## ATOMIC ENERGY CENTRAL SCHOOL NO. 2, MUMBAI
### PERIODIC TEST - II( 2023-2024)

**CLASS: - VII**                                       **Subject: - MATHEMATICS**
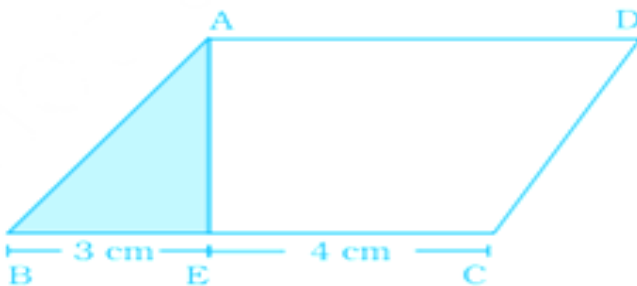
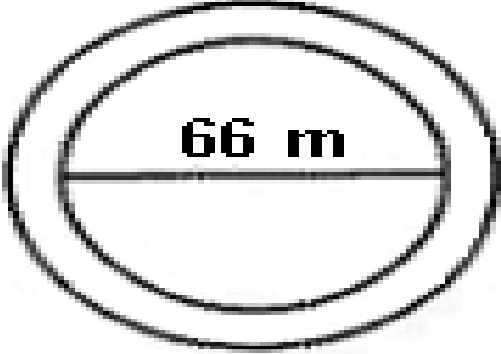**Time Allowed:** 1 ½ hrs.                           **Maximum Marks:** 40.
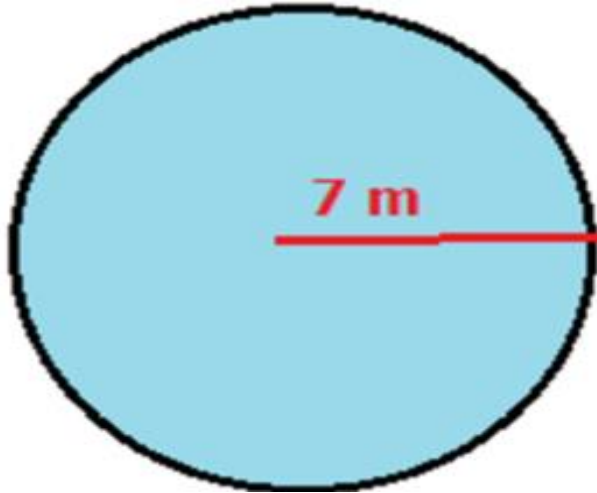
General Instructions:-
1. This question paper contains 5 sections.
2. Section – A consists of 10 questions carrying 1 mark each.
3. Section – B consists of 4 questions carrying 2 marks each.
4. Section – C consists of 4 questions carrying 3 marks each.
5. Section- D consists of 1 question of 5 marks.
6. Section – E consists of 1 case study based question of 5 marks.
7. All the questions are compulsory.

| | **Section A(10 X 1 mark = marks)** | |
|---|---|---|
| 1 | An amount is invested for two years at a rate. If the amount had been invested at 3% more interest, then ₹ 450 are more to be got. The invested amount was: <br> a) ₹ 7500 <br> b) ₹ 600 <br> c) ₹ 5000 <br> d) ₹ 4500 | **[1]** |
| 2 | Navin purchased a cellphone for ₹ 12000 and sold it for ₹ 8000, then his loss per cent, is <br> a) $34\frac{1}{3}$ % <br> b) 30% <br> c) $33\frac{1}{3}$ % <br> d) 33% | **[1]** |
| 3 | Out of 50 children in a class, 20 are boys. Then the percentage of girls is <br> a) 50 <br> b) 30 <br> c) $66\frac{2}{3}$ <br> d) 60 | **[1]** |
| 4 | Find the multiplicative inverse of $\frac{2}{9}$. <br> a) $\frac{2}{9}$ <br> b) $\frac{9}{2}$ <br> c) $-\frac{9}{2}$ <br> d) $-\frac{2}{9}$ | **[1]** |
| 5 | The value of $\frac{3}{5} + \frac{3}{5} + \ldots$ upto 25 times is | **[1]** |

| | | |
|---|---|---|
| | a) 25<br>b) 10<br>c) 35<br>d) 15 | |
| 6 | The area of a semicircle of radius 4r is<br>a) $4\pi r^2$<br>b) $8\pi r^2$<br>c) $2\pi r^2$<br>d) $12\pi r^2$ | **[1]** |
| 7 | The area of a square is $100 \text{ cm}^2$. The circumference (in cm) of the largest circle cut of it is<br>a) $15\pi$<br>b) $10\pi$<br>c) $20\pi$<br>d) $5\pi$ | **[1]** |
| 8 | Area of a right angled triangle is $30 \text{ cm}^2$. If the smallest side is 5 cm long, then find the perimeter of the triangle.<br>a) 25 cm<br>b) 30 cm<br>c) 35 cm<br>d) 40 cm | **[1]** |
| 9 | What is the statement for the expression 2y - 9?<br>a) 9 less than 2 times of y<br>b) 2y subtracted from 9<br>c) thrice of y minus 9<br>d) 9 subtracted from 9 | **[1]** |
| 10 | Find the value of $(a + b)^2$ for a = 3, b = 2.<br>a) 30<br>b) 25<br>c) 20<br>d) None of these | **[1]** |
| | **Section B( 4X 2 marks = 8 marks)** | |
| 11 | What per cent of 1 km is 1000 metres? | **[2]** |
| 12 | Find a rational number exactly halfway between $\frac{1}{15}$ and $\frac{1}{12}$. | **[2]** |
| 13 | In the figure, find the area of parallelogram ABCD if the area of the shaded triangle<br><br>is 9 cm $^2$. | **[2]** |

| | | |
|---|---|---|
| 14 | Write the coefficient of $x^2$ in the expression: $y + y^2 x + y^3 x^2 + y^4 x^3$. | **[2]** |
| | **Section C( 4 X 3 marks = 12 marks)** | |
| 15 | Find the amount to be paid at the end of 3 years for the principal of Rs. 7500 at 5% p.a. | **[3]** |
| 16 | Give three rational numbers equivalent to<br>$(a) \dfrac{-2}{5}$<br>$(b) \dfrac{4}{7}$ | **[3]** |
| 17 | A circular flower bed is surrounded by a path 4 m wide. The diameter of the flower bed is 66 m. What is the area of this path? (Take $\pi = 3.14$)<br><br>**66 m** | **[3]** |
| 18 | Identify like terms among the following: -<br>$xy^2$, - $4yx^2$, $8x^2$, $2xy^2$, $7y$, - $11x^2$, - $100x$, - $11yx$, $20x2y$, $-6x^2$, $y$, $2xy$, $3x$ | **[3]** |
| | **Section D( 1 X 5 marks = 5 marks)** | |
| 19 | [a]Solve: $\left[\dfrac{-14}{9}\right] \times \dfrac{3}{5} \times \left[\dfrac{-4}{7}\right] \times \dfrac{15}{16}$.<br>[b] Represent $\dfrac{-1}{5}$ on the number line. | **[5]** |
| | **Section E( 1 X 5 marks = 5 marks )** | |
| 20 | **Read the text carefully and answer the questions:** Once a farmer dug a circular flower bed in his field. Now he has to purchase fertilizer for this bed. But the<br><br>7 m<br><br>question raised that how much fertilizer to be purchased. | **[5]** |

For this he took help from his son Varun. Varun measured the radius of the bed it was found to be 7 m. He used formula to calculate the area of the flower bed.



Later Varun found from his father that 1 kg of fertilizer is required for 1 m$^2$ area, Also the cost of 1 kg fertilizer was ₹ 50.

[1] What is the area of the flower bed?
a) 154 m$^2$
b) 22 m$^2$
c) 77 cm$^2$
d) 44 cm$^2$

[2] How much fertilizers did the Farmer bought?
a) 77 kgs
b) 77 kg
c) 154 kgs
d) 44 kgs

[3] What was cost of the fertilizers?
a) ₹ 770
b) ₹ 154
c) ₹ 1540
d) ₹ 7700

[4] If the radius of flower bed were 14 cm then its area would be _____ m$^2$ .

[5] The area of circle is given by $2\pi r$ .
(a) true          (b) False