



Date: 28/3/22
GRADE: VIII

CPE - 04 (2021-22)
MATHEMATICS

Max marks: 40
Time: 120 Minutes

General Instructions:

This question paper contains two parts A and B.

Part – A:

1. It consists four sections- I, II, III and IV
2. Section I has 15 multiple choice questions of 1 mark each.
3. Section II has 3 fill in the blanks of 1 mark each.
4. Section III has 2 true or false of 1 mark each.
5. Section IV has 5 questions of 1 mark each.

Part – B:

1. Question No 26 to 28 are Very short answer Type questions of 2 mark each,
2. Question No 29 to 31 are Short Answer Type questions of 3 marks each

Part A		
SL. NO.	SECTION – 1	MARKS ALLOTTED
	MULTIPLE CHOICE QUESTIONS	
1.	Four fifths of a number is greater than three – fourths of the number by 4. The number is A) 12 B) 64 C) 80 D) 102	1
2.	The base of an isosceles triangle is 6 cm and its perimeter is 16 cm. Length of each of the equal sides is A) 4 cm B) 5 cm C) 3 cm D) 6 cm	1

3.	<p>If $\frac{n}{n+15} = \frac{4}{9}$, then n =</p> <p>A) 4 B) 6 C) 9 D) 12</p>	1
4.	<p>If $3m = 5m - \frac{8}{5}$ then m =</p> <p>A) $\frac{2}{5}$ B) $\frac{3}{5}$ C) $\frac{4}{5}$ D) $\frac{1}{5}$</p>	1
5.	<p>$(7a^2 - 63b^2) =$</p> <p>A) $(7a - 9b)(9a + 7b)$ B) $(7a - 9b)(7a + 9b)$ C) $9(a - 3b)(a + 3b)$ D) $7(a - 3b)(a + 3b)$</p>	1
6.	<p>Which of the following is the common factor of $5xy$, pqr and $40xyz$?</p> <p>A) 5 B) 0 C) xy D) 1</p>	1
7.	<p>What must be subtracted from $2a + b$ to get $2a - b$?</p> <p>A) $4ab$ B) $2b$ C) 0 D) $4a + 4b$</p>	1
8.	<p>The value of expression $5n^2 + 5n - 2$ for $n = -2$ is</p> <p>A) 5 B) -5 C) -12 D) -2</p>	1
9.	<p>What should be the value of 'b' if $y^3 + y^2 - b$ equals to 5 for $y = 1$?</p> <p>A) -1 B) -3 C) 3 D) 1</p>	1
10.	<p>Which of the following has the formula : Base x height</p> <p>A) Area of parallelogram B) Area of quadrilateral C) Area of triangle D) Area of trapezium</p>	1

11.	The area of a circle is $81\pi\text{cm}^2$. Then its circumference is : A) 7π cm B) 18π cm C) 9π cm D) 81π cm	1
12.	The curved surface area of a cylinder of height 28 cm is 352 cm^2 . The diameter of its circular base is A) 5 cm B) 2 cm C) 4 cm D) 6 cm	1
13.	The perimeter of a semicircular protractor is 72 cm, find the diameter. A) 28 cm B) 14 cm C) 18 cm D) 12 cm	1
14.	The standard form of 4050000 is given by A) 4.05×10^6 B) 40.5×10^9 C) 405×10^6 D) 4.05×10^{-6}	1
15.	If $5^{2x+1} \div 25 = 125$, then the value of x is A) 2 B) $\frac{1}{2}$ C) $-\frac{1}{2}$ D) - 2	1
SECTION - II		
FILL IN THE BLANKS		
16.	_____ is a factor of $x^2 + 2x + 1$	1
17.	0.000968 in standard form is _____	1
18.	$(x - 1)(2x + 5) =$ _____	1
SECTION - III		
TRUE OR FALSE		
19.	The standard form of 4,389,000,000 is 43.89×10^8	1
20.	The surface area of a cube of edge '2a' is $6a^2$	1

SECTION - IV

ANSWER THE FOLLOWING

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|-----|--|---|
| 21. | What should be added to $x^2 + xy + y^2$ to obtain $2x^2 + 3xy$? | 1 |
| 22. | A matchbox measures 4cm x 2cm x 3cm. How many such boxes can be placed in a cuboidal box of volume 480cm ³ ? | 1 |
| 23. | Factorize the expression by grouping: $a(a + b - c) - bc$ | 1 |
| 24. | If the height of a triangle is '2y' metres and the length of the base to that altitude is '3x + 9' metres, then find its area. | 1 |
| 25. | What is the value of $\{5^{-1} + [\frac{15}{2}]^{-1}\}^{-1}$? | 1 |

PART B

VERY SHORT ANSWER TYPE QUESTIONS

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|-----|---|---|
| 26. | Solve the following equation
$x - \frac{(x-1)}{2} = 1 - \frac{(x-2)}{3}$ | 2 |
| 27. | Factorize using identities:
a) $49y^2 - 14y + 1$
b) $5a^2 - 45b^2$ | 2 |
| 28. | Subtract $3pq(p-q)$ from $2pq(p+q)$ | 2 |

SHORT ANSWER TYPE QUESTIONS

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|-----|--|---|
| 29. | Factorize the following :
a) $2a^2 - 17a - 9$
b) $\frac{3(x^2+14x+45)}{(3x+15)}$ | 3 |
| 30. | Do the following : a) $(5^{-1} + 2^{-1})^{-1} \div \frac{1}{7}$
b) Express 108×360 as a product of its primes in exponential form. | 3 |

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|-----|--|---|
| 31. | Find the area of the following figures | 3 |
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