

**R. D. RAJPAL SCHOOL**  
**PERIODIC TEST- I (2021-22)**

**CLASS: IX SUBJECT: MATHS TIME ALLOWED: 2HRS MAXIMUM MARKS: 50**  
**NO. OF PAGES: 3**

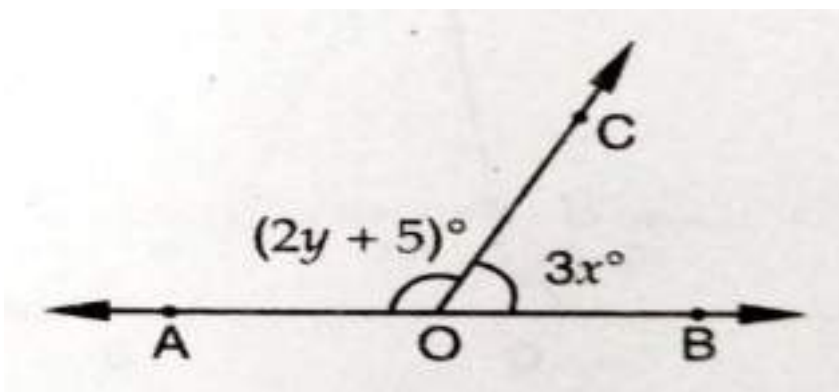
**General Instructions:**

1. All questions are compulsory.
2. Section A Q1 – Q6 (MCQ) carries 1 mark each.
3. Section B Q7 – Q12 carries 1 mark each.
4. Section C Q13 – Q15 carries 2 marks each.
5. Section D Q16 – Q19 carries 3 marks each
6. Section E Q20 – Q24 carries 4 marks each
7. Rough work must be shown on RHS of the answer sheet.

**SECTION – A (MULTIPLE CHOICE QUESTIONS)**

**NOTE:-** Show the calculations wherever necessary.

- (1) The value of  $7\sqrt{48} - \sqrt{12}$  is  
(a)  $2\sqrt{12}$  (b)  $6\sqrt{3}$  (c)  $28\sqrt{2}$  (d)  $26\sqrt{3}$
- (2) The degree of constant polynomial is  
(a) One (b) two (c) zero (d) not defined
- (3) The coefficient of  $y^2$  in  $(y - 2)^3$  is  
(a) 6 (b) - 6 (c) 12 (d) -12
- (4) If  $2^6 = 4^x$ , then  $3^x$  is  
(a) 3 (b) 6 (c) 9 (d) 27
- (5) Which of the following can be represented as non-terminating repeating decimals? (a)  $3/8$  (b)  $3/11$  (c)  $3/16$  (d)  $3/25$
- (6) In fig. if  $x = 25^\circ$ , then value of  $y$  is



(a)  $40^\circ$  (b)  $50^\circ$  (c)

$60^\circ$  (d)  $30^\circ$

(1)

**SECTION – B**

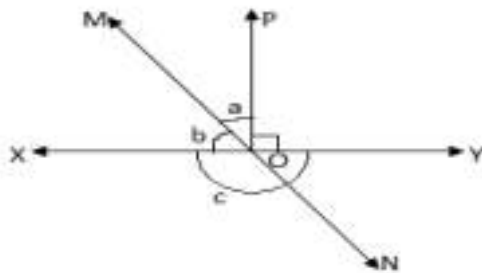
- (7) Express 0.322222..... in p/q form.
- (8) Find the value of  $(93)^2$  by using identity.
- (9) Factorize :  $125a^3 - 343b^3$
- (10) In which quadrant or axis do the following points lie?  
 (i) (4,-2) (ii) (0,-3)
- (11) Find an irrational number between 5.1 and 5.3
- (12) Factorize :  $a^3 - 8b^3 - 64c^3 - 24abc$

**SECTION – C**

- (13) If  $\frac{3^{5x} \times 81^2}{3^{2x}} = 3^7$ , find x.
- (14) If  $a + b + c = 8$ ,  $ab + bc + ca = 21$ , then find the value of  $a^2 + b^2 + c^2$ .
- (15) Find two rational numbers between 6 and 7.

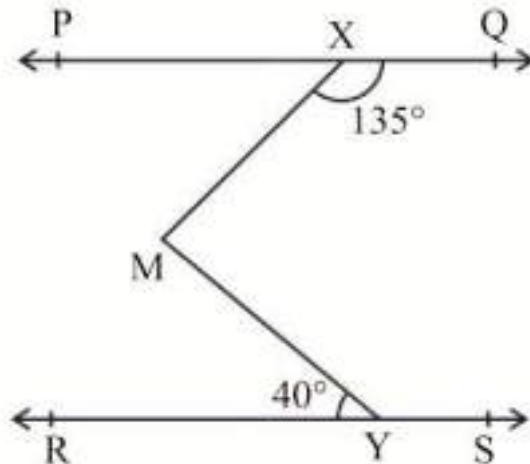
**SECTION – D**

- (16) In fig. lines XY and MN intersect at O. If  $\angle POY = 90^\circ$  and  $a:b = 4:5$ , find c i.e



$\angle XON$ .

- (17) In fig.  $PQ \parallel RS$ , find the value of  $\angle XMY$ .



- (2)  
(18) Check whether  $x - 2$  is a factor of  $2x^3 - 3x^2 + 4x + 5$ .  
(19) Find the value of  $a$  and  $b$  in  $\frac{4 + \sqrt{2}}{2 + \sqrt{2}} = a - b\sqrt{2}$

### SECTION – E

- (20) If  $a = \sqrt{5} - 2$ , find the value of  
(i)  $a - 1/a$   
(ii)  $a^2 + 1/a^2$
- (21) Simplify :  $\frac{1}{2 + \sqrt{3}} + \frac{2}{\sqrt{5} - \sqrt{3}} + \frac{1}{2 - \sqrt{5}}$
- (22) Show that the sum of three angles of a triangle is  $180^\circ$ .
- (23) Factorize :  
 $x^3 - 10x^2 - 53x - 42$
- (24) Plot the following points on the cartesian plane. (No need to use graph paper)  
(i)  $(-3, 5)$   
(ii)  $(4, 0)$   
(iii)  $(2, -6)$   
(iv)  $(-2, -1)$

(3)