

SAFAL EDUCATION ACADEMY
STANDARD – X
MATHS

[Banking, GST, Share and Dividend, Inequations]

TIME : 1.0 Hr

NAME : _____

MARKS : 25

Marks Obtained : _____

Q – 1 Solve the following [Banking] [6]

1. Mohan saves Rs 25 per month from his pocket allowance and puts this saving every month in a bank recurring deposit scheme for a period of 72 months at 525%. What amount does he get on maturity?
2. Rekha opened a recurring deposit account for 20 months. The rate of interest is 9% per annum and Rekha receives Rs 441 as interest at the time of maturity. Find amount Rekha deposited each month.

Q – 2 Answer the following [GST] [8]

1. A wholesaler buys a TV from manufacturer for Rs 25,000. He marks the price of TV 20% above his cost price and sells it to a retailer at a 10% discount on marked price. If the rate of GST is 8%, Find the: (i) marked price. (ii) retailer's cost price inclusive of tax. (iii) GST paid by the wholesaler.
2. A shopkeeper bought a washing machine at a discount of 20% from a wholesaler, the printed price of the washing machine being 18,000. The shopkeeper sells it to a consumer at a discount of 10% on the printed price. If the rate of GST is 8%, find: (i) the GST paid by the shopkeeper. (ii) the total amount that the consumer pays for the washing machine.

Q – 3 Solve the following [Shares and Dividend] [8]

1. A lady holds 1,800, hundred-rupee shares of a company that pays 15% dividend annually. Calculate her annual dividend. If she had bought these shares at 40% premium, what percentage return would she have got on her investment? Give your answer to the nearest integer. [Ans 11%]
2. A man invests Rs 9600 on Rs 100 shares at Rs 80. If the company pays him 18% dividend find : (i) the number of shares he buys. (ii) his total dividend. (iii) his percentage return on the shares.

Q – 4 Solve the following [Inequations] [3]

1. Solve the following inequation

$$-2\frac{3}{4} \leq x + \frac{1}{4} < 4\frac{1}{4}, \quad x \in R$$

2. Solve the given inequation and graph the solution on the number line

$$2y - 3 \leq y + 1 \leq 4y + 7; \quad y \in R.$$

ANSWERS**Q – 1 Solve the following [Banking] [6]**

1. Mohan saves Rs 25 per month from his pocket allowance and puts this saving every month in a bank recurring deposit scheme for a period of 72 months at 5.25%. What amount does he get on maturity? (Ans 2087.4)
2. Rekha opened a recurring deposit account for 20 months. The rate of interest is 9% per annum and Rekha receives Rs 441 as interest at the time of maturity. Find the amount Rekha deposited each month. (Ans Rs 280)

Q – 2 Answer the following [GST] [8]

1. A wholesaler buys a TV from the manufacturer for Rs 25,000. He marks the price of the TV 20% above his cost price and sells it to a retailer at a 10% discount on the marked price. If the rate of GST is 8%, Find the: (i) marked price. (ii) retailer's cost price inclusive of tax. (iii) GST paid by the wholesaler. (Ans Rs 30000, Rs 29160, Rs 160)
2. A shopkeeper bought a washing machine at a discount of 20% from a wholesaler, the printed price of the washing machine being 18,000. The shopkeeper sells it to a consumer at a discount of 10% on the printed price. If the rate of GST is 8%, find: (i) the GST paid by the shopkeeper. (ii) the total amount that the consumer pays for the washing machine. [Ans Rs 144, Rs 17496]

Q – 3 Solve the following [Shares and Dividend] [8]

1. A lady holds 1,800, hundred-rupee shares of a company that pays 15% dividend annually. Calculate her annual dividend. If she had bought these shares at 40% premium, what percentage return would she have got on her investment? Give your answer to the nearest integer. [Ans 11%]

$$\begin{aligned}
 \text{No. of shares} &= 1,800 \\
 \text{Face value of a share} &= ₹ 100 \\
 \text{Dividend} &= 15\% \\
 \therefore \text{Annual dividend} &= ₹ (15\% \text{ of } 1800 \times 100) \\
 &= ₹ 27,000 \\
 \text{Total investment in purchasing 1,800 shares at 40\%} \\
 \text{premium} &= ₹ \frac{140}{100} \times 100 \times 1800 = 2,52,000 \\
 \therefore \text{Return \%} &= \frac{27000}{252000} \times 100 = 10.71 \sim 11\%
 \end{aligned}$$

2. A man invests Rs 9600 on Rs 100 shares at Rs 80. If the company pays him 18% dividend find : (i) the number of shares he buys. (ii) his total dividend. (iii) his percentage return on the shares.

Sol. (i) Number of shares bought = $\frac{9600}{80} = 120$
(ii) Dividend = 18% of total face value
 $= \frac{18}{100} \times 120 \times 100 = ₹ 2160$
(iii) Percentage return
 $= \frac{\text{Dividend}}{\text{Investment}} \times 100 = \frac{2160}{9600} \times 100 = 22.5$

Q – 4 Solve the following [Inequations] [3]

1. Solve the following inequation

$$-2\frac{3}{4} \leq x + \frac{1}{4} < 4\frac{1}{4}, x \in R$$

Sol. $-2\frac{3}{4} \leq x + \frac{1}{4} < 4\frac{1}{4}, x \in R$

$$\Rightarrow -\frac{11}{4} \leq \frac{4x+1}{4} < \frac{17}{4} \quad [\text{multiply by 4}]$$

$$\Rightarrow -11 \leq 4x+1 < 17 \Rightarrow -11-1 \leq 4x < 17-1$$

$$\Rightarrow -12 \leq 4x < 16 \Rightarrow -3 \leq x < 4$$

2. Solve the given inequation and graph the solution on the number line

$$2y - 3 \leq y + 1 \leq 4y + 7; y \in R.$$

Sol. $2y - 3 \leq y + 1 \leq 4y + 7; y \in R$

or $2y - 3 - 1 \leq y \leq 4y + 7 - 1$

or $2y - 4 \leq y \leq 4y + 6$

$2y - 4 \leq y$ and $y \leq 4y + 6$

$\Rightarrow y \leq 4$ and $-6 \leq 3y$

$\therefore -2 \leq y \leq 4$

