

ENTRANCE EXAM IN MATHEMATICS  
II YEAR

1. Simplify

$$\left( \frac{3x}{x+y} + \frac{x}{x-y} - \frac{2xy}{x^2-y^2} \right) : \frac{4xy}{x^2-y^2}$$

[20]

2. Factorise polynomial
- $p(x) = x^2 - 5x - 6$
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- Hence, solve equation
- $2x^2 - 10x - 12 = 0$

[20]

3. Solve simultaneous equations:

$$\frac{5x-1}{6} + \frac{3y-1}{10} = 3$$

$$\frac{11-x}{6} + \frac{11+y}{4} = 3$$

[20]

4. Find the equation of the line that passes through the point
- $(-2,4)$
- perpendicular to the line
- $2x + 4y - 1 = 0$

[20]

5. A pair of jeans is sold for \$15, thereby making a profit of 25% on the cost price. What was the cost price?

[20]