SHAH
EDUCATIONAL ACADEMY
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S.Y.J.C VCR	**MATHS PAPER - II**	**Saturday**	**Time:- 1hr 15 min Marks: 25**
TEST NO. - 2	***Topic: Commercial***		**Date:- 24/8/19**

Q.1. Attempt any Five: **(20)**

1) A Salesman is given 5½% commission on total sales made by him plus a bonus of ½ % on the sales over amount to ₹ 10,000/-. If his total earnings amount to ₹ 1,990/- find the sale made by him.

2) Mr. Ahuja & Mr. Sinha Started a business with a capital investment of ₹ 75,000 and 50,000 respectively. After 5 months Mr. Ahuja put in ₹ 5,000 more as capital, while Mr. Sinha withdrew ₹ 10,000 from his existing capital. At the end of the year the profit was ₹ 11,720. Find the share of each in the profit.

3) 5,000 copies of a book of price ₹ 80 each were insured for $(\frac{3}{5})^{th}$ of their value. During the transit some copies were damaged, and reduced to 60% of the value. If the amount recovered against the damage was ₹ 12,000, find the number of copies that were damaged.

4) Mr. Raghu deposited ₹ 10,000 at the end of every 6 months for 2 years. The rate of interest is 10% p.a. compounded half yearly. What is the amount accumulated at the end of 2 years? $(1.05)^4 = 1.2155$).

5) A furniture dealer sold a cupboard for ₹ 8,832 after allowing 8% trade discount and 4% cash discount. If he made 38% profit, find the cost price and the marked price of the cupboard.

6) If a banker deducts ₹ 8.75 on October 22, 1971 from a bill of ₹ 625/- drawn on September 13 due 6 months, hence find r.

Q.2. Attempt any Two **(5)**

1) A and B are partners in the company having capitals in the ratio 5 : 6 and the profits received by then are in the ratio 5 : 4. If B invested the capital in the company for 20 months determine the period of A's investment.

2) At 5% a Salesman received a commission of ₹ 360/- on the sale of transistors marked at ₹ 240/- each. Find the number of transistors sold.

3) The present worth of a sum 6 months hence is 16 times the discount on the same sum, find the rate.

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S.Y.J.C VCR	**MATHS PAPER - II**	**Saturday**	**Time:- 1hr 15 min Marks: 25**
TEST NO. - 2	***Topic: Commercial (Solution)***		**Date:- 24/8/19**

(1) Let total sales be Rs x

Rate of comm = $5\frac{1}{2}$ % on total sales

$\therefore$ Comm = 5.5% of x

$= \frac{5.5x}{100}$

Sales over Rs 10000 = $(x - 10000)$ Rs

On this rate of Bonus = $\frac{1}{2}$ %

$\therefore$ Bonus = 0.5 % of $(x - 10000)$

$= \frac{0.5(x-10000)}{100}$

Total earnings = Rs 1990

Comm + Bonus = Total earnings

$\frac{5.5x}{100} + \frac{0.5(x-10000)}{100} = 1990$

$\frac{5.5x + 0.5x - 5000}{100} = 1990$

$6x - 5000 = 1990 \times 100$

$6x = 199000 + 5000$

$6x = 204000$

$x = \frac{204000}{6}$

$x = 34000$

Total sales = Rs 34000

199000
5000
204000

(2) Capital of Mr Ahuja = Rs 75000

after 5 months he puts Rs 5000

ie his Rs 75000 remains for 5 months

and 75000 + 5000 = Rs 80000 for 3 months

$\therefore$ his investment $(75000 \times 5) + (80000 \times 3)$

$375000 + 560000$

935000

Mr Sinha's capital = Rs 50000

after 5 months he withdrew Rs 10000

$\therefore$ his 50000 remains for 5 months

and 50000 - 10000 = 40000 for 3 months

His investment

$(50000 \times 5) + (40000 \times 3)$

$250000 + 280000 = 530000$

TCM profit Rs 11720

This is divided in the ratio

935000 : 530000

ie 935 : 530

ie 187 : 106

TCM = 187 + 106

= 293

A's share $= \frac{187}{293} \times 11720 =$ Rs 7480

s/ share = 11720 − 7480 = Rs 4240

(3) no. of copies: 5000

price of each copy = Rs

TCM price = 5000 × Rs

= Rs 400000

Prop value = Rs 400000

policy value = $\frac{3}{5}$ of prop

$= \frac{3}{5} \times 400000$

= 240000

During transit let x copies were ~~lost~~ damaged

CP of x copies = Rs 80x

It is reduced to 80%

∴ Loss = 40%

$= \frac{40}{100} \times 80x$

$= 32x$

Claim = Rs 12000

$$\text{Claim} = \frac{\text{Policy value}}{\text{Prop value}} \times \text{Loss}$$

$$12000 = \frac{240000}{400000} \times 4x$$

$$\frac{12000 \times 5}{24 \times 4} = x$$

$$x = 625$$

∴ 625 copies were damaged

(4) C = Rs 10000

∵ deposits are at the end of every 6 months

it is regular Annuity

n = 2 years

= 2 × 2

= 4 half years

n = 4

r = 10% p.a

For 6 months

$r = \frac{10}{2} = 5\%$

$i = \frac{5}{100} = 0.05$

$$A = \frac{C}{i}\left[(1+i)^n - 1\right]$$

$$= \frac{10000}{0.05}\left((1+0.05)^4 - 1\right)$$

$$= \frac{1000000}{5}\left(1.2155 - 1\right)$$

$$= 200000\,(0.2155)$$

$$= \text{Rs } 43100$$

(5) Let list price be Rs x

Rate of Trade discount = 8%.

∴ Trade disc = $\frac{8x}{100}$

Invoice price = $x - \frac{8x}{100}$

$= \frac{92x}{100}$

Rate of cash disc = 4%.

∴ cash disc = $\frac{4}{100} \times \frac{92x}{100}$

$= \frac{368x}{10000}$

$SP = \frac{92x}{100} - \frac{368x}{10000}$

$= \frac{9200x - 368x}{10000}$

$= \frac{8832x}{10000}$

but SP = Rs 8832

$8832 = \frac{8832x}{10000}$

$10000 = x$

Marked price SP = Rs 10000

CP be Rs y

profit = 38%

$= \frac{38y}{100}$

~~SP = CP + profit~~

$SP = y + \frac{38y}{100}$

$= \frac{138y}{100}$

$8832 = \frac{138y}{100}$

$\frac{8832 \times 100}{138} = y$

$y = 6400$

∴ CP = Rs 6400

(4)

(6) BD = Rs 8.75

Cashed on = 22nd oct 1971

FV = Rs 125

Drawn on = 13 sept 1971

Period = 6 months

Nominal due date = 13th march 1972

Legal due date = 16th march 1972

no of days from discounted on to LDD

1971 { Oct 9 (31-22)
Nov - 30
Dec - 31

1972 { Jan - 31
Feb - 29 (Leap ye
March - 16

146 days

$BD = FV \frac{NR}{100}$

$8.75 = 125 \times \frac{146}{365} \times \frac{r}{100}$

$\frac{875}{100} = \frac{125 \times 2 r}{100}$

$\frac{8750}{125 \times 2} = r$

$r = 3.5\%$

Q 2) (1) Ratio of capitals × Ratio of Ict A invested for x months Period = Ratio of profit

$\frac{5}{6} \times \frac{x}{24} = \frac{5}{4}$

$\frac{x}{24} = \frac{5}{4}$

$x = \frac{5}{100} \times 24^{6}$

$x = 30$

A invested for 30 years

(2) let no of Transistes be x

SP of one Transistr = Rs 240

Total SP = Rs 240x

Rate of Comm = 5%.

$\text{Comm} = \frac{5}{100} \times 240x$

$= 12x$

But Comm = 360

$\therefore 12x = 360$

$x = \frac{360}{12}$

$x = 30$

no of Transist = 30

(3) PW = 16 TD

P = 16I

n = 6 months = $\frac{1}{2}$ yr.

r = ?

$I = \frac{PNR}{TW}$

$I = 16I \times \frac{1}{2} \times \frac{R}{TW}$

$1 = \frac{8R}{TW}$

$100 = 8R$

$R = \frac{100}{8} = 12.5\%$

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