following is most suitable for teaching children the concept of fractions ?**

- (1) Abacus
- (2) Geoboards
- (3) Number charts
- (4) Cuisenaire rods

**18. Which of the following statements is NOT correct with regard to nature of mathematics ?**

- (1) Argumentation skill is important in construction of mathematical knowledge.
- (2) Mathematical concepts are hierarchical in nature.
- (3) Primary level mathematics is concrete and does not require abstraction.
- (4) Mathematics uses special vocabulary to communicate ideas precisely.

**19. In which of the following statements, number 'three' is used in ordinal sense ?**

- (1) I live on the third floor of this building.
- (2) This house has three rooms.
- (3) All groups have three team members.
- (4) This box contains many sets of three pencils.

**20. Identify the correct statement.**

- (1) If two figures have same area, their perimeters are equal.
- (2) If two figures have same perimeter, their areas are equal.
- (3) The units of perimeter and area are same.
- (4) The shape of figure determines the perimeter.

**21. In a division sum, the divisor is 5 times the quotient and twice the remainder. If the remainder is 5, what is the number ?**

(1) 52

(2) 15

(3) 25

(4) 48

**22. The sum of five consecutive numbers is 20. What is the sum of first three consecutive numbers ?**

(1) 5

(2) 9

(3) 11

(4) 12

**23. A wire in the form of a square encloses an area of 144 cm<sup>2</sup> . How much area is enclosed if the same wire is bent in the form of a rectangle of length 16 cm ?**

(1) 124 cm<sup>2</sup>

(2) 48 cm<sup>2</sup>

(3) 128 cm<sup>2</sup>

(4) 96 cm<sup>2</sup>

**24. Amongst the following fractions, the largest and second largest fractions, respectively are  $\frac{5}{6}$  ,  $\frac{3}{4}$  ,  $\frac{1}{2}$  ,  $\frac{2}{3}$  ,  $\frac{3}{5}$**

(1)  $\frac{5}{6}$  and  $\frac{3}{4}$

(2)  $\frac{5}{6}$  and  $\frac{3}{5}$

(3)  $\frac{3}{5}$  and  $\frac{2}{3}$

(4)  $\frac{3}{4}$  and  $\frac{1}{2}$

**25. Identify the correct statement with regard to introducing the concept of triangles at primary level.**

(1) Definition of a triangle should be provided first.

(2) Children should only be exposed to equilateral triangles to avoid confusion.

(3) Children should be exposed to triangles of all types but exposure to other figures should be avoided.

(4) Children should be exposed to triangles of all types and also to other figures.

## Solutions

1. Option 3
2. Option 2
3. Option 4
4. Option 2
5. Option 3
6. Option 2
7. Option 1
8. Option 3
9. Option 4
10. Option 3
11. Option 4
12. Option 2
13. Option 4
14. Option 3
15. Option 3
16. Option 1
17. Option 4
18. Option 3
19. Option 1
20. Option 4
21. Option 3
22. Option 2
23. Option 3
24. Option 1
25. Option 4