

Financial Planning

Practice set 6.1

Q. 1. Alka spends 90% of the money that she receives every month and saves Rs. 120. How much money does she get monthly?

Answer : Method 1: Let the total money be = Rs. x

Now money she spends = 90% of x = $90 \times \frac{x}{100}$

The money she saves = 120

Now

Money spent + Money saved = Total Money

$$90 \times \frac{x}{100} + 120 = x$$

$$\frac{90 \times x + 12000}{100} = x$$

$$90x + 12000 = 100x$$

$$\Rightarrow 100x - 90x = 12000$$

$$\Rightarrow 10x = 12000$$

$$\Rightarrow x = 1200$$

∴ She earns Rs 1200 .

Method 2:

percentage of spending = 90%

hence the percentage of savings = 100 - 90%
= 10%

If 10% savings is Rs.120,

$$\text{Total money received} = \frac{12}{10} \times 100$$

$$= \text{Rs.1200}$$

Q. 2. Sumit borrowed a capital of Rs. 50,000 to start his food products business. In the first year he suffered a loss of 20%. He invested the remaining capital in a new sweets business and made a profit of 5%. How much was his profit or loss computed on his original capital?

Answer : Capital borrowed by Sumit = Rs 50,000

Now, Loss in first year = 20% of Rs 50,000

$$= \frac{50000 \times 20}{100}$$

$$= \text{Rs } 10,000$$

$$\therefore \text{Remaining capital} = \text{Rs } 50,000 - \text{Rs } 10,000$$

$$= \text{Rs } 40,000$$

Then,

He invested remaining capital in sweet business and had a profit of 5%.

$$\therefore \text{Profit amount} = 5\% \text{ of } 40000$$

$$= 40000 \times \frac{5}{100}$$

$$= \text{Rs } 2000$$

He occurred a profit of Rs 2000.

$$\therefore \text{The capital will be Rs } 40000 + \text{Rs } 2000$$

$$= \text{Rs } 42,000.$$

Now,

$$\text{Original capital} = \text{Rs } 50,000$$

$$\text{New capital after 2 years} = \text{Rs } 42,000$$

$$\therefore \text{Loss}\% = \frac{50,000 - 42,000}{50,000} \times 100$$

$$= \frac{8,000}{50,000} \times 100$$

$$= 16\%$$

Hence, his capital after 2 years = Rs 42,000 & he suffered a loss of 16% on the initial capital.

Q. 3. Nikhil spent 5% of his monthly income on his children's education, invested 14% in shares, deposited 3% in a bank and used 40% for his daily expenses. He was left with a balance of Rs. 19,000. What was his income that month?

Answer : Let the monthly salary of Nikhil = Rs x

The following table gives the expenditure of Nikhil:

Children's education	5%
Investment in shares	14%
Bank deposits	3%
Daily life expenditures	40%

$$\therefore \text{Total expenditure} = 5\% + 14\% + 3\% + 40\%$$

$$= 62\%$$

Now, remaining salary = 100% - 62% of total salary

= 38% of total salary

= Rs 19,000 (given)

$$\therefore 38\% \text{ of } x = \text{Rs } 19,000$$

$$\Rightarrow \frac{38}{100} \times x = \text{Rs } 19,000$$

$$\Rightarrow x = 19,000 \times \frac{100}{38}$$

$$\Rightarrow x = \text{Rs } 50,000$$

Hence, the monthly income of Nikhil = Rs 50,000.

Q. 4. Mr. Sayyad kept Rs. 40,000 in a bank at 8% compound interest for 2 years. Mr. Fernandes invested Rs. 1,20,000 in a mutual fund for 2 years. After 2 years, Mr. Fernandes got Rs. 1,92,000. Whose investment turned out to be more profitable?

Answer : For Mr. Sayyad,

Principal amount, P = 40,000

Rate, r = 8%

Time period = n = 2year

$$\text{Compound Interest (C.I)} = P \left[\left(1 + \frac{R}{100} \right)^n - 1 \right]$$

$$\text{C.I} = 40,000 \left[\left(1 + \frac{8}{100} \right)^2 - 1 \right]$$

$$= 40000 \left[\left(\frac{108}{100} \right)^2 - 1 \right]$$

$$= 40,000(1.664-1) = 40,000(0.664)$$

$$= \text{Rs. } 6656$$

$$\% \text{ profit}(p) = \frac{P}{\text{cost value}} \times 100$$

$$= \frac{6656}{40,000} \times 100$$

$$= \frac{1664}{100}$$

$$= 16.64\%$$

For Fernandes,

Principal rate, P = Rs. 1,20,000

Time period, $n = 2\text{yr}$

Principal amount, $A = \text{Rs. } 1,92,000$

Profit = $1,92,000 - 1,20,000 = \text{Rs. } 72,000$.

$$\% \text{Profit (p)} = \frac{P}{\text{cost value}} \times 100$$

$$= \frac{72,000}{1,20,000} \times 100$$

= 60%.

Hence, Frenandes mutual fund is found to be profitable.

Q. 5. Sameera spent 90% of her income and donated 3% for socially useful causes. If she left with Rs. 1750 at the end of the month, what was her actual income?

Answer : Given,

Let Samera's income be Rs x .

Then, amount she spends = 90% of x

Donations by Sameera = 3% of x

Remaining amount = $100 - (90 + 3)\%$ of x

And, the remaining amount = Rs. 1750

Here, 7% of $x = \text{Rs } 1750$

$$\Rightarrow \frac{7}{100} \times x = \text{Rs } 1750$$

$$\Rightarrow x = \frac{1750 \times 100}{7}$$

$$\Rightarrow x = \text{Rs } 25,000$$

\therefore her monthly income is Rs. 25,000.

Practice set 6.2

Q. 1. Observe the table given below. Check and decide, whether the individuals have to pay income tax.

S. No.	Individuals	Age	Taxable Income	Will have to pay income tax or not
i.	Miss Nikita	27	Rs. 2,34,000	
ii.	Mr. Kulkarni	36	Rs. 3,27,000	
iii.	Miss Mehta	44	Rs. 5,82,000	
iv.	Mr. Bajaj	64	Rs. 8,40,000	
v.	Mr. Desilva	81	Rs. 4,50,000	

Answer : The tax rates for a year budget are shown below are given in the three tables:

Table I

Individuals (up to the age of 60 years)			
Taxable income slabs (in Rs)	Income Tax	Education cess	Secondary and Higher Education cess
Up to 2,50,000	Nil	Nil	Nil
2,50,001 to 5,00,000	5% (on taxable income minus to lakh fifty thousand)	2% of Income tax	1% of Income tax
5,00,001 to 10,00,000	Rs.12,500 + 20% (on taxable income minus five lakh)	2% of Income tax	1% of Income tax
More than 10,00,000	Rs.1,12,500 + 30% (on taxable income minus ten lakh)	2% of Income tax	1% of income tax
(surcharge equal to 10% of income tax payable by individuals having an annual income of 50 lakh to one crore rupees and 15% of income tax by individuals having an annual income greater than one crore rupees)			

Table II

Senior Citizens (Age 60 to 80 years)			
Taxable Income slabs (In Rs.)	Income Tax	Education cess	Secondary and Higher Education cess
Up to 3,00,000	Nil	Nil	Nil
3,00,001 to 5,00,000	5% (On taxable income minus three lakh)	2% of Income tax	1% of Income tax
5,00,001 to 10,00,000	Rs.10,000 + 20% (on taxable income minus five lakh)	2% of income tax	1% of Income tax
More than 10,00,000	Rs.1,10,000 + 30% (On taxable income minus ten lakh)	2% of Income tax	1% of Income tax
(surcharge equal to 10% of income tax payable by individuals having an annual income of 50 lakh to one crore rupees and 15% of income tax by individuals having an annual income greater than one crore rupees)			

Table III

Senior Citizens (Age above 80 years)			
Taxable Income slabs (In Rs.)	Income Tax	Education cess	Secondary and Higher Education cess
Up to 5,00,000	Nil	Nil	Nil
5,00,001 to 10,00,000	20% (On taxable income minus five lakh)	2% of Income Tax	1% of Income tax
More than 10,00,000	Rs.1,00,000 + 30% (on taxable income minus ten lakh)	2% of Income tax	1% of Income tax
(surcharge equal to 10% of income tax payable by individuals having an annual income of 50 lakh to one crore rupees and 15% of income tax by individuals having an annual income greater than one crore rupees)			

i) No,

According to 1st table because Annual Income is less than 2.5lacs.

Hence, she is not eligible for paying the income tax.

ii) Yes, because Mr. Kulkarni's salary lies between 2.5 l to 5 l. Hence, he is eligible for paying tax.

iii) Yes, because the income is greater than 2.5 l (from table I)

iv) Yes, because the income is greater than 2.5 l.

v) No, because (table 3)

Q. 2. Mr. Kartarsingh (age 48 years) works in a private company. His monthly income after deduction of allowances is Rs. 42,000 and every month he contributes Rs. 3000 to GPF. He has also bought Rs. 15,000 worth of NSC (National Savings Certificate) and donated Rs. 12,000 to the PM's Relief Fund. Compute his income tax.

Answer : According to 1st table,

Individuals (up to the age of 60 years)			
Taxable income slabs (in Rs)	Income Tax	Education cess	Secondary and Higher Education cess
Up to 2,50,000	Nil	Nil	Nil
2,50,001 to 5,00,000	5% (on taxable income minus to lakh fifty thousand)	2% of Income tax	1% of Income tax
5,00,001 to 10,00,000	Rs.12,500 + 20% (on taxable income minus five lakh)	2% of Income tax	1% of Income tax
More than 10,00,000	Rs.1,12,500 + 30% (on taxable income minus ten lakh)	2% of Income tax	1% of income tax
(surcharge equal to 10% of income tax payable by individuals having an annual income of 50 lakh to one crore rupees and 15% of income tax by individuals having an annual income greater than one crore rupees)			

His monthly income = Rs 42,000

⇒ Annual Salary = 12 × Rs 42,000

= Rs. 5,04,000

Now, following table shows his investments:

GPF	NSC	Prime-minister fund
Rs. 3000×12 = Rs. 36,000	Rs 15,000	Rs. 12,000
Total = 63,000		

Taxable salary = Rs. 5,04,000 – (Rs. 63,000)

= Rs. 4,41,000

It comes into table 1 and income tax slab 2.

$$5\%(\text{taxable minus 2.5lacs}) = \frac{5}{100} \times (\text{Rs. 4,41,000} - \text{Rs. 250,000})$$

$$= \frac{5}{100} \times (1,91,000)$$

$$= \text{Rs.}9550$$

$$\therefore \text{Income tax} = \text{Rs.}9550$$

Primary cess = 2% of I.T.

$$= \frac{2}{100} \times 9550 = \text{Rs.}191$$

Secondary cess = 1% of I.T.

$$= \frac{1}{100} \times 9550 = \text{Rs.}95.5$$

$$\text{Total income tax} = \text{Rs.}9550 + \text{Rs.}191 + \text{Rs.}95.5$$

$$= \text{Rs.}9836.5$$

Problem set 6

Q. 1 A. Write the correct alternative answer for each of the following questions.

For different types of investments what is the maximum permissible amount under section 80C of income tax?

- A. 1,50,000 rupees**
- B. 2,50,000 rupees**
- C. 1,00,000 rupees**
- D. 2,00,000 rupees**

Answer : The maximum amount of deduction that can be claimed under Section 80C of the Income Tax Act is Rs.1.5 lakh.

Q. 1 B. Write the correct alternative answer for each of the following questions.

A person has earned his income during the financial year 2017-18. Then his assessment year is

- A. 2016-17**
- B. 2018-19**

C. 2017-18

D. 2015-16

Answer : The period in which the income is earned is called the financial year. And, the income tax are filed in the next year of the financial year. It is called the assessment year.

∴ if he earned his income in 2017-18, his assessment year will be 2018-19.

Q. 2. Mr. Shekhar spends 60% of his income. From the balance he donates Rs. 300 to an orphanage. He is then left with Rs. 3,200. What is his income?

Answer : Mr. Shekar's income = Rs x

$$\text{Amount spent} = 60\% \text{ of } x = \frac{3}{5} \times x$$

$$\text{Remaining balance} = x - \frac{3}{5}x = \frac{2}{5} \times x$$

$$\text{Donation to an orphanage} = \text{Rs.}300$$

$$\text{Remaining balance} = \frac{2}{5} \times x - 300 = \text{Rs.}3200$$

$$\therefore \frac{2}{5} \times x = 3200 + 300$$

$$\Rightarrow 2x = 3500 \times 5$$

$$\therefore x = \text{Rs.}8750$$

Income is Rs. 8750.

Q. 3. Mr. Hiralal invested Rs. 2,15,000 in a Mutual Fund. He got Rs. 3,05,000 after 2 years. Mr. Ramniklal invested Rs. 1,40,000 at 8% compound interest for 2 years in a bank. Find out the percent gain of each of them. Whose investment was more profitable?

Answer : According to question,

For Ramnikal,

Principal amount = Rs. 1,40,000

Rate, $r = 8\%$

Time period, $n = 2\text{years}$

$$\text{Compound interest (CI)} = P \left[\left(1 + \frac{R}{100} \right)^n - 1 \right]$$

$$= 1,40,000 \left[\left(1 + \frac{8}{100} \right)^2 - 1 \right]$$

$$= 1,40,000 \times \frac{104}{625}$$

$$= \text{Rs.}23296$$

$$\% \text{ gain} = \frac{g}{p} \times 100$$

$$= \frac{23296}{1,40,000} \times 100$$

$$= \mathbf{16.64\%}$$

For Hiralal,

Principal amount = Rs. 2,15,000

Amount gained = Rs. 3,05,000

Time period, $n = 2\text{year}$

Profit/gain = $A - P$

$$= 3,05,000 - 2,15,000$$

$$= \text{Rs. } 90,000$$

$$\% \text{ gain} = \frac{\text{gain}}{\text{Principal amount}} \times 100$$

$$= \frac{90,000}{2,15,000} \times 100$$

$$= 41.86\%$$

Mr. Hiralal investment is more profitable.

Q. 4. At the start of a year there were Rs. 24,000 in a savings account. After adding Rs. 56,000 to this the entire amount was invested in the bank at 7.5% compound interest. What will be the total amount after 3 years?

Answer : Balance at the start of the year = Rs. 24000

Amount added = Rs. 56,000

Total = Rs. 80,000

Interest rate = 7.5% per annum

Period of accumulation = 3yr

Formula,

$$A = P \times \left(1 + \frac{r}{100}\right)^n$$

Amount of maturity after 3 year,

$$= \text{Rs. } 80,000 \times \left(1 + \frac{7.5}{100}\right)^3$$

$$= \text{Rs. } 80,000 \times 1.075 \times 1.075 \times 1.075$$

$$= \text{Rs. } 99,383.75$$

Q. 5. Mr. Manohar gave 20% part of his income to his elder son and 30% part to his younger son. He gave 10% of the balance as donation to a school. He still had Rs. 1,80,000 for himself. What was Mr. Manohar's income?

Answer : Mr. Manohar's income = A

$$\text{Amount given to elder son} = 20\% \text{ of } A = \frac{20}{100} \times A$$

$$= \frac{A}{5}$$

$$\text{Amount given to younger son} = 30\% \text{ of } A = \frac{30}{100} \times A$$

$$\text{Balance} = 100\% - 30\% - 20\%$$

$$= 50\% \text{ of } A$$

$$= \frac{1}{2} \times A$$

$$\text{Donation given to school} = 10\% \text{ of } \frac{A}{2}$$

$$= \frac{10}{100} \times \frac{A}{2}$$

$$= \frac{A}{20}$$

$$\text{Balance} = \frac{A}{2} - \frac{A}{20}$$

$$= A \times \frac{9}{20}$$

$$\Rightarrow \frac{9A}{20} = \text{Rs.}180000$$

$$A = \text{Rs.} 180000 \times \frac{20}{9}$$

$$= \text{Rs.} 400,000$$

\Rightarrow Income is Rs 4,00,000.

Q. 6. Kailash used to spend 85% of his income. When his income increased by 36% his expenses also increased by 40% of his earlier expenses. How much percentage of his earning he saves now?

Answer : Let Kailash's salary = Rs. 100

$$\text{Old spend} = 100 \times 85\% = 85$$

$$\text{New salary} = 136\% \text{ of } 100 = \text{Rs.}136$$

$$\text{New expenditure} = 140\% \times 85 = \frac{140}{100} \times 85$$

$$= \text{Rs.}116$$

$$\text{Save} = \text{Rs.} 136 - \text{Rs.} 119$$

$$= \text{Rs.}17$$

$$\%S = \frac{17}{136} \times 100 = 12.5\%$$

Q. 7. Total income of Ramesh, Suresh and Preeti is 8,07,000 rupees. The percentages of their expenses are 75%, 80% and 90% respectively. If the ratio of their savings is 16 : 17 : 12, then find the annual saving of each of them.

Answer : Let their savings be 16x,17x,12x

$$\text{Saving} = \text{income} - \text{expenditures}$$

$$\text{Saving}\% = 100 - \text{expenditure}\%$$

Hence saving are 25% ,20% , 10% respectively,

$$\text{Saving \%} = \frac{\text{saving}}{\text{income}} \times 100$$

Their incomes are,

$$\Rightarrow 100 \times \frac{16x}{25}, 100 \times \frac{17x}{20}, 100 \times \frac{12x}{10}$$

$$\Rightarrow 100 \times \frac{16x}{25} + 100 \times \frac{17x}{20} + 100 \times \frac{12x}{10} = \text{Rs.}807000$$

Then $x = \text{Rs. } 3000$

Hence saving are Rs. 48,000 , Rs. 51,000 , Rs. 36,000

Q. 8. Compute the income tax payable by following individuals.

i. Mr. Kadam who is 35 years old and has a taxable income of Rs. 13,35,000.

ii. Mr. Khan is 65 years of age and his taxable income is Rs. 4,50,000.

iii. Miss Varsha (Age 26 years) has a taxable income of Rs. 2,30,000.

Answer : i) In case of Mr.kadam who is 35 years and taxable income is 13,35,000

- up to 250000 - No tax (0 %)
- 2,50,000 to 5,00,000 - 12,500 (2,50,000 x 5%)
- 5,00,000 to 10,00,000 - 1,00,000 (5,00,000 x 20%)
- remaining 3,35,000 - 1,00,500 (3,35,000 x 30%)

Income Tax is 2,13,000 + Education cess 3% on 2,13,000

Total tax is 2,19,390

(ii) in the case of Mr. Khan who is 65 yrs and 4,50,000 income taxable

upto 300000 - No tax (0 %)

remaining 150000 - 7500 (150000 x 5%)

Income Tax is 7500 + Education Cess 3% of 7500

Total Tax is 7725

(iii) In the case of Miss Varsha who is 26 yrs and 2,30,000 taxable income.

upto 2,50,000 income - no tax

Total tax – NIL