

CADET COLLEGE PETARO

CLASS O-I

Syllabus Outline for MATHEMATICS Paper

CHAPTER # 1

ALGEBRA

- 1 Simplifying and evaluating Algebraic Expressions
- 2 Solving Word Problems

Review 1

CHAPTER # 2

ANGLES IN GEOMETRIC FIGURES

- 1 Finding Unknown Angles

Review 2

CHAPTER # 3

FRACTIONS

- 1 Dividing a Fraction by a Whole Number
- 2 Dividing a Whole Number by a Fraction
- 3 Dividing a Fraction by a Fraction
- 4 Solving Word Problems

Review 3

CHAPTER # 4

RATIO

- 1 Ratio and Fraction
- 2 Finding Part and Whole
- 3 Solving Word Problems

Review 4

CHAPTER # 5

PERCENTAGE

- 1 Finding the Whole Given a Part and the Percentage
- 2 Percentage Increase and Decrease
- 3 Solving Word Problems

Review 5

CHAPTER # 6

CIRCLES

- 1 Parts of a Circle
- 2 Area of a Circle
- 3 Area and Perimeter of Composite Figures

Review 6

CHAPTER # 7

SPEED

- 1 Speed, Distance and Time
- 2 Average Speed
- 3 Solving Word Problems

Review 7

CHAPTER # 8

VOLUME OF CUBES AND CUBOIDS

- 1 Volume of Cubes and Cuboids
- 2 Solving Word Problems

Review 8

CHAPTER # 9

PIE CHARTS

- 1 Reading Pie Charts
- 2 Solving Word Problems

Review 9

CHAPTER # 10

SOLID FIGURES

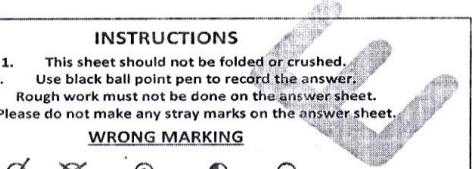
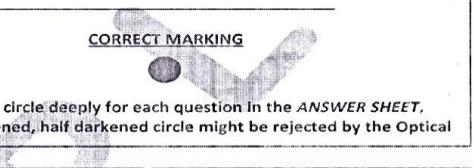
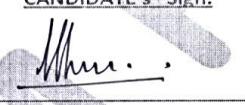
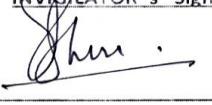
- 1 Solid Figures
- 2 Nets of Solid Figures

Review 10

CADET COLLEGE PETARO

CLASS-O-I

SAMPLE OF OMR ANSWER SHEET

		CADET COLLEGE PETARO ENTRY 2026 FOR ADMISSION TO CLASS O-I ANSWER SHEET																																																	
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CADET COLLEGE PETARO

CLASS-O-I

MODEL TEST PAPER

M A T H E M A T I C S

Time: 1 Hour

Max. Marks: 100

MARK CORRECT CHOICE BY FILLING IN THE APPROPRIATE BOX ON THE GIVEN ANSWER SHEET

SECTION-A (OBJECTIVE)

[80 Marks]

1. What is 25% of 240?
a) 50 b) 60 c) 70 d) 80
2. Which of the following is a prime number?
a) 9 b) 21 c) 37 d) 39
3. The next term of the sequence 5, 9, 13, 17, ... is:
a) 20 b) 21 c) 22 d) 23
4. 0.75 as a fraction is:
a) $3/4$ b) $2/3$ c) $1/4$ d) $4/5$
5. Arrange in ascending order: 0.2, $1/3$, 0.25
a) 0.2, 0.25, $1/3$ b) 0.25, 0.2, $1/3$
c) $1/3$, 0.25, 0.2 d) 0.2, $1/3$, 0.25
6. Estimate: $49.6 \times 10.2 \%$
a) 400 b) 500 c) 600 d) 700
7. 2^4 equals:
a) 8 b) 12 c) 16 d) 32
8. Ratio of 3 hours to 180 minutes is:
a) 1:1 b) 2:1 c) 1:2 d) 3:1

9. A car travels 120 km in 3 hours. Its rate is:

a) 20 b) 30 c) 40 d) 60

10. Percentage increase from 40 to 50 is:

a) 10% b) 20% c) 25% d) 30%

11. $A = 2b + 3c$, find A when $b=2, c=1$:

a) 5 b) 6 c) 7 d) 8

12. Simplify: $3(2x - 1)$:

a) $6x - 1$ b) $6x - 3$ c) $5x - 1$ d) $6x + 3$

13. Solve: $5x = 45$

a) 5 b) 7 c) 8 d) 9

14. Solve: $x+y=10$, $x-y=2$:

a) (6,4) b) (5,3) c) (8,2) d) (7,3)

15. Factorize $x^2 - 16$:

a) $(x-4)(x+4)$ b) $(x-8)(x+2)$ c) $(x-2)(x+8)$ d) None

16. Area of rectangle =

a) $2l+2w$ b) lw c) l^2 d) w^2

17. Circumference of circle =

a) πr^2 b) $2\pi r$ c) πd^2 d) $4\pi r$

18. Volume of cube (side 3) =

a) 9 b) 18 c) 27 d) 36

19. Surface area of cube =

a) $4a^2$ b) $5a^2$ c) $6a^2$ d) a^3

20. Sum of angles on straight line =

- a) 90°
- b) 180°
- c) 270°
- d) 360°

21. Triangle with $30^\circ, 60^\circ, 90^\circ$ is:

- a) Scalene
- b) Right-angled
- c) Isosceles
- d) Obtuse

22. Polygon with 6 sides:

- a) Pentagon
- b) Hexagon
- c) Heptagon
- d) Octagon

23. Parallel lines \rightarrow interior angles sum:

- a) 90°
- b) 140°
- c) 180°
- d) 360°

24. Pythagoras applies to:

- a) Acute
- b) Obtuse
- c) Right-angled
- d) Equilateral

25. Line of symmetry divides shape into:

- a) Equal angles
- b) Equal sides
- c) Mirror images
- d) Congruent triangles

26. Hypotenuse is always:

- a) Smallest
- b) Longest
- c) Adjacent
- d) Opposite

27. Midpoint uses:

- a) Addition
- b) Subtraction
- c) Average of coordinates
- d) Multiplication

28. Graph $y=mx+c$ is:

- a) Circle
- b) Parabola
- c) Straight line
- d) Curve

29. Symbol for intersection:

- a) \cup
- b) \cap
- c) \subseteq
- d) \emptyset

30. Venn diagrams show:

a)Fractions b)Set relationships c)Graphs d)Shapes

31. Mode is:

a)Average b)Middle value c)Most frequent d)Highest

32. $1/5$ as decimal:

a)0.1 b)0.2 c)0.25 d)0.5

33. Square of 7:

a)14 b)21 c)42 d)49

34. Ratio 8cm to 2cm:

a)2:1 b)3:1 c)4:1 d)1:4

35. 15% of 200:

a)20 b)25 c)30 d)35

36. Simplify: $10 - (3 - 2)$:

a)5 b)7 c)8 d)9

37. Solve: $2x + 1 = 9$:

a)3 b)4 c)5 d)6

38. Prism volume: area=12, length=5 \rightarrow

a)12 b)60 c)24 d)17

39. Bar charts display:

a)Continuous b)Grouped c)Categorical d)Algebraic

40. Complement of A is:

a) A' b) $A \cup B$ c) $A \cap B$ d) $B - A$

SECTION-B

NOTE: ATTEMPT ALL QUESTIONS.

2. Find next two terms: 12, 9, 6, 3, ... and tell its nth term. [5]

3. Factorize: $x^2 + 7x + 10 = 0$ (by any method) [5]

4. Solve: $2x + y = 14$ [5]

$$x - y = 1$$

5. In a class of 40 students:

- 22 like Maths
- 18 like Science
- 10 like both subjects

a) Draw a Venn diagram showing the information (description). [3]

b) How many like **only Maths**? [1]

c) How many like **only Science**? [1]

***** THE END *****