Simple Interest (LOD 01)

1. The sum required to earn a monthly interest of Rs 400 at 10 % per annum at simple interest is

a) Rs 2000 b) Rs 12000

c) Rs 24000 d) Rs 48000

2. In what time will the simple interest on Rs 400 at 10% per annum be the same as the simple interest on Rs 1000 for 4 year at 4 % per annum?

a) 2 yrs b) 3 yrs

c) 4 yrs d) 6 yrs

3. At what rate percent per annum will a sum of money double in 8 yr?

a) 12 % b) 12.5 %

c) 13 % d) 15 %

4. The amount instalment will discharge on debit of Rs 3220 due in 4 year at 10 % simple interest?

a) 500 b) 600

c) 700 d) None of these

5. A certain sum amounts to Rs 1586 in 2 year and Rs 1729 in 3 year. Find the rate and the sum.

a) 8 % b) 9 %

c) 10 % d) 11 %

6. Find the sum of money will amount to Rs 900 in 4 years at 5 % per annum on simple interest?

a) Rs 750 b) Rs 650

c) Rs 500 d) Rs 550

7. If a certain sum is doubled in 8 yr on simple interest, in how many year will it be four times?

a) 24 yr b) 16 yr

c) 32 yr d) 12 yr

8. A sum of money at simple interest amount to Rs 1260 in 2 yr and Rs 1350 in 5 yr, then the rate percent per annum is ?

a) 30% b) 10%

c) 2.5% b) 5%

9. The difference of 13% per annum and 12% of a sum in 1 year is Rs 110.Then the sum is ?

a) Rs 12000 b) Rs 13000

c) Rs 11000 d) Rs 16000

10. At what rate percent per annum simple interest , will a sum of money triple itself in 25 year?

a) 8% b) 5%

c) 6% d) 12 %

11. A certain sum at simple interest amounts to Rs 1040 in 3 Yr and to Rs 1360 in 7 yr.Then the sum is ?

a) Rs 750 b) Rs 800

c) Rs 900 d) Rs 1000

12. If the rate of simple interest is 12% per annum the amount that would fetch interest of Rs 6000 per annum is ?

a) Rs 7200 b) Rs 72000

c) Rs 50000 d) Rs 48543.69

13. The simple interest on a certain sum for 3 years at 14% per annum is Rs. 235.20. The sum is ?

a) Rs. 480 b) Rs. 560

c) Rs. 650 d) Rs. 720

14. A sum of money amounts to Rs. 702 in 2 years and Rs. 783 in 3 years. The rate percent is ?

a) 12% per annum b) 13% per annum

c) 14% per annum d) 15% per annum

15. If Rs. 64 amount to Rs. 83.20 in 2 years. What will Rs. 86 amount to in 4 years at the same rate percent per annum ?

a) Rs. 137.60 b) Rs. 124.70

c) Rs. 114.80 d) Rs. 127.40

16. A sum of money amounts to Rs. 850 in 3 years and Rs. 925 in 4 year. The sum is ?

a) Rs. 600 b) Rs. 575

c) Rs. 625 d) Data inadequate

17. A sum of money put at simple interest trebles itself in 15 years. The rate per cent per annum is ?

a) 13 1/3% b) 16 2/3%

c) 12 2/3% d) 20%

18. At the certain rate of simple interest, a certain sum doubles itself in 10 years. It will treble itself in ?

a) 15 years b) 20 years

c) 30 years d) 12 years

19. A sum of money at simple interest amounts to Rs. 2240 in 2 years and Rs. 2600 in 5 years. The sum is ?

a) Rs. 1880 b) Rs. 2000

c) Rs. 2120 d) Data inadequate

20. The simple interest at R% for R years will be Rs. R on a sum of ?

a) Rs. R b) Rs. 100R

c) Rs. .(100/R) d) Rs. (100/R2)

21. At simple interest, a sum doubles after 20 years. The rate of interest per annum is ?

a) 5% b) 10%

c) 12% d) Data inadequate

22. What annual payment will discharge a debt of Rs. 580 due in 5 years, the rate being 8% per annum ?

a) Rs. 166.40 b) Rs. 65.60

c) Rs. 100 d) Rs. 120

23. Ashok took a loan of Rs. 15000 for 3 years at simple interest . If the total interest paid is Rs. 2700. What is the rate of interest per annum ?

a) 18 b) 5.4

c) 9 d) 6

24. Yogesh borrowed Rs. 12000 at simple interest for 5 years, If he paid Rs. 3600 as simple interest after 5 years, What is the rate of interest per cent per annum ?

a) 5 b) 8

c) 10 b) 6

25. If a sum of money double itself in 20 years. What is the rate of simple interest per cent per year ?

a) 4% b) 8%

c) 5% d) 10%

26. Mr. Patel borrowed Rs. 8000 from Mr. Chobey at simple interest. After 2 years he paid Rs. 800 more than what be borrowed and thus cleared the loan. What was the rate of interest ?

a) 6 b) 8

c) 5 d) None of these

27. Rs. 4200 amounts to Rs. 5712 in 4 years. If rate of interest is increased by 3%. What will be the amount ?

a) Rs. 6372 b) Rs. 4000

c) Rs. 6216 d) Rs. 3000

28. In how many years, a sum will become four times itself at the rate of 12% per annum ?

a) 28 yr b) 25 yr

c) 22 yr d) 27 yr

29. At simple interest of 5%, 6% and 8% for three consecutive years, the interest earned is ₹ 760. find the principle. ?

a) ₹ 4600 b) ₹ 3200

c) ₹ 4000 d) ₹ 3600

30. What would be the simple interest accrued in 4 yr on a principle of ₹ 18440 at the rate 15% per annum ?

a) ₹ 11075 b) ₹ 12250

c) ₹ 11500 d) ₹ 12985

e) None of the above

31. What will be the simple interest on ₹ 4000 at 121/2% per annum for the period from 4th February, 2005 to 18th April, 2005 ?

a) ₹ 215 b) ₹ 120

c) ₹ 200 d) ₹ 100

32. Rakesh lent out ₹ 8750 at 7% annual interest, Find the simple interest in 3 yr.

a) ₹ 1870 b) ₹ 1837.50

c) ₹ 1560 d) ₹ 2200

33. What will be simple interest for 1 yr and 4 months on a sum of ₹ 25800 at the rate of 14% per annum ?

a) ₹ 4816 b) ₹ 2580

c) ₹ 4816.75 d) ₹ 4815

34. A sum at simple interest of 131/2% per annum amounts to ₹ 3080 in 4 yr Find the sum.

a) ₹ 1550 b) ₹ 1680

c) ₹ 2000 d) ₹ 1850

35. The sum which amount to ₹ 364.80 in 8 yr at 3.5% simple interest per annum is

a) ₹ 285 b) ₹ 280

c) ₹ 275 d) ₹ 270

36. A sum of ₹ 2668 amount to ₹ 4669 in 5 yr at the rate of simple interest . Find the rate per cent.

a) 15.2% b) 14.9%

c) 16% d) 15%

37. Find the difference in amount and principal for ₹ 4000 at the rate of 5% annual interest in 4 yr.

a) ₹ 865.50 b) ₹ 865

c) ₹ 400 d) ₹ 800

38. A sum becomes its double in 10 yr. Find the annual rate of simple interest.

a) 1% b) 5%

c) 10% d) 20%

39. How long will a sum of money invested at 5% per annum SI take to increase its value by 50%

a) 10 yr b) 12 yr

c) 15 yr d) 7 yr

40. A certain sum becomes 8 fold in 15 yr at simple interest. What will be the rate interest ?

a) 46 5/3% b) 46 2/3%

c) 46 5/8% d) 46 12/11%

Simple Interest (LOD 01 - Answers)

1. Correct Option: D

Total interest needed in a year = Rs 400 × 12

= Rs 4800

Principal = (100 × SI)/R × T

where, R = Rate

T = Time

SI= Simple Interest

2. Correct Option: C

Here , P= Rs 1000

T= 4 yrs

R= 4 %

where, P= Principal

T= Time

R= Rate

Since , Simple Interest on Rs 1000=(1000 × 4 × 4)/100

= Rs 160

now, simple interest=Rs 160

P = Rs 400

R = 10 %

then, T=(100 × SI)/P × R

= (100 × 160)/(400 × 10)

= 4 yr

3. Correct Option: B

Let Sum = P, Then SI=P

As Amount A = 2 × P

where , P = Principal

Rate R = (100 × SI)/(P × T)

= (100 × P)/(P × 8) %

= 12.5 %

where , SI= Simple Interest

T= Time

4. Correct Option: C

Let the amount instalment be Rs ' x '

Then According to question,

(Amount of 'x' for 3 yrs) + (Amount of 'x' for 2 yrs) + (Amount of 'x' for 1 yrs) + x =3220

or, [x+(x × 10 × 3)/100] + [x+(x × 10 × 2)/100] + [x+(x × 10 × 1)/100] + x=3220

⇒ 4x+ (30x/100)+(20x/100)+(10x/100)=3220

⇒ 460x=322000

⇒ x=Rs 700

∴ Each Instalment= Rs 700

5. Correct Option: D

Simple Interest in 1 year= Rs (1729 - 1586)

= Rs 143

now, SI in 2 year = Rs 286

Principal P= Rs(1586 - 286)

= 1300

And R= (100 × SI)/(P × T)

= (100 × 143)/(1300 × 1)

= 11 %

where, R = rate,SI= Simple Interest

P = Principal

T= Time

6. Correct Option: A

Let the sum of money be Rs y

So Amount = y +[(y x 5 x 4)/100]

But Amount = Rs 900

⇒ 900 = y +(20y)/100

⇒ 900 = 6y / 5

⇒ y = (900 x 5) /6

= Rs 750

7. Correct Option: A

Let the sum be Rs 'y' , so amount = 2y

Simple interest =Rs y

Let R be the rate of interest,

R= (100 x SI)/(P x T) = (100 x y) / (y x 8) = 12.5 %

where SI= Simple Interest

P = Principal

T = Time

now, the needed amount = Rs 4y

since SI = Rs (4x-x)= Rs 3y

since T= (100 x SI)/(P x R)

= (100 x 3y)/(y x 125)= 24 yr

8. Correct Option: C

Simple in 3 year = Rs(1350 - 1260) = Rs 90

Simple in 2 year = (2/3) &time; 90= Rs 60

Principal = Rs (1260 -60)= Rs 1200

Rate, R= (100 x SI)/(P x T)= (100 x 60)/(1200 x 2)=60/24= 25 %

where , SI= Simple Interest

P= Principal

T= Time

9. Correct Option: C

Let the sum be 'y'

then, [(y x13 x 1)/100]- [(y x 12 x 1) / 100]=110

since (y / 100) = Rs 110

∴ Y = Rs 11000

10. Correct Option: A

Let principal amount = P

As amount =3P, T=25 yr

∴ SI=3P-P=2P

∴ Rate R = (100 x SI)/(P x T)

where, SI= Simple Interest T = Time

= (100 x 2P)/(P x 25)=8%

11. Correct Option: B

Simple Interest for 4 yr = Rs(1360 - 1040) = Rs 320

so, Simple Interest for 3 yr= Rs [(320/4) x 3]= Rs 240

Sum = Rs (1040-240)= Rs 800

12. Correct Option: C

Rate of Interest = 12% per annum

Simple Interest =Rs 6000 per annum

Let 'P' is the principal

SI= (P x R x T)/100

where , SI= Simple Interest

T= Time R= Rate

∴ 6000=(P x 1 x 12)/100

∴ P =(6000 x 100)/12

= Rs 50000

Hence the required amount is Rs 50000

13. Correct Option: B

Required sum = Rs. (100 x SI) / (T x R)

= (100 x 235.20) / (3 x 14)

= Rs. 560

14. Correct Option: D

S.I. for 1 year = Rs. (783 - 702) = Rs 81

S.I. for 2 years = Rs. (81 x 2) = Rs. 162

∴ Sum = Rs. (702 - 162) = Rs. 540

∴ Required rate = = (100 x SI) / (P x T) = (100 x 162) / (540 x 2) % = 15%

15. Correct Option: A

S.I on Rs. 64 for 2 year = Rs. 19.20

∴ Rate = (100 x SI) / (P x T) = (100 x 19.20) / (64 x 2) = 15%

∴ S.I On Rs. 86 for 4 year = (P x R x T) / 100 = Rs. (86 x 4 x 15) /100 = Rs.51.60

∴ Amount of Rs. 86 after 4 years = Rs. (86 + 51.60) = Rs. 137.60

16. Correct Option: C

S.I for 1 year = Rs. (925 - 850) = Rs. 75

S.I for 3 year = Rs. (75 x 3) = Rs. 225

∴ Sum = Rs. (850 - 225) = Rs. 625

17. Correct Option: A

Let principal = P

Then, SI = 2P & Time = 15 years

∴ Required rate = (100 x SI) / (P x T) = (100 x 2P) / (P x 15) = 200/15 = 13 1/3 per annum

18. Correct Option: B

Let principal = P. Then, S. I = P. and Time = 10 years

∴ Required time = [(n - 1) x t] / (m - 1)

= [(3 - 1) x 10] / (2 - 1)

= 20 years

19. Correct Option: B

S.I for 3 years = Rs. (2600 - 2240) = Rs . 360

S.I for 2 years = Rs. (360/3 x 2) = Rs. 240

∴ Required sum = Rs . (2240 - 240) = Rs. 2000

20. Correct Option: C

Sum = (100 x SI) / (R x T)

= (100 x R) / (R x R)

= Rs. 100/R

21. Correct Option: A

Let sum = P, then SI = P and Time = 20 years

∴ Required rate = (100 x SI)/(P x T) = (100 x P) / (P x 20) = 5% per annum

22. Correct Option: C

Let the annual installment be Rs. P

Then, [P + (P x 4 x 8)/100] + [P + (P x 3 x 8) / 100] + [P + (P x 2 x 8)/100] + [P + (P x 1 x 8)/100] + P = 580

⇒ 33P/25 + 31P/25 + 29P/25 + 27P/25 + P = 580

⇒ (120 + 25)P = 580 x 25

∴ P = 100

23. Correct Option: D

∵ Rate = [(interest x 100) / (Principal x Time)] %

⇒ Rate = (2700 x 100) / (15000 x 3) %

∴ Rate = 6%

24. Correct Option: D

Rate = [(interest x 100) / (Principal x Time)] %

= (3600 x 100) / (12000 x 5)

= 6 %

25. Correct Option: C

Let the principal = Rs. P

⇒ Amount = Rs. 2P

⇒ Interest = 2P - P = Rs.P

∴ Rate = (interest x 100) / (Principal x 20) = (P x 100) / (P x 20) = 5%

26. Correct Option: C

Rate = (Interest x 100) / (Principal x Time)

= (800 x 100) / (8000 x 2)

= 5%

27. Correct Option: C

S.I = Principal x Rate x Time / 100

∴ Amount - Principal = Principal x Rate x Time / 100

⇒ 5712 - 4200 = (4200 x Rate x 4) /100

⇒ 1512 = 42 x 4 x Rate

Rate = 1512 / (42 x 4) = 9%

On increasing 3%, new rate of interest = 9 + 3 = 12%

Simple interest on new rate = (4200 x 12 x 4) / 100 =Rs. 2016

Amount = Principal + Interest = 4200 + 2016 = Rs. 6216

28. Correct Option: B

Let the sum be ₹ P .

Then, SI = 4P - P = ₹ 3P

(P x 12 x T)/100 = 3P

⇒ T = (3 x 100)/12 = 25 yr

29. Correct Option: C

Let the principle be ₹ P .

Then,

(P x 1 x 5)/100 + (P x 1 x 6)/100 + (P x 1 x 8)/100 = 760

⇒ 5P/100 + 6P/100 + 8P/100 = 760

⇒ 19P = 760 x 100

∴ P = (760 x 100)/19 = ₹ 4000

Hence, the principle is ₹ 4000

30. Correct Option: E

Given, P = 18440, R = 15%, T = 4

∴ Simple interest (SI) = (P x R x T) / 100

= (4 x 18440 x 15) / 100

= ₹ 11064

31. Correct Option: D

Here, P = ₹ 4000, R = 121/2% = 25 / 2%

T = (24 + 31 + 18) days = 73 days

= 73/365 yr = 1/5 yr

∴ SI = (P x R x T)/100 = (4000 x 25/2 x 1/5)/100

= ₹ 100

32. Correct Option: B

Given, P = ₹ 8750., R = 7% T = 3 yr

According to the formula.

SI = (P x R x T)/100 = (8750 x 7 x 3)/100

= ₹ 1837.50

33. Correct Option: A

Here, P = ₹ 25800, R = 14%

T = 1 yr 4 months = 1 + (4/12) years = 1 + (1/3) = 4/3 yr.

According to the formula,

SI = (P x R x T) / 100 = {25800 x 14 x (4/3)}/100

= (258 x 14 x 4)/3

= ₹ 4816

34. Correct Option: C

Let sum = P

Then, SI = (P x R x T)/100

= {P x (27/2) x 4} / 100

= {P x 54} / 100 = 27P / 50

∴ Amount = P + 27P / 50 = 77P/50

According to the question 77P/50 = 3080

∴ P = (3080 x 50)/77 = ₹ 2000

35. Correct Option: A

Given, t = 8 yr, r = 3.5%, A = ₹ 364.80

Let amount = ₹ P

Since, A =P [1 + (RT/100)]

∴ 364.80 = P[1 + (3.5 x 8)/100]

⇒ 364.80 = P[1+ (35 x 8)/100]

⇒ 3648/10 = P x (128/100)

⇒ P = 3648/128 = ₹ 285

36. Correct Option: D

Here, P = ₹ 2668, T = 5 yr, A = ₹ 4669

We know that,

Amount (A) = Principal (P) + (Simple Interest) SI

4669 = 2668 + SI

⇒ SI = 4669 - 2668 = ₹ 2001

Again, SI = (P x R x T)/100

∴ 2001 = (2668 x R x 5)/100

⇒ R= (2001 x 100) / (2668 x 5)

= (2001 x 5)/667 = 15%

37. Correct Option: D

The required difference in amount and principal is SI = A - P

Here, P = ₹ 4000, R = 5% T = 4 yr

According to the formula.

SI = (P x R x T) /100

= (4000 x 5 x 4)/100 = ₹ 800

38. Correct Option: C

Here, n = 2, T = 10 yr

∴ R = 100 (n - 1)/T

= 100(2 - 1)/10

= 100/10

= 10%

39. Correct Option: A

Let sum be P.

∴ 50% of P = P/2 = SI

Now, P/2 = (P x 5 x T) / 100 [as time = 10 yr]

⇒ P/2 = 5PT / 100

⇒ 1/2 = T/20

∴ = T = 10 yr

40. Correct Option: B

Let sum = p

Then, after 15 yr Sum = 8p

∴ SI = 8p - P = 7P

Now, 7P = (P x R x 15)/100

⇒ 7 = 15R/100 = 3R/20

∴ R = (20 x 7)/3 = 140/3 = 462/3%