Simple Interest (LOD 02)

1. A sum was put at simple interest at a certain rate for 2 years . Had it been put at 3% higher rate, it would have fetched Rs 300 more. The sum is

a) Rs 5000 b) Rs 6000

c) RS 7000 d) None Of these

2. The simple interest on a sum of money at 10% per annum for 6 year is half the sum. Then, the sum is ?

a) Rs 5000 b) Not possible

c) Rs 4000 d) Rs 6000

3. The simple interest at x% for x years will be Rs x on a sum of ....

a) Rs x b) Rs 100x

c) Rs (100/x) d) Rs (100/ x2)

4. A certain sum lent out at simple interest amounts to Rs 575 in 3 yr and to Rs 625 in 5 yr. Then the rate of interest is ?

a) 3% b) 4%

c) 5% d) 7%

5. The simple interest on a sum of money is 1/9 of the principle and the number of years is equal to the rate percent annum. The rate percent annum is ?

a) 3 b) 1/3

c) 3 1/3 d) 3/10

6. A moneylender finds that due to a fall in the rate of interest from 13% to 121/2% his yearly income diminishes by Rs. 104. His capital is ?

a) Rs. 21400 b) Rs. 20800

c) Rs. 22300 d) Rs. 24000

7. A man invested 1/3 of his capital at 7%, 1/4 at 8% and remainder at 10%. If his annual income is Rs. 561, the capital is ?

a) Rs. 5400 b) Rs. 6000

c) Rs. 6600 d) Rs. 7200

8. A certain sum of money at simple interest amounts to Rs. 1260 in 2 years and to Rs. 1350 in 5 years. The rate per cent per annum is ?

a) 2.5% b) 3.75%

c) 5% d) 7.5%

9. A lent Rs. 600 to B for 2 years and Rs. 150 to C for 4 years and received altogether from both Rs. 90 as simple interest. The rate of interest is ?

a) 4% b) 5%

c) 10% d) 12%

10. Rs. 800 amounts to Rs. 920 in 3 years at simple interest. If the interest rate is increased by 3% It would amount to how much ?

a) Rs. 1056 b) Rs. 1112

c) Rs. 1182 d) Rs. 992

11. The simple interest on a sum of money at 8% per annum for 6 years is half the sum. The sum is ?

a) Rs. 4800 b) Rs. 6000

c) Rs. 8000 d) Data inadequate

12. If the interest on Rs. 1200 be more than the interest on Rs. 1000 by Rs. 50 in 3 years, the rate per cent is ?

a) 10 1/3% b) 6 2/3%

c) 8 1/3% d) 9 2/3%

13. In how many years will a sum of money double itself at 12% per annum?

a) 6 years 9 months b) 8 years 4 months

c) 7 years 6 months d) 8 years 6 months

14. A sum was put at simple interest at a certain rate for 2 years. Had it been put at 1% higher rate, it would have fetched Rs. 24 more, The sum is ?

a) Rs. 600 b) Rs. 800

c) Rs. 1200 d) Rs. 480

15. A sum money becomes (8/5) of itself in 5 years at a certain rate of interest . The rate percent per annum is ?

a) 5% b) 8%

c) 10% d) 12%

16. The difference between the interest received from two different bank on Rs. 500 for 2 year is Rs. 2.50. The difference between their rates is ?

a) 1% b) 0.5%

c) 2.5% d) 0.25%

17. A certain sum of money at simple interest amounts to Rs. 1012 in 21/2 years and to Rs. 1067.20 in 4 years. The rate of interest per annum is ?

a) 2.5% b) 3%

c) 4% d) 5%

18. Two equal amounts of money are deposited in two banks, each at 15% per annum for 3 1/2 years and 5 years. If the difference between their interests is Rs. 144, each sum is ?

a) Rs. 460 b) Rs. 500

c) Rs. 640 d) Rs. 720

19. If the rate of interest rises from 61/2 to 8% a man's annual income increases by Rs. 4050. Find the capital.

a) Rs . 270000 b) Rs . 370000

c) Rs . 300000 d) None of these

20. The simple interest on a sum of money will be Rs. 600 after 10 years. If the principal is trebled after 5 years the total interest at the end of 10 years will be ?

a) Rs. 600 b) Rs. 900

c) Rs. 1200 d) Data inadequate

21. A sum of Rs. 2540 is lent out into two parts. One at 12% and another one at 121/2 %. If the total annual income is Rs. 311.60, the money lent at 12% is ?

a) Rs. 1180 b) Rs. 1360

c) Rs. 1240 d) Rs. 1340

22. A man lends Rs. 10000 in four parts. If he gets 8% on Rs. 2000, 71/2% on Rs . 4000 and 81/2% on Rs. 1400, What per cent must he get for the remainder if the average interest is 8.13% ?

a) 7% b) 9%

c) 9 1/4% d) 10 1/2 %

23. If the simple interest for 5 yr be equal to 40% of the principle, it will be equal to the principle after ?

a) 12 yr 3 months b) 12 yr 6 months

c) 12 yr 4 months d) 12 yr 9 months

24. What sum of money lent out at simple interest will amount to ₹ 3400 in 3 yr at 1% per month ?

a) ₹ 2400 b) ₹ 1800

c) ₹ 1600 d) ₹ 2500

25. Simple interest on ₹ 1680 for 4 yr at 71/2 per annum is equal to the simple interest on ₹ 1200 at 7% per annum for a certain period of time. Time period of time is ?

a) 7 yr b) 6 yr

c) 5 1/3 yr d) 7 1/4 yr

26. If a certain sum of money becomes double at simple interest in 12 yr. What would be the rate of interest per annum ?

a) 8 1/3% b) 10%

c) 12% d) 14%

27. A sum of ₹ 4000 is lent out in two parts, one at 8% simple interest and other at 10% simple interest. If the annual interest is ₹ 352, the sum lent at 8% is

a) ₹ 1600 b) ₹ 2400

c) ₹ 1800 d) ₹ 2800

28. A man invests ₹ 3000 at the rate of 5% per annum. How much more should he invest at the rate of 8%, so that he can earn a total of 6% per annum ?

a) ₹ 1200 b) ₹ 1300

c) ₹ 1500 d) ₹ 2000

29. When a bank reduce the rate of interest from 61/2% per annum to 51/2% per annum, depositor withdrew Rs. 600 and thereby his interest reduced by ₹ 73. Find the initial deposit. ?

a) ₹ 4000 b) ₹ 6000

c) ₹ 7000 d) ₹ 9000

Simple Interest (LOD 02- Answers)

1. Correct Option: A

Let the sum be P.

And the original rate be y% per annum.

Then new rate=(y+3)% per annum

According to question, [(P × (y+3) × 2)/100]=[(P × y × 2)/100]=300

∴ [(Py + 3P)/100]=[Py/100] = 150

∴ Py+ 3P - Py=15000

∴ 3P=15000

∴ P= 5000

Thus, the sum is Rs 5000

2. Correct Option: B

Let the sum be Rs 'y'

Since Simple Interest = Rs (y / 2)

and, T = 6 yr , R = 10% per annum

So Simple Interest, SI = (P x R x T)/100

where, R = Rate

T = Time

SI= Simple Interest

now, According to problem, (y / 2) = (y x 10 x 6)/100

⇒ (1/2)=(6/10)

⇒ which is not true, so it is not a possible case.

3. Correct Option: C

As Sum = [(100 x SI)/(Time x Rate)]

here, let R =x%, T=x yr, and, SI=Rs x

∴ Sum=[(100 × x)/(x × x)]

=(100/x)

4. Correct Option: B

Let the sum be Rs 'y' and , rate of interest = R%

Simple Interest for 2 yr =Rs(625 - 575) = Rs 50

∴ Sum of money, y=Rs(575 - 75)= Rs 500

∴ R= [(100 x SI)/(Sum x Time)]

=[(100x 75)/(500 x 3)]=5 %

5. Correct Option: C

Let principle = Rs. P

Then S.I = P/9

Let Rate = R% per annum and time = R years

Then, as we know SI = (P x R x T) / 100.

⇒ P/9 = (P x R x R) / 100

⇒ R2 = 100/9

∴ R = 10/3 = 31/3 % per annum

6. Correct Option: B

Let capital = Rs . P

Then, SI1 - SI2 = 104.

⇒ (P x 13 x 1)/100 - (P x 25/2 x 1) /100 = 104

⇒ 13P/100 - P/8 = 104

⇒ 26P -25P = (104 x 200)

⇒ P = 20800

∴ Capital = Rs. 20800

7. Correct Option: C

Let the capital be Rs. P, then

(P/3) x (7/ 100) + (x/4) x (8/100) + [P - (P/3 + P/4)] x 10/100 = 561

⇒ 7P/300 + P/50 + P/24 = 561

⇒ 42P + 36P + 75P = 1009800

P = 1009800/153 = 6600

8. Correct Option: A

S.I for 3 years = Rs. (1350 - 1260) = Rs. 90

S.I for 2 years = Rs.(90/3) x 2 = Rs . 60

∴ Sum = Rs. (1260 - 60) = Rs. 1200

∴ Rate = (100 x SI) / (P x T) = (100 x 60) / (1200 x 2) = 2.5%

9. Correct Option: B

Let rate = R% per annum.

Then, [(600 x R x 2)/ 100] + [(150 x R x 4) / 100] = 90

⇒ 18R = 90

∴ R = 5%

10. Correct Option: D

Principal = Rs. 800

S.I. = Rs. (920 - 800) = Rs. 120

and Time = 3 years

∴ Original rate = (100 x SI) / (P x T) = (100 x 120) / (800 x 3) = 5%

New rate = 8%

Now, S.I . = Rs.(800 x 8 x 3) /100 = Rs. 192

∴ Amount = Rs. (800 + 192)

= Rs. 992

11. Correct Option: D

Let, Sum = P

Then S.I = P/2

Rate = 8%

and Time = 6 years

But P/2 = (P x 8 x 6) /100 (Not possible)

Thus, data is inadequate.

12. Correct Option: C

Let rate = R% per annum. Then,

(1200 x R x 3)/100 - (1000 x R x 3)/100 = 50

⇒ 6R = 50

⇒ R = 8 1/3

∴ Rate = 8 1/3% per annum

13. Correct Option: B

Let principal = P.

Then, S.I = P,

Rate (R) = 12%

Time = (100 x SI) / (R x P) = (100 x P) / (P x 12) years

= 25/3 years

= 8 years 4 months

14. Correct Option: C

Let sum = P and original rate = R% per annum

Then, [(P x (R + 1) x 2)/100] - [(P x R x 2)/100] = 24

⇒ P = 1200

15. Correct Option: D

Let sum = Rs. P.

Then amount = Rs. (8P/5)

∴ S.I = Rs. (8P/5 - P) = Rs.(3P/5)

∴ Required rate = (100 x SI) / (P x T)

= [(100 x 3P/5) / (P x 5)]% = 12%

16. Correct Option: D

Let the rates be R1% and R2%.

Then, (500 x R1 x 2)/ 100 - (500 x R2 x 2)/ 100 = 2.5

⇒ 10(R1 - R2) = 2.5

∴ Req difference = R1 - R2 = 0.25%

17. Correct Option: C

∵ S.I. for 3/2 years = Rs. (1067.20 - 1012) = Rs. 55.20

⇒ S.I. for 5/2 years = Rs. 55.20 x (2/3) x (5/2) = 92

∴ Sum = Rs. (1012 - 92) = Rs.920

Hence, Rate = (100 x SI)/(P x T) = (100 x 92) / (920 x 5/2) = 4%

18. Correct Option: C

Let each sum be Rs. P.

Then, [(P x 15 x 5) / 100] - [(P x 15 x 7) / 100] x 2 = 144

⇒ 3P/4 -21P/40 = 144

⇒ 9P/40 = 144

∴ P = (144 x 40) / 9 =Rs. 640

19. Correct Option: A

Due to the rise in the rate of interest, annual income increases by Rs . (8 - 61/ 2) = Rs , 11/ 2, when the capital is Rs . 100

Thus, the required capital = (100 x 2 x 4050) / 3 = Rs. 270000

20. Correct Option: C

Let the sum be Rs. P, SI = Rs. 600, Time = 10 years

∴ Rate (600 x 100) / (P x 10)%

S.I for first 5 years = Rs. (P x 5 x 6000)/(1000 x P) = Rs. 300

S.I for last 5 years = Rs. (3P x 5 x 6000)/(100 x P) = Rs. 900

Hence, total interest at the end of 10 years = 300 + 900 = Rs. 120

21. Correct Option: A

Let money lent at 12% Rs. P

Then, money lent at 121/2% = Rs. (2540 - P)

∵ (P x 12 x 1)/100 + {(2540 - P) x 25/2 x 1}/100 = 311.60

⇒ 3P/25 + 2540 - P/8 = 311.60

⇒ 24P + 25(2540 - P) = 200 x 311.60

∴ P = 63500 - 62320 = 1180

22. Correct Option: B

∵ [(2000 x 8 x 1) /100] + [(4000 x 15/2 x 1)/100] + [(1400 x 17/2 x 1) / 100] + [(2600 x R x 1)/100] = (10000 x 8.13 x 1) / 100

⇒ 160 + 300 + 119 + 26R = 813

⇒ 26R = 234

⇒ R = 9%

23. Correct Option: B

If interest is 40% of the principal then time = 5 years.

So, when interest would be equal to 100% of the principal time would be

= (100/40) x 5 years = 12.5 years

= 12 yr 6 months

24. Correct Option: D

A = ₹ 3400 T = 3 yr , R = 1% per month = 12 % per annum Let the principle be ₹ P.

SI = (PTR/100) = (P x 3 x 12)/100 = ₹ 36P/100

A = (P + SI) = P + 36P/100 = ₹ 136P/100

⇒ 136P/100 = 3400

⇒ P = (3400 x 100)/136 = 2500

∴ Sum = ₹ 2500

25. Correct Option: B

Let the required period of time be T yr.

Then, (1680 x 4 x 15) /100 = (1200 x T x 7)/100

T = (1680 x 2 x 12)/(1200 x 7)

= 6 yr

Hence, the required time period is 6 yr.

26. Correct Option: A

Let the amount be P, then amount after 12 yr = 2 P

SI = 2P - P = P

SI = (P x R x T)/ 100

P = (P x R x 12)/ 100

⇒ R = 100/12 = 81/3%

27. Correct Option: B

Let the money interest at 8% interest be ₹ P .

Then, the money interest at 10% interest = ₹(4000 - P)

According to the question,

(P x 8 x 1)/100 + [(4000 - P) x 10 x 1]/100 = 352

⇒ 8P + 40000 - 10P = 35200

⇒ 40000 - 35200 = 2P

∴ P = 4800/2 = ₹ 2400

28. Correct Option: C

Let the extra money invested = ₹ P

According to the question .

(3000 x 5 x 1)/100 + (P x 8 x 1)/100 = [(3000 + P) x 6 x 1)]/100

⇒ 15000 + 8P = 18000 + 6P

⇒ 2P = 18000 - 15000

∴ P = 3000/2 = ₹ 1500

29. Correct Option: A

Initially ,

let P = ₹ A, R = 13/2% per annum and T = 1yr

SI = PRT/100 = (A x 1 x 13/2)/100 = ₹ 13A/200

Now, new deposit = ₹ (A - 600), R = 11/2 % per annum and T = 1yr

SI = PTR/100 = [(A - 600) x 1 x 11/2)/100] = ₹ 11(A - 600)/200

By the given condition ,

13A/200 - 11(A - 600)/200 = 73

⇒ 13A - 11(A - 600) = 200 x 73

⇒ 2A = 200 x 73 - 600 x 11

⇒ 2A = 14600 - 6600

⇒ 2A = 8000 ⇛ A = 4000

Hence, the initial investment is ₹ 4000.