

MATH'S

MM: 25

Section A

(5 X 2 = 10)

1. For what value of K will the following pair of linear equation have infinitely many solutions?

$$Kx + 3y - (K-3) = 0$$

$$12x + Ky - K = 0$$

- a) $K=6$ b) $K=0$ c) $K=3$ d) $K=-6$
2. If the mean of first n natural numbers is (n^2) then what is the value of n?
- a) $n=0$ b) $n=1$ c) $n=-1/2$ d) $n=-1$
3. If $\cos 3x = \sin 2x$. What is the value of x?
- a) $X=18$ b) $x=90$ c) $x=19$ d) $x=180$
4. If the roots of equation $(a^2 + b^2)x^2 - 2(ac + bd)x + (c^2 + d^2) = 0$ are equal then,
- a) $ac=bd$ b) $\frac{a}{b} = \frac{c}{d}$ c) $a^2b^2=c^2d^2$ d) None of these
5. In $\triangle ABC$, D and E are two points on line AB & AC respectively, If $AD=2.5\text{cm}$, $AC=7\text{cm}$ and $AE=3.5$. what is the value of AB?
- a) 7 cm b) 3 cm c) 10cm d) 5cm

Section B

6. Divide the polynomial $p(x)$ by the polynomial $g(x)$ and find the quotient and remainder

$$P(x) = x^4 - 3x^2 + 4x + 5, g(x) = -x + 1 + x^2$$

(3)

7. Find the middle term of A.P, 1, 8, 15, _____, 505 (4)

8. Prove that $\frac{\cos A - \sin A + 1}{\cos A + \sin A - 1} = \operatorname{cosec} A + \cot A$ (4)

9. The mean of the following frequency distribution is 62.8. Find the missing frequency x.

(4)

Class	0-20	20-40	40-60	60-80	80-100	100-120
Frequency	5	8	X	12	7	8