V(EM) ADTM

CENTRE FOR PEDAGOGICAL STUDIES IN MATHEMATICS (CPSM) ACHIEVEMENT-CUM-DIAGNOSTIC TEST IN MATHEMATICS-2022

INSTRUCTION: Write your Name, Class, Roll No. etc. in the answersheet. Select the correct answer out of (a), (b), (c) and (d) of particular item and blaken the specific rectangle with H.B. pencil denoting the correct answer. For example, if (c) is the correct answer to Q. No. X: blacken like this: Q. No. X: $\Box \Box \Box \Box$ Rough work is to be done on separate paper. Marks will be deducted for wrong answer. Don't waste time for answering a question which appears difficult to you, better try the next question.

1. Which of the following curves is closed?



- The measure of one acute angle of an isosceles right angled 2. triangle is
 - (a) 60° (b) 45° (c) 30° (d) 25°
- The length of three line segments are given in which case we can 3. construct a triangle?
 - (a) 2 cm, 3 cm, 5 cm (b) 3 cm, 4 cm, 5 cm
 - (c) 2 cm, 6 cm, 3 cm (d) 2 cm, 2 cm, 4 cm
- Number of right angles in the adjoining figure is 4.
 - (a) 8 (b) 4
 - (d) 10 (c) 6
- Number of rectangle in the adjoining figure is 5.
 - (a) 4 (b) 8

(c) 9



Number of line segments in the adjoining 6. figure

(d) 10

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- (a) 3 (b) 6
- (c) 4 (d) 5
- 7. In the adjoining figure a triangle has three medians intersecting at a point . The number of triangles in the figure is
 - (a) 6 (b) 7 12 (d) 13



(d) 5

(d) 0

The number of surfaces of a 8. pentagonal prism is

(c) 7

(c)

The number of squares in the adjoining figure is 9.

(b) 10

(a) 11 (b) 12

(a) 6

(a) 3

(c) 13 (d) 16



10. Observe the following capital letters of the English alphabets

E, F, H, K, L, M, N, T, Y, Z

In how many of the above capital letters we can have at least one right angle?

- (a) 5 (c) 7 (d) 4 (b) 6
- 11. Which one of the given solids has six surfaces?



12. The number of plane surfaces of a solid sphere is—

(c) 1 (b) 2

13. Number of diagonals of a hexagon is

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- (a) 15 (b) 9 (c) 6 (d) 12
- 14. The number of edges of a octagonal pyramid is

(a) 16 (b) 24 (c) 9 (d) 17

15. In the adjoining figure $\angle POQ$ is a right angle. How many acute angles you can see in the figure.

(a) 6 (b) 9

- (c) 8 (d) None of these
- 16. Number of plane surfaces of a hemisphere is
 - (a) 0 (b) 1 (c) 2 (d) 3
- 17. The sum of the measures of the interior angles of a pentagon is

| (a) 450° | (b) 10 right angles | |
|----------|---------------------|--|
| (c) 540° | (d) 720° | |

- 18. A pyramid has 10 surfaces, the number of edges of that pyramid is
 - (a) 10 (b) 9 (c) 18 (d) 27
- 19. The number of circular faces of a right circular cylinder is
 - (a) 3 (b) 0 (c) 1 (d) 2
- 20. An electric fan has three blades, the measure of the angle between any two blades is
 - (a) 90° (b) 60° (c) 120° (d) 100°
- 21. In the following series of numbers, find out how many times 1, 3 and 7 have appeared together, 7 being in the middle and 1 and 3 an either side of 7

2973173771331738571377173906

(a) four (b) five (c) three (d) six

- 22. The number of zeros at the end of $15^{30} \times 10^{12}$ is
 - (a) 42 (b) 12 (c) 10 (d) 30 Class-V-(3)

23. If the number 3214*4 si divisible by 4 then the number of possible values of * is

| (a) 5 | (b) 1 | (c) 3 | (d) 6 |
|-------|-------|------------------|-------------------------|
| (4) 5 | (0) 1 | (\mathbf{c}) 5 | $(\mathbf{\omega})$ 0 |

- 24. If the HCF of two numbers be 1, then the numbers are
- (a) odd (b) one is odd the other is even (c) coprime (d) one is prime and the other is composite $1 + \frac{1}{1 + \frac{1}{2 + \frac{1}{3}}} + \frac{3}{10} =$ 25. (a) 2 (b) $\frac{7}{10}$ (c) 1 (d) $\frac{3}{10}$
- 26. The length and breadth of a rectangle are 8.26 cm and 5.5 cm respectively. The area of the rectangle is—

| (a) 4543 cm^2 | (b) 45430 cm ² |
|-------------------------|---------------------------|
| (c) 40 cm^2 | (d) 45 cm^2 |

27. The cost of a TV set is Rs. 9875 and the cost of a VCR is Rs. 12735. A shopkeeper placed the order of 3 TV sets and 3 VCRs. What amount of money ha have to pay by cheque if he gives Rs. 50,000 in cash.

| (a) Rs. 17830 | (b) Rs. 67830 |
|---------------|---------------|
| (c) Rs. 62830 | (d) Rs. 78300 |

28. The product of the smallest and the greatest of the numbers between 1000 and 1500 which are exactly divisible by 3 and 5 both is

(a) 1592925 (b) 1592525 (c) 1492425 (d) 492425

29. An outline poll asked the question "Is mathematics your favourite subject?" The result of the poll are as follows: 6 out of every "No" and one out of every 10 was undecided. If 120 students

of your class answered "yes", how many of those polled were "undecided"?

- (a) 20 (b) 24 (c) 30 (d) 10
- 30. The average of a set of four numbers is 5. if the number zero is included to the set then the new average of the set is

(a) 5 (b) 4 (c) 0 (d) $5^{\frac{1}{5}}$

- 31. There are four prime numbers written in ascending order. The product of the first three is 385 and that of the last three is 1001. The greatest among these is
 - (a) 11 (b) 13 (c) 17 (d) 15
- 32. The tenth term of the series 2, 3, 5, 7, 11, 13, ... is

(a) 28 (b) 31 (c) 27 (d) 29

- 33. If 16 * 2 = 16, 12 * 6 = 36 and 6 * 1 = 3 then 4 * 4 =
 - (a) 2 (b) 16 (c) 8 (d) 12
- 34. One term of the following number series is wrong, find out the wrong term

2, 5, 11, 23, 45, 95, ..., ...

- (a) 45 (b) 95 (c) 11 (d) 5
- 35. A book and a school bag together cost Rs. 680; if the book costs Rs. 80 more than the school bag then the cost of the book is

(a) Rs. 280 (b) Rs. 380 (c) Rs. 300 (d) Rs. 220 36. What should be added to $\left(\frac{1}{2} + \frac{1}{3} + \frac{1}{5}\right)$ to get 3. (a) $\frac{90}{31}$ (b) $\frac{3}{31}$ (c) $\frac{1}{30}$ (d) $\frac{59}{30}$

37. 20 litres of a mixture contains syrup and water int he ratio 5 : 3; if 4 litres of syrup is added to this mixture. The ratio of syrup and water will be

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(a) 11 : 5 (b) 2 : 1 (c) 11 : 6 (d) 10 : 9

38. Sanku cycles from Darsole to Silda, a distance 21 km in 1 hr 40 minutes. The road from Darsole is level for 13 km and then it is uphill to Silda. If the average speed of Sanku on level road is 15 km/hr, find his average uphill speed.

(a) 12 km/hr (b) 5 km/hr (c) 8 km/hr (d) 10 km/hr

39. Apu joined a college on 6th August, 2011 and left it on 8th March, 2014. How long did he study in that college?

(a) 2 yrs. 6 months 22 days

(b) 2 yrs 5 months 22 days

(c) 2 yrs 4 months 12 days

(d) none of these

40. In a cricket match India scored 300 runs. 126 runs were scored by Sachin Tendulkar only. Find the percentage of runs scored by Sachin Tendulkar only.

| (a) 40 % | (b) 37.8% | (c) 45 % | (d) 42% |
|----------|-----------|----------|---------|
|----------|-----------|----------|---------|

- 41. One-third of 1206 is what percent of 134?
- (a) 300% (b) 30 % (c) 3 % (d) None of these $\frac{112}{\sqrt{196}} \div \frac{12}{\sqrt{576}} \times \frac{\sqrt{256}}{8} =$ (a) 16 (b) 4 (c) 12 (d) 32 43. Express $\frac{17}{10}$ as a percentage (d) 1.7% (b) 170% (a) 17 % (c) 0.17% 44. By what number should $\frac{z}{5}$ be multiplied so that the product may be $3\overline{3}$?

(a) 25 (b)
$$\frac{25}{3}$$
 (c) $\frac{5}{3}$ (d) $\frac{50}{9}$

45. Express 50 cm in kilometer.

| | (a) 0.0005 km | | (b) 0.00005 km | |
|-----|--------------------------------|---|----------------|--------------------|
| | (c) 0.00 | 5 km | (d) 0.0025 | 5 km |
| 46. | $5-5\left(1\frac{1}{5}\right)$ | $-\frac{3}{5}\right) \div \left\{3 - 2 \div \left(2 - \frac{2}{5}\right)\right\} =$ | | |
| | (a) 1 | (b) $\frac{2}{7}$ | (c) 3 | (d) $3\frac{2}{7}$ |
| | | | | |

47. The average of the prime numbers between 60 and 70 is

| (a) $64\frac{1}{3}$ | (b) 65 | (c) $64\frac{1}{2}$ | (d) 64 |
|---------------------|--------|---------------------|--------|
| (11) 0 1 11 | (-) | | () |

48. A train started from Kolkata at 5 : 30 am on Tuesday and reached Delhi on Wednesday at 8 : 50 pm. Find the total time taken by the train from Kolkata to Delhi.

| (a) 38 hrs 30 mins | (b) 39 hrs 20 mins |
|--------------------|--------------------|
| (c) 39 hrs 30 mins | (d) 40 hrs. |

- 49. Umasankar distributed Rs. 2601 among a number of students. He gave every student as many rupees as there were the students. Find the number of students.
 - (a) 51 (b) 52 (c) 49 (d) 510
- 50. If two persons can do a piece of work in 7 days then how many persons will be required to finish the same work in one day.
 - (a) 7 (b) 28 (c) 14 (d) 21
- 51. What least number by which 7200 must be divided to make it a perfect square?
 - (a) 8 (b) 18 (c) 2 (d) *3*
- 52. Which one of $16\frac{2}{3}\%$, $\frac{2}{15}$, 0.18 and 1.666... is largest?

(a)
$$16\frac{2}{3}\%$$
 (b) $\frac{2}{15}$ (c) 0.18 (d) 1.666...
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| 53. | The mean of first 8 odd numbers is | | | | |
|-----|--|-------------------|------------------------|------------------|--|
| | (a) 8 | (b) 6.4 | (c) 7 | (d) 9 | |
| 54. | Which of the following is equivalent to 6.08? | | | | |
| | (a) 6.08% | (b) 60.8% | (c) 6080 % | (d) 608% | |
| 55. | Find 120% of | 500. | | | |
| | (a) 660 | (b) 60 | (c) 600 | (d) 6000 | |
| 56. | Which one of | the following sta | atements is wron | g? | |
| | (a) We can ne | ot divide any nu | mber by zero. | | |
| | (b) Every num | ber other than z | zero is a factor of | f itself. | |
| | (c) Zero is a | multiple of ever | y number | | |
| | (d) Zero is a | prime number | | | |
| 57. | How many leastraight line. | ast number of d | listinct points de | termine a unique | |
| | (a) one | (b) two | (c) three | (d) infinite | |
| 58. | The unit digit of | of the number (1 | 076) ⁹⁷⁶ is | | |
| | (a) 4 | (b) 6 | (c) 9 | (d) 8 | |
| 59. | The sum of two numbers is 15 and their HCF is 5; the numbers are | | | | |
| | (a) 5, 10 | (b) 10, 15 | (c) 0, 15 | (d) 7, 8 | |
| 60. | A triangular pr | rism has | | | |
| | (a) 4 vertices and 6 edges | | | | |
| | (b) 6 vertices and 9 edges | | | | |
| | (c) 6 vertices | and 6 edges | | | |
| | (d) 9 vertices a | and 6 edges | | | |
| 61. | Which one of | the following sta | atements is wron | g? | |
| | (a) The product of two prime number is a prime number. | | | | |
| | (b) The product of two composite number is a composite number | | | | |

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(c) There is only one whole number which is neither prime nor composite

- (d) Every number other than 1 has at least two factors.
- 62. Which one of the following statements is wrong?
 - (a) Two prime numbers are always co-prime.
 - (b) A prime number and a composite numbers are always coprime.
 - (c) Two composite numbers can be coprime.
 - (d) Sometimes two even numbers may be co-prime.
- 63. The unit digit of $216 \times 336 115 \times 15$ is
 - (a) 0 (b) 1 (c) 2 (d) 6
- 64. $10 \times 6 [5 + \{10 (12 \div 6)\}3] =$
 - (a) 0 (b) 21 (c) 31 (d) 30
- 65. Express 1155 as the product of prime numbers.

| (a) $7 \times 11 \times 15$ | (b) $3 \times 5 \times 7 \times 11$ |
|-------------------------------------|-------------------------------------|
| (c) $3 \times 5 \times 7 \times 13$ | (d) $5 \times 11 \times 13$ |

- 66. The number of triangles in he adjoining figure is
 - (a) 8 (b) 6
 - (c) 12 (d) 10
- 67. Express 24 cm as a percentage of 2.5 metre?

(a) 96% (b) 24% (c) 0.96% (d) 9.6%



- 68. Find the cost of fencing the rectangular park of sides 26 m and 24 m, if it costs Rs. 50 per metre for fencing.
 - (a) Rs. 2500 (b) Rs. 500
 - (c) Rs. 5000 (d) Rs. 7500 Class-V-(9)

| 69. | How many rays can you draw starting from a point. | | | |
|-----|--|------------------------------------|--------------------------------------|--|
| | (a) 1 | (b) 2 | (c) 3 | (d) many |
| 70. | Find the time 4 | 4 hours 39 minu | tes before 8 : 45 | pm. |
| | (a) 4 : 06 pm | (b) 3 : 06 pm | (c) 5 : 06 pm | (d) 5 : 06 pm |
| 71. | Dali walked 3 What is the tot | 000 m in the m al distance cove | orning and 2 kn red by Dali in kn | n in the evening. n? |
| | (a) 4 km | (b) 6 km | (c) 5 km | (d) 3002 km |
| 72. | A number who same number i | en divided by 1 s divided by 25 | 25 leaves a rem the remainder w | ainder 75; if the ill be |
| | (a) 5 | (b) 10 | (c) 15 | (d) 0 |
| 73. | The sixth term | of the series, 1, | 5, 13, 25, 41, | ., is |
| | (a) 61 | (b) 51 | (c) 71 | (d) 73 |
| 74. | . How many tables each costing Rs. 1812 can be bought for Rs. 19932? | | | |
| | (a) 12 | (b) 11 | (c) 16 | (d) 13 |
| 75. | Kajal bought a percent is | balloon for Rs. | 5 and sold it fo | r Rs. 6. Her gain |
| | (a) 1 % | (b) 25 % | (c) 20 % | (d) 10% |
| 76. | . There are 20 numbers. The average of first four is 25, the average of next 6 is 20 and the average of last 10 is 14. The average of all the numbers is | | | is 25, the average Γhe average of all |
| | (a) 36 | (b) 18 | (c) 19 | (d) 20 |
| 77. | Rs. 832 was divided between A and B in the ratio 5 : 3, then B's share is | | | tio $5:3$, then B's |
| | (a) Rs. 52 | (b) Rs. 520 | (c) Rs. 104 | (d) Rs. 312 |
| 78. | The product of of the numbers | two numbers is | 150 and their H | CF is 5, the LCM |
| | (a) 25 | (b) 30 Class-V | (c) 15 /-(10) | (d) 60 |

79. In a spelling test given to 30 students, $\frac{5}{6}$ of the students gave correct answer. How many students made one or more mistakes?

(a) 10 (b) 5 (c) 1 (d) 3

80. My car travels 12 km for every litre of fuel. A litre for Rs. 704.25?

(a) 72 km (b) 54 km (c) 108 km (d) 216 km

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