

TIME VALUE OF MONEY

Depreciation:

Since we know,

$$FV = PV (1 + i)^n$$

[1 + i since value will increase in case of an investment]

$$Salvage Value = Cost (1-i)^n$$

[1 - i since the value will decrease in case of depreciation on assets.]

1. A machine worth of Rs. 4,90,740 is depreciated at 15% on its opening value each year. When its value reduce to Rs. 2,00,000

[ICAI Mock: March 2018]

- (a) 5 years 6 months
- (b) 5 years 7 months
- (c) 5 years 5 months
- (d) none

Answer: (a).

2. The value of a machine depreciates 12% annually. If the present value of Rs.68,145 then its value in 3 years ago was.

[ICAI Mock: August 2018]

- (a) Rs. 1,10,000
- (b) Rs. 1,00,00
- (c) Rs. 92,000
- (d) Rs. 97,000

Answer: (b).

3. A machine depreciated at the rate of 20% on reducing balance. The original lot of the machine was Rs. 1,00,000 and ultimate scarp value is Rs. 30,000. The effective life of the machine in years is.

[ICAI Mock: October 2018]

- (a) 4.5
- (b) 5.4
- (c) 4.9
- (d) 5

Answer: (b).

4. The value of furniture depreciates by 10% a year, if the present value of the furniture in an office is Rs. 21870, calculate the value of furniture 3 years ago.

[ICAI Mock: March 2019]

- (a) Rs. 30,000
- (b) Rs. 35,000

(c) Rs. 40,000

(d) Rs. 45,000

Answer: (a).

5. A machine costs Rs .1,00, 000. The depreciation rate is 10% per annum. The scrap value of the machine at the end of 5 years is

[ICAI Mock: April 2019]

- (a) Rs.49490
- (b) Rs. 59049
- (c) Rs.61029
- (d) Rs.51049

Answer: (b).

6. A machine depreciates at 10% of its value at the beginning of a year. The cost and scrap value realized at the time of sale being Rs. 23,240 and Rs. 9,000 respectively. For how many years the machine was put to use?

[ICAI Mock: May 2020]

- (a) 7 years
- (b) 8 years
- (c) 9 years
- (d) 10 years

Answer: (c).

7. A Machine was purchased for Rs 10,000. Its rate of depreciation is 10% in the first year and 5 % per annum afterwards. Find the depreciated value of Machine after 7 years of purchase (Given $(0.95)^6 = 0.7351$)

[ICAI Mock: October 2020]

- (a) Rs 6606
- (b) Rs 6616
- (c) Rs 6660
- (d) Rs 6661

Answer: (b).

8. The cost of machinery is Rs. 1,25,000/- if its useful life is estimated to be 20 years and the rate of depreciation of its cost is 10% p.a., then the scrap value of the Machinery is [given that $(0.9)^{20} = 0.12158$]

[ICAI Mock: March 2021]

- (a) 15,197
- (b) 15,400
- (c) 15,300
- (d) 15,250

Answer: (a).

9. The cost of machinery Rs.1,25,000 if its useful life estimated to the 20 years and the rate of

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depreciation of its cost is 10% p.a . Then scrap value of machinery is (given that $(0.9)^{20} = 0.1215$)

[ICAI Mock: April 2021]

- (a) Rs. 15,187
- (b) Rs. 15,400
- (c) Rs. 15,300
- (d) Rs. 15,250

Answer: (a).

Nominal rate of Return % [I% p.a.]

= Real Rate of Return % + Inflation %

Effective Rate of Interest % = $[1+R]^K - 1$

$R = I\%p.a. / K$

[Get the answer and multiply by 100 to get the answer in %].

10. Nominal rate of Interest 9.9% p.a. If Interest is compounded monthly. What will be the effective rate of Interest?

[ICAI Mock: March 2018]

- (a) 10.36 %
- (b) 9.36%
- (c) 11.36%
- (d) 9.9 %

Answer: (a).

11. Nominal Rate of Return =

[ICAI Mock: March 2018, March 2019]

- (a) Real Rate of Return – Inflation
- (b) Real Rate of Return + Inflation
- (c) Real Rate of Return / Inflation
- (d) Real Rate of Return × Inflation

Answer: (b).

12. The effective rate of interest is an amount Rs. 25,000 is deposited in a bank for one year at value of 6% per annum compounded semi-annually is

[ICAI Mock: August 2018, October 2019]

- (a) 5.99%
- (b) 5.95%
- (c) 6.09%
- (d) 6.90%

Answer: (c).

13. If the effective interest is 12% per annum and the interest is compounded quarterly, the nominal interest per annum is.

[ICAI Mock: October 2018, April 2019]

- (a) 11.78 %
- (b) 11.21%
- (c) 11.89%
- (d) 11.49%

Answer: (d).

14. The effective rate of interest corresponding to a nominal rate 3% p.a payable half yearly is

[ICAI Mock: May 2020, October 2021]

- (a) 3.2% p.a
- (b) 3.25% p.a
- (c) 3.0225% p.a
- (d) none of these

Answer: (c).

15. The effective rate of interest for one-year deposit corresponding to a nominal 7 % rate of interest per annum convertible quarterly. is

[ICAI Mock: October 2020]

- (a) 7 %
- (b) 7.5
- (c) 7.4 %
- (d) 7.18 %

Answer: (d).

16. The effective annual rate of interest corresponding to nominal rate 6% p.a. payable half yearly is

[ICAI Mock: April 2021]

- (a) 6.06
- (b) 6.07
- (c) 6.08
- (d) 6.09

Answer: (d).

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Net Present Value:

Step 1: Initial CF [T0]

Cost of the Project Rs.XXXX

Step 2: Interim CF

Particulars	Y1 [Y1 end CF]	Y2	Y3	Yn
CFAT				

Step 3: Terminal CF

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Step 4:

Summary:

Years	CF	DF	DCF
1			
2			
3			
Total [Use Calc]			
(-) Initial CF [CF at T0]			
NPV			

Decision:

NPV > 0 → Accept the proposal

NPV < 0 → Reject the proposal.

NPV = 0 → Indifferent.

17. Net Present value > 0, then

[ICAI Mock: March 2018]

- (a) Accept the Proposal
- (b) Reject the proposal
- (c) Not Feasible
- (d) None of the above

Answer: (a).

18. A machine can be purchased for Rs. 50,000. Machine will contribute Rs. 12,000 per year for the next five years. Assume borrowing cost is 10% per annum compounded annually. Determine whether machine would be purchased or not?

[ICAI Mock: October 2018, April 2019]

- (a) Purchased
- (b) Not purchased
- (c) Profitable
- (d) None of the above

Answer: (b).

19. Net Present Value (NPV)

[ICAI Mock: March 2019]

- (a) Present value of net cash Inflow – Total net Investment
- (b) Present value of net cash Inflow – Present value of cash outflow
- (c) Total net Investment- Present value of net cash Inflow
- (d) a or b

Answer: (d).

20. A company is considering proposal of purchasing a machine either by making full payment of Rs.4000 or by leasing it for four years at an annual rate of Rs.1250. Which course of action is preferable if the company can borrow

money at 14% compounded annually? [P (4,0.14) = 2.9137]

[ICAI Mock: October 2019, October 2020]

- (a) leasing is not preferable
- (b) leasing is preferable
- (c) cannot determined
- (d) none of these

Answer: (b).

21. A company is considering proposal of purchasing a machine either by making full payment of Rs.4000 or by leasing it for four years at an annual rate of Rs.1250. Which course of action is preferable if the company can borrow money at 14% compounded annually? [P (4,0.14) = 2.9137]

[ICAI Mock: March 2021]

- (a) leasing is not preferable
- (b) leasing is preferable
- (c) Cannot determined
- (d) none of these

Answer: (b).

22. A machine can be purchased for Rs. 50,000. Machine will contribute Rs. 12,000 per year for the next five years. Assume borrowing cost is 10% per annum. Determine whether machine should be purchased or not: (P(5,0.10) = 3.79079)

[ICAI Mock: April 2021]

- (a) Should be purchased
- (b) Should not be purchased
- (c) Can't say about purchase
- (d) None of the above

Answer: (b).

Simple Interest	Compound Interest
$SI = \frac{PNR}{100}$ $A = P + SI$ $A = P + \frac{PNR}{100}$ $A = P \left[\frac{1 + NR}{100} \right]$ Method 1: Find SI and then A. Method 2: Find A and then SI.	$CI = P [(1+R)^{NK} - 1]$ $A = P + CI$ $A = P + P [(1+R)^{NK} - 1]$ $A = P + P(1+R)^{NK} - P$ $A = P(1+R)^{NK}$ $R = \frac{I\% \text{ p.a.}}{K}$ Method 1: Find CI and then A. Method 2: Find A and then CI.

23. A sum of Money doubles itself at compound interest in 10years. In how many years will it become eight times

[ICAI Mock: March 2018]

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- (a) 10
- (b) 30
- (c) 40
- (d) 35

Answer: (b).

24. A lent Rs. 6000 to B for 2 years and 1500 to C for 4 years and received total interest of Rs. 900 from both. The rate of interest of Rs. 900 from both. The rate of interest, when simple interest method calculated.

[ICAI Mock: August 2018]

- (a) 5%
- (b) 6%
- (c) 7.5%
- (d) 9%

Answer: (a).

25. If the difference between the interests received from two different banks on Rs. 5000 for 2 years is Rs. 50 then the difference between this rates.

[ICAI Mock: August 2018]

- (a) 0.25 %
- (b) 0.40%
- (c) 0.50%
- (d) 0.75%

Answer: (c).

26. The simple interest of P % for P years will be Rs. P on a sum of:

[ICAI Mock: August 2018]

- (a) Rs.P /100
- (b) Rs.100/P
- (c) Rs.[P/100+1]
- (d) Rs.[100/P – 1]

Answer: (b).

27. The compound interest on a certain sum is Rs. 209 simple interest is Rs. 200 for 2 years. What is the rate per cent for 2 years? what is the rate percent?

[ICAI Mock: August 2018]

- (a) 9%
- (b) 18%
- (c) 4.5%
- (d) 10%

Answer: (a).

28. What principal will amount to Rs. 370 in 6 years at 8% p.a. at simple interest

- (a) Rs.210
- (b) Rs.250

- (c) Rs.310
- (d) Rs.310

Answer: (b).

29. A certain money doubles itself in 10 years when deposited on simple interest. It would triple itself in

[ICAI Mock: March 2019]

- (a) 30 years
- (b) 20 years
- (c) 25 years
- (d) 15 years

Answer: (b).

30. A sum of money doubles itself at compounded interest in 10 years in how many years will it becomes eight times?

[ICAI Mock: April 2019, October 2019]

- (a) 20
- (b) 30
- (c) 40
- (d) 35

Answer: (b).

31. The difference between CI and SI on a certain money invested for three years at 6% per annum is Rs. 110.16. The sum is

[ICAI Mock: April 2019]

- (a) Rs. 3000
- (b) Rs.3700
- (c) Rs.12000
- (d) Rs.10000

Answer: (d).

32. Simple interest on Rs.3500 for 3 years at 12% per annum is

[ICAI Mock: April 2019]

- (a) Rs.1200
- (b) Rs.1260
- (c) Rs.2260
- (d) Rs. 2000

Answer: (b).

33. Certain sum of money borrowed at simple interest amount to Rs.2688 in three years and to Rs.2784 in four years at the rate per annum equal to

[ICAI Mock: October 2019]

- (a) 7%
- (b) 6%
- (c) 5%
- (d) 4%

Answer: (d).

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34. A sum of Rs. 46,875 was lent out at simple interest and at the end of 1 year and 8 months the total amount was Rs. 50,000. Find the rate of interest percent per annum.

[ICAI Mock: May 2020, October 2021]

- (a) 5%
- (b) 6%
- (c) 4%
- (d) 8%

Answer: (c).

35. $A = \text{Rs. } 5,200$, $R = 5\% \text{ p.a.}$, $T = 6 \text{ years}$, P will be [as per CI method]

[ICAI Mock: May 2020]

- (a) Rs. 2,000
- (b) Rs. 3,880
- (c) Rs. 3,000
- (d) none of these

Answer: (b).

36. A person deposited a sum of Rs. 10,000 in a bank. After 2 years, he withdrew Rs. 4,000 and at the end of 5 years, he received an amount of Rs. 7,900; then the rate of simple interest is:

[ICAI Mock: October 2019]

- (a) 6%
- (b) 5%
- (c) 10%
- (d) None of these

Answer: (b).

37. The time by which a sum of money would treble itself at 8% p. a C. I is

[ICAI Mock: May 2020]

- (a) 14.28 years
- (b) 14 years
- (c) 12 years
- (d) none of these.

Answer: (a).

38. The compound interest on half-yearly rests on Rs. 10,000 the rate for the first and second years being 6% and for the third year 9% p.a. is

[ICAI Mock: May 2020]

- (a) Rs.2,200
- (b) Rs.2,287
- (c) Rs. 2,285
- (d) Rs.2290.84

Answer: (d).

39. A sum of money triples itself in 18 years under simple interest. what is the rate of interest per annum?

[ICAI Mock: October 2020]

- (a) 9 %
- (b) 9.09 %
- (c) 11.11 %
- (d) 13%

Answer: (c).

40. What time will be required for a sum of money to double itself at 8 % Simple interest?

[ICAI Mock: October 2020]

- (a) 8 Years
- (b) 8.5 Years
- (c) 12.5 Years
- (d) 12 Years

Answer: (c).

41. The difference between simple interest and compound interest on a sum of Rs 6,00,000 for two years is Rs 6000. What is the annual rate of interest?

[ICAI Mock: October 2020]

- (a) 8 %
- (b) 10 %
- (c) 6 %
- (d) 12 %

Answer: (b).

42. What is the sum of money will amount to Rs 11035.50 in four years at compound interest for 1st , 2nd , 3rd and 4th years being 4% , 3% , 2% and 1% respectively.

[ICAI Mock: October 2020]

- (a) Rs 10,000
- (b) Rs 11,000
- (c) Rs 1035
- (d) Rs 11,305

Answer: (a).

43. $SI = 0.125 P$ at 10% p.a find the time

[ICAI Mock: October 2020, November 2022]

- (a) 1.25 years
- (b) 25 Years
- (c) 0.25 Years
- (d) none

Answer: (a).

44. What will be the population after three years when present population is Rs25,000 and

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population increases at the rate of 3 % in first year, 4 % in second year and 5 % in third year?

[ICAI Mock: October 2020, April 2021, November 2021, March 2022, November 2022]

- (a) 28119
- (b) 29118
- (c) 27000
- (d) 30000

Answer: (a).

45. Two equal sums were lent out at 7% and 5% simple interest respectively. The interest earned on the two loans adds upto Rs.960 for four years. Find the sum lent out.

[ICAI Mock: April 2021]

- (a) Rs. 4000
- (b) Rs.3000
- (c) Rs. 5000
- (d) Rs. 6000

Answer: (a).

46. A sum of money amounts to Rs. 20,800 in 5 years and Rs. 22720 in 7 years. Find the principle and rate of interest.

[ICAI Mock: April 2021]

- (a) Rs. 5000, 6%
- (b) Rs.16000, 6%
- (c) Rs.80000, 8%
- (d) Rs. 10000, 10%

Answer: (b).

47. If a simple interest on a sum of money at 6% p.a for 7 years is equal to twice of simple interest on another Sum for 9 years at 5% p.a . The ratio will be

[ICAI Mock: April 2021]

- (a) 2:15
- (b) 7: 15
- (c) 15: 7
- (d) 1:7

Answer: (c).

48. In what will be a sum of money double itself at 6.25% p.a . Simple interest?

[ICAI Mock: April 2021]

- (a) 5 years
- (b) 8 years

- (c) 12 years
- (d) 16 years

Answer: (d).

49. A sum amount to Rs. 1331 at a principal of Rs.1000 at 10% compounded annually. Find the time

[ICAI Mock: April 2021]

- (a) 3.31 years
- (b) 4 years
- (c) 3 years
- (d) 2 years

Answer: (c).

50. The population of a town increases every year by 2 % of the population beginning of that year. The number of years by which the total increase of population be 40% is

[ICAI Mock: March 2019]

- (a) 7 years
- (b) 10 years
- (c) 17 years (approximately)
- (d) none of these

Answer: (c).

51. The annual birth rates per 1,000 are 39.4 and 19.4 respectively. The number of years which the population will be doubled assuming there is no immigration or emigration is

[ICAI Mock: March 2019, April 2019, April 2021]

- (a) 35 years
- (b) 30 years
- (c) 25 years
- (d) none of these

Answer: (a).

52. Rs. 1000 is invested at annual rate of interest of 10% p.a. The amount after two years if compounding is done annually is _____

[ICAI Mock: October 2019]

- (a) Rs. 121
- (b) Rs. 1210
- (c) Rs. 2110
- (d) None of these

Answer: (b).

Future Value of Annuity [FVA]	Present Value of Annuity [PVA]
.....□	□.....
Instalment first, amount later.	Amount first, instalment later.
FVA Ordinary: $FVA = R \frac{(1+i)^n - 1}{i}$ R = Instalment i = Interest % n = No. of years.	PVA Ordinary: $PVA = R [PVAF]$ $EMI = \frac{A}{PVAF [I\%p.a., n]}$ $PVA = R \frac{[(1+i)^n - 1]}{(i+i)^ni}$ $= R \frac{[(1+i)^n - 1]}{(i+i)^n (i+i)^n}$ $= R \left[1 - \frac{1}{(1+i)^n} \right]$
Usually in case of fund [e.g. Sinking Fund] and investment sums.	Usually in case of loan and equivalent sum finding.
FVA Due = FVA Ordinary [1+i]	PVA Due = PVA Ordinary [1+i]
FVA Ordinary → Interest is calculated at the end of the term. FVA Due → Interest is calculated at the beginning of the term.	PVA Ordinary → Interest is calculated at the end of the term. PVA Due → Interest is calculated at the beginning of the term.

53. Future value of Ordinary Annuity

[ICAI Mock: March 2018, March 2021]

- (a) $A(n, i) = A \frac{[(1+i)^n - 1]}{i}$
- (b) $A(n, i) = A \frac{[(1+i)^n + 1]}{i}$
- (c) $A(n, i) = A \frac{[1 - (1+i)^n]}{i}$
- (d) $A(n, i) = A \frac{[(1+i)^n - 1]}{i(1+i)^n}$

Answer: (a).

54. A sinking fund is created redeeming debentures worth Rs. 5,00,000 at the end of 25 years. How much provision need to be made out of profits each year provided sinking fund investments can earn at 4 % per annum

[ICAI Mock: March 2018]

- (a) 12,006
- (b) 12,040
- (c) 12039
- (d) 12035

Answer: (a).

55. Find the future value of annuity Rs.1000 made annually for 7 years at interest rate of 14% compounded annually is ____ Given $(1.14)^6 = 2.5023$

[ICAI Mock: August 2018]

- (a) Rs.10730.71

(b) Rs.10735

(c) Rs.10734

(d) Rs.10237

Answer: (a).

56. Rs.500 is invested is invested at the end of each month is an account paying interest 8% per year compounded monthly. The future value of annuity after 10th payment is $(1.08)^{10} = 2.15893$

[ICAI Mock: August 2018]

- (a) Rs.7243.31
- (b) Rs.7423.30
- (c) Rs.3451.50
- (d) Rs. 3541.50

Answer: (a).

57. The future value of annuity on Rs. 5000 a year for 7 years at 14% per annum compound interest is given $(1.14)^7 = 2.5023$

[ICAI Mock: October 2018, April 2019]

- (a) Rs.5300
- (b) Rs.53653.57
- (c) Rs.5480
- (d) Rs.5465.23

Answer: (b).

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58. Find the future value of an annuity of Rs. 500 made annually for 7 years at interest rate of 14 % per annum [Given that $(1.14)^7 = 2.5023$]

[ICAI Mock: March 2019]

- (a) Rs. 5365.35
- (b) Rs. 5000
- (c) Rs. 5325.65
- (d) Rs.6000.35

Answer: (a).

59. Rs. 200 invested at the end of each month in an account paying interest 6% per year compounded monthly. What is the future value of this annuity after 10th payment? [Given that $(1.005)^{10} = 1.0511$]

[ICAI Mock: March 2019]

- (a) Rs. 2045
- (b) Rs.5055
- (c) Rs.2044
- (d) Rs.2065

Answer: (c).

60. Rs.1000 is invested at the end of each month in an account paying interest 6% per year compounded monthly. What is the future value of annuity after 10th payment? (Given that $(1.005)^{10} = 1.0511$)

[ICAI Mock: April 2019]

- (a) Rs.10220
- (b) Rs.1022
- (c) Rs.20000
- (d) Rs.1020

Answer: (a).

61. If A person invests Rs.3,000 in a three years' investment that pays you 12% per annum. Calculate the future value of the investment.

[ICAI Mock: October 2019]

- (a) Rs.4214.78
- (b) Rs. 4124.78
- (c) Rs.4324.48
- (d) Rs.4526.48

Answer: (a).

62. A person desires to create a fund to be invested at 10% CI per annum to provide for a prize of Rs. 300 every year. Using $V = a/I$ find V and V will be

[ICAI Mock: May 2020, October 2021]

- (a) Rs. 2,000
- (b) Rs. 2,500
- (c) Rs. 3,000
- (d) none of these.

Answer: (c).

63. A person invests Rs. 500 at the end of each year with a bank which pays interest at 10% p.a C.I. annually. The amount standing to his credit one year after he has made his yearly investment for the 12th time is.[Given $(1.1)^{12} = 3.1384$]

[ICAI Mock: May 2020]

- (a) Rs. 11,761.36
- (b) Rs. 10,000
- (c) Rs. 12,000
- (d) none of these

Answer: (a).

64. Rs. 10,000 is invested at annual rate of interest of 10% p.a. The amount after two years at annual compounding is

[ICAI Mock: April 2019]

- (a) Rs. 21100
- (b) Rs. 12100
- (c) Rs. 12110
- (d) None of these

Answer: (b).

65. A trust fund has invested Rs. 30,000 in two different types of bonds which pays 5% and 7% interest respectively. Determine how much amount is invested in each type of bond if trust obtains an annual total interest of Rs. 1600.

[ICAI Mock: October 2019]

- (a) Rs.5000
- (b) Rs.6000
- (c) Rs.7000
- (d) Rs. 8000

Answer: (a).

66. At six months' intervals A deposited of Rs. 1000 in a savings account which credit interest at 10% p.a., compounded semi-annually. The first deposit was made when A's son was 6 months old and last deposit was made when his son was 8 years old. The money remained in the account and was presented to the son on his 10th birthday. How much did he receive? $(1.06)^{16} = 2.1829$

[ICAI Mock: October 2019]

- (a) Rs.25740
- (b) Rs.23740
- (c) Rs.25860
- (d) Rs.25760

Answer: (b).

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67. The future value of annuity of Rs1,000, made annually for 5 years at the interest of 14% compounded annually is (Given $(1.14)^5 = 1.925410$)

[ICAI Mock: October 2020]

- (a) Rs 5610
- (b) Rs 6610
- (c) Rs 6160
- (d) Rs 6160

Answer: (b).

68. If A person invests Rs.5,000 in a three years' investment that pays you 12% per annum. Calculate the future value of the investment.

[ICAI Mock: March 2021]

- (a) Rs.7024.64
- (b) Rs. 7124.78
- (c) Rs.7324.48
- (d) Rs.7526.48

Answer: (a).

69. How much money is to be invested every year so to accumulate Rs. 3,00,000 at the end of 10 years if interest is compounded annually at 10% [$A(10,0.1) = 15.9374$]

[ICAI Mock: March 2021]

- (a) Rs.18823.65
- (b) Rs.18833.64
- (c) Rs.18223.60
- (d) Rs.16823.65

Answer: (a).

70. How much amount is required to be invested every year so as to accumulate Rs. 3,00,000 at the end of 10 years, if interest is compounded annually at 10%?

{Give $(1.1)^{10} = 2.5937$ }

[ICAI Mock: April 2021]

- (a) Rs. 18,823.65
- (b) Rs. 18,828.65
- (c) Rs. 18,832.65
- (d) Rs. 18,182.65

Answer: (a).

71. Rs.2000 is invested at the end of each month in account paying interest 6% per compounded monthly, What is the future value of this annuity after 10th payment?

[ICAI Mock: April 2021]

- (a) Rs. 20,440
- (b) Rs.52,200
- (c) Rs.53,300
- (d) Rs.54,500

Answer: (a).

72. Find the Present value of Rs.10,000 to be required after 5 years , If the Interest be 9 % . Given $(1.09)^5 = 1.5386$

[ICAI Mock: August 2018]

- (a) Rs.6500
- (b) Rs. 6499.42
- (c) Rs. 6600.52
- (d) Rs.6700.52

Answer: (b).

73. A man deposited Rs. 8, 000 in a bank for 3 years at 5% per annum compound interest, after 3 years he will get

[ICAI Mock: March 2019]

- (a) Rs. 9,000
- (b) Rs.8, 800
- (c) Rs. 9,200
- (d) Rs. 9261

Answer: (d).

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74. Rs. 10,000 is paid every year to off a loan, the loan amount if interest be 14% per annum compounded annually is (Given $P(10, 0.14) = 5.21611$)

[ICAI Mock: August 2018]

- (a) Rs.5216.11
- (b) Rs.1917.13
- (c) Rs. 52,161.1
- (d) Rs. 19,171, 3

Answer: (c).

75. The present value of Rs.1 to be receive after 3 year compounded annually at 11% interest is

[ICAI Mock: August 2018]

- (a) 0.713
- (b) 0.811
- (c) 0.731
- (d) 0.658

Answer: (c).

76. Suppose your further decides to gift you Rs. 5,000 every year starts from today for the next four years. You deposit the amount is a bank as and when you receive and get 10% per annum interest rate compound annually. The present value of this annuity is -----(given $P(3,0.10) = 2.48685$)

[ICAI Mock: August 2018]

- (a) Rs. 17,434.25
- (b) Rs. 17,344.25
- (c) Rs.17434.52

MATHS || Time Value of Money

(d) Rs. 17,344.52

Answer: (a).

77. Rs, 5,000 is paid every year for ten years to pay off a loan, what is the loan amount the loan amount if interest rate be 14% per annum compounded annually is (Given $P(10, 0.14) = 5.21611$)

[ICAI Mock: October 2018]

(a) Rs.26080.55

(b) Rs.1917.13

(c) Rs. 52,161.1

(d) Rs. 19,171, 3

Answer: (a).

78. Suppose your father decides to gift you Rs. 10,000 every year starting from today for the next five years, you deposit this amount in a bank as and when you receive and get 10% per annum interest rate compounded annually. What is the present value of this annuity? ($P(4, 0.10) = 3.16987$)

[ICAI Mock: March 2019]

(a) Rs.41,698.70

(b) Rs.45,698.70

(c) Rs.42,698.70

(d) Rs.43,698.70

Answer: (a).

79. Y bought Motor Bike Costing 80,000 by making down payment of Rs. 30000 and agreeing to make annual payment for four years. How much would be each payment if the interest on unpaid amount be 14% compounded annually. [Given $P(4, 0.14) = 2.91371$]

(a) Rs. 17160.25

(b) Rs. 17600.25

(c) Rs.15600.25

(d) Rs. 16600.25

Answer: (b).

80. X bought a TV costing 25,000 making down payment of Rs. 5000 and agreeing to make equal annual payment for four years. How much would be each payment if the interest on unpaid amount be 14% compounded annually? [$P(4, 0.14) = 2.91371$]

[ICAI Mock: April 2019]

(a) Rs.6864.10

(b) Rs.6850.63

(c) Rs.6859

(d) Rs.6871

Answer: (a).

81. Rs.5000 paid for ten years to off a loan. What is the loan amount if interest rate be 14% per annum compounded annually? (Given $P(10, 0.14) = 5.21611$)

[ICAI Mock: April 2019]

(a) Rs.26080.55

(b) Rs.26580.55

(c) Rs.26280.55

(d) Rs.27080.55

Answer: (a).

82. Suppose your friend decided gift to you Rs. 10000 every year starting from today for the next five years. Your deposit this amount in a bank as and when you receive and get 10% per annum interest compounded annually. What is the present value of this annuity?

[ICAI Mock: April 2019]

(a) Rs.42698.70

(b) Rs.43698.70

(c) Rs.45698.70

(d) Rs.41698.70

Answer: (d).

83. Anil bought a motor cycle costing Rs.1,30,000 by making a down payment of Rs.30, 000 and agreeing to make equal annual payment for five years. How much would be each payment if the interest on unpaid amount be 10% compounded annually? [$P(5, 0.10) = 3.7908$]

[ICAI Mock: October 2019]

(a) Rs.28379.70

(b) Rs.26300.70

(c) Rs.26500.70

(d) Rs.26379.70

Answer: (d).

84. Shoba borrows Rs.50,00,000 to buy a house. If he pays equal instalments for 20 years and 10% interest on outstanding balance, what will be the equal annual instalment?

[Given : $P(20,0.10) = 8.51356$]

[ICAI Mock: October 2019]

(a) Rs.687298.4

(b) Rs.685298.4

(c) Rs.585298.4

(d) Rs.587298.4

Answer: (d).

85. The present value of an annuity of Rs. 80 for 20 years at 5% p.a is [Given $(1.05)^{20} = 2.6533$]

[ICAI Mock: May 2020]

MATHS || Time Value of Money

- (a) Rs. 997 (appx.)
 (b) Rs. 900
 (c) Rs. 1,000
 (d) none of these

Answer: (a).

86. A person bought a house paying Rs. 20,000 cash down and Rs. 4,000 at the end of each year for 25 yrs. at 5% p.a. C.I. The cash down price is [Given $(1.05)^{25} = 3.386355$]

[ICAI Mock: May 2020]

- (a) Rs. 75,000
 (b) Rs. 76,000
 (c) Rs. 76,375.80
 (d) none of these.

Answer: (c).

87. A man purchased a house valued at Rs. 3,00,000. He paid Rs. 2,00,000 at the time of purchase and agreed to pay the balance with interest at 12% per annum compounded half yearly in 20 equal half yearly instalments. If the first instalment is paid after six months from the date of purchase then the amount of each instalment is.

[ICAI Mock: May 2020]

- (a) Rs. 8,718.45
 (b) Rs. 8,769.21
 (c) Rs. 7,893.13
 (d) none of these

Answer: (a).

88. The present value of Rs. 10,000 due in 2 years at 5% p.a. compound interest when the interest is paid on half-yearly basis is

[ICAI Mock: May 2020]

- (a) Rs. 9,070
 (b) Rs. 9,069
 (c) Rs. 9,060
 (d) None

Answer: (c).

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89. Find the present value of Rs 10,000 to be required after 5 years, if the interest rate be 9 per cent compounded annually (Given: $(1.09)^{-5} = 0.65$)

[ICAI Mock: October 2020]

- (a) Rs 5500
 (b) Rs 5600
 (c) Rs 6000
 (d) Rs 6500

Answer: (d).

90. A man borrows Rs4000 from a bank at 10% compound interest. At the end of every year Rs 1,500 as part of repayment of loan and interest. How much is still owe to the bank after three such instalments [Given: $(1.1)^3 = 1.331$]

[ICAI Mock: October 2020]

- (a) Rs 359
 (b) Rs 820
 (c) Rs 724
 (d) Rs 720.

Answer: (a).

91. Anil bought a motor cycle costing Rs.1,50,000 by making a down payment of Rs.50, 000 and agreeing to make equal annual payment for five years. How much would be each payment if the interest on unpaid amount be 10% compounded annually? [$P(5, 0.10) = 3.7908$]

[ICAI Mock: March 2021]

- (a) Rs.26379.66
 (b) Rs.26300.70
 (c) Rs.26500.70
 (d) Rs.26370.70

Answer: (a).

92. Shoba borrows Rs.50,00,000 to buy a house. If he pays equal instalments for 20 years and 10% interest on outstanding balance, what will be the equal annual instalment?

[Given : $P(20,0.10) = 8.51356$]**[ICAI Mock: March 2021]**

- (a) Rs.687298.4
 (b) Rs.685298.4
 (c) Rs.585298.4
 (d) Rs.587298.4

Answer: (d).

93. Rs. 5000 is paid every year for 10 years to pay off a loan. What is the loan amount if interest be 14% per annum compounded annually? ($P(10,0.14) = 5,21611$)

[ICAI Mock: April 2021]

- (a) Rs.26000.33
 (b) Rs.26080.55
 (c) Rs.27080.55
 (d) Rs.28080.55

Answer: (b).

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MATHS || Time Value of Money

RECENT: [COMPREHENSIVE]

94. A sum of money amount to Rs. 6,200 in 2 years and Rs. 7,400 in 3 years. The principal and rate of interest are

- (a) Rs. 3,800, 31.57% (b) Rs. 3,000, 20%
(c) Rs. 3,500, 15% (d) none of these

[ICAI Mock: October 2021]

Answer: (a).

95. A sum of money gets doubled in 5 years at X% simple interest. If the interest was Y%, the sum of money would have become ten-fold in thirty years. What is $Y - X$ (in %)

- (a) 10 (b) 5 (c) 8 (d) None of the above

[ICAI Mock: October 2021]

Answer: (a).

96. The nominal rate of growth is 17% and inflation is 9% for the five years. Let P be the Gross Domestic Product (GDP) amount at the present year then the projected real GDP after 6 years is

- (a) 1.587P (b) 1.921 P (c) 1.403 P (d) 2.51 P

[ICAI Mock: October 2021]

Answer: (a).

97. The difference between Compound Interest and Simple Interest on a certain sum for 2 years at 6% p.a. is Rs. 13.50. Find the sum

- (a) 3750 (b) 2750 (c) 4750 (d) none

[ICAI Mock: October 2021]

Answer: (a).

98. The sum required to earn a monthly interest of Rs 1200 at 18% per annum Simple Interest is (a) Rs. 50,000 (b) Rs. 60,000

- (c) Rs. 80,000 (d) none of these

[ICAI Mock: October 2021]

Answer: (C).

99. The compound interest earned by a money lender on Rs. 7,000 for 3 years if the rate of interest for 3 years are 7%, 8% and 8.5% respectively is

- (a) Rs. 1750 (b) Rs.1800 (c) Rs. 1776 (d) none of these

[ICAI Mock: October 2021]

Answer: (C).

100. Find the present value of an annuity of Rs.

1,000 payable at the end of each year for 10 years, if the money is worth 5% effective.

- (a) Rs. 7,724 (b) Rs. 7000 (c) Rs. 8000 (d) none of these

[ICAI Mock: October 2021]

Answer: (a).

101. The present value of annuity of Rs.3,000 per annum for 15 years at 4.5% p.a C.I. annually is

- (a) Rs. 23,809.41 (b) Rs. 32,214.60
(c) Rs. 32,908.41 (d) none of these

[ICAI Mock: October 2021]

Answer: (b).

102. The future value of annuity of Rs.2000 for 5 years at 5 % compounded annually is given (in nearest Rs.) as

- (a) Rs. 11, 051 (b) Rs. 21,021
(c) Rs. 1,56,24 (d) Rs. 61254

[ICAI Mock: October 2021]

Answer: (a).

103. A Maruti Zen cost Rs. 3,60,000. Its price depreciates at the rate of 10% of a year during the first two years and at the rate of 20% in third year. Find the total depreciation.

- (a) Rs. 1,26,720 (b) Rs. 1,15,620
(c) Rs. 1,25,000 (d) Rs. 1,10,520

[ICAI Mock: October 2021]

Answer: (a).

104. The sum of money doubles itself in 10 years. The number of years it would be treble itself is: (a) 25 years (b) 15 years (c) 20 years (d) None

[ICAI Mock: November 2021]

Answer: (c).

105. Arun purchased a vaccum cleaner by giving ₹1700 as cash down payment, which will be followed by five EMIs of ₹480 each. The vaccum cleaner can also be bought by paying ₹3900 cash. What is the approx. rate of interest p.a. (at simple interest) under this instalment plan?

- (a) 18% (b) 19% (c) 22% (d) 20%

[ICAI Mock: November 2021]

Answer: (c).

106. Present Value of a five year annuity is Rs. 2,000. If the rate of interest is 8% p.a., what is the amount of each annuity payment?

- (a) Rs.500.9 (b) Rs.463.8
(c) Rs.363.1 (d) Rs.486.4

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[ICAI Mock: November 2021]

Answer: (a).

107. Abdul has taken a loan from Bahadur at 7% p.a. The loan has to be repaid in three equal yearly instalments of Rs. 10,000 each. What is the amount of loan taken?

- (a) Rs.25,467 (b) Rs.26,897
(c) Rs.26,243 (d) None of the above

[ICAI Mock: November 2021]

Answer: (c).

108. A took a loan from B. The loan is to be repaid in annual installments of Rs. 2,000 each. The first instalment is to be paid three years from today and the last one is to be paid 8 years from today? What is the value of loan today, using a discount rate of eight percent?

- (a) Rs.9,246 (b) Rs.7,927
(c) Rs.8,567 (d) None of the above

[ICAI Mock: November 2021]

Answer: (b).

109. If the cost of capital be 12% per annum, then the Net Present Value (in nearest Rs.) from the given cash flow is given as

Year	0	1	2	3
Operating Profit (100)	60	40	50	

(in thousand Rs.)

- (a) Rs.34048 (b) Rs.34185
(c) Rs.51048 (d) Rs.21048

[ICAI Mock: November 2021]

Answer: (d).

110. Let the operating profit of a manufacturer for five years is given as

Year	1	2	3	4	5	6
Operating Profit (in lakh Rs.)	90	100	106.4	107.14	120.24	157.35

Calculate Compound Annual Growth Rate (CAGR)

- (a) 9% (b) 12% (c) 11% (d) 13%

[ICAI Mock: November 2021]

Answer: (b).

111. If a sum triples itself in 15 years at simple rate of interest, the rate of interest per annum will be:

- (a) 13% (b) 13.3% (c) 13.5% (d) 18.0%

[ICAI Mock: November 2021]

Answer: (a).

112. The future value of an annuity of Rs.1500 made annually for five years at interest of 10%

compounded annually is (Given that $(1.1)^5 = 1.61051$)

- (a) Rs.9517.56 (b) Rs.9157.65
(c) Rs.9715.56 (d) Rs.9175.65

[ICAI Mock: November 2021]

Answer: (b).

113. Find the effective rate of interest equivalent to the nominal rate of 7% converted monthly:

- (a) 7.26% (b) 7.22% (c) 7.02% (d) 7.20%

[ICAI Mock: November 2021]

Answer: (b).

114. How much will be Rs.25,000 to in 2 years at compound interest if the rates for the successive years are at 4% and 5% per year

- (a) Rs.27,300 (b) Rs.27,000
(c) Rs.27,500 (d) Rs.27,900

[ICAI Mock: November 2021]

Answer: (a).

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115. In what time will be a sum of money doubles itself at 6.25% p.a simple interest?

- (a) 5 years (b) 8 years (c) 12 years (d) 16 years

[ICAI Mock: March 2022]

Answer: (d).

116. Mr. X invests Rs. 10,000 every year starting from today for next 10 years suppose interest rate is 8% per annum compounded annually. Calculate future value of the annuity:

[Given that $(1+0.08)^{10} = 2.158925$]

- (a) Rs. 156454.88 (b) Rs. 144865.625
(c) Rs. 156554.88 (d) none of these

[ICAI Mock: March 2022]

Answer: (a).

117. The difference between the simple and compound interest on a certain of 3 years at 5% p.a is Rs. 228.75. The compound interest on the sum of for 2 years at 5% per annum is

- (a) Rs. 3175 (b) Rs. 3075 (c) Rs. 3275 (d) Rs. 2975

[ICAI Mock: March 2022]

Answer: (b).

118. How much time would the simple interest on a certain sum be 0.125 times the principal at 10% per annum

MATHS || Time Value of Money

(a) $1\frac{1}{4}$ years

(b) $1\frac{3}{4}$ years

(c) $2\frac{1}{4}$ years

(d) $2\frac{3}{4}$ years

[ICAI Mock: March 2022]**Answer: (a).**

119. The time in by which a sum of money is 8 times of itself if it doubles itself in 15 years interest compounded annually.

- (a) 42 years (b) 43 years
-
- (c) 45 years (d) 46 years

[ICAI Mock: March 2022]**Answer: (c).**

120. Present value of a scooter is Rs.7290, if its value decreases every year by 10% then the value before 3 years is equal to

- (a) 10,000 (b) 10,500 (c) 20,000 (d) 20,500

[ICAI Mock: March 2022]**Answer: (a).**

121. Find the effective rate of interest at 10% p.a when the interest is payable quarterly.

- (a) 10.38% (b) 5% (c) 5.04% (d) 4%

[ICAI Mock: March 2022]**Answer: (a).**

122. The difference between in simple interest on a sum invested of Rs.1500 for 3 years is Rs.18. The difference in their rate is

- (a) 0.4 (b) 0.6 (c) 0.8 (d) 0.10

[ICAI Mock: March 2022]**Answer: (a).**

123. If Rs.10,000 is invested at 8 % per annum, then compounded quarterly. Then value of investment after 2 years is

- (a) Rs.11,716.59 (b) Rs.10,716.59
-
- (c) Rs.12,715.59 (d) none of these

[ICAI Mock: March 2022]**Answer: (a).**

124. In how many years will a sum of money

become double at 5% p.a compound interest (a) 14 years (b) 15 years (c) 16 years (d) 14.3 years

[ICAI Mock: March 2022]**Answer: (d).**

125. The future value of an annuity of Rs. 1,000 is made annually for 5 years at interest rate of 14% compounded annually [Given that $(1.14)^5 = 1.92541$] is _____

- (a) Rs. 5610 (b) Rs. 6610 (c) Rs. 6160 (d) Rs. 5160

[ICAI Mock: March 2022]**Answer: (b).**

126. A man invests Rs. 12,000 at 10% p.a. and another sum of money at 20% p.a for one year. The total investment earns at 14% p.a. simple interest the total investment is:

[ICAI Mock: November 2022]

- (a) Rs. 8,000 (b) Rs. 20,000
-
- (c) Rs. 14,000 (d) Rs. 16,000

Answer: (b).

127. The difference in simple interest of a sum invested of Rs. 1,500 for 3 years is Rs. 18. The difference in their rates is:

[ICAI Mock: November 2022]

- (a) 0.4 (b) 0.6 (c) 0.8 (d) 0.10

Answer: (a).

128. Find the effective rate of interest on Rs. 10,000 on which interest is payable half yearly at 5% p.a.

[ICAI Mock: November 2022]

- (a) 5.06% (b) 4% (c) 0.4% (d) 3%

Answer: (a).

129. Find the effective rate of interest at 10% p.a. when interest is payable quarterly.

[ICAI Mock: November 2022]

- (a) 10.38% (b) 5% (c) 5.04% (d) 4%

Answer: (a).

130. The value of scooter is Rs. 10,000. Find its value after 7 years if rate of depreciation is 10% p.a.

[ICAI Mock: November 2022]

- (a) Rs. 4,782.96 (b) Rs. 4,278.69
-
- (c) Rs. 42,079 (d) Rs. 42,000

Answer: (a).

131. How much amount is required to be invested every year as to accumulate Rs. 6,00,000 at the

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end of 10 years, if interest is compounded annually at 10% rate of interest [Given: $(1.1)^{10} = 2.59374$].

[ICAI Mock: November 2022]

(a) Rs. 37,467 (b) Rs. 37,476

(c) Rs. 37,647 (d) Rs. 37,674

Answer: (c).

132. The difference between the CI and SI for 2 year is 21. If the rate of interest is 5%, the final principal is:

[ICAI Mock: November 2022]

(a) Rs. 8,200 (b) Rs. 4,800

(c) Rs. 8,000 (d) Rs. 8,400

Answer: (d).

133. Present value of a scooter is Rs. 7,290. If its value decreases every year by 10%, then its value before 3 years is equal to:

[ICAI Mock: November 2022]

(a) 10,000 (b) 10,500 (c) 20,000 (d) 20,500

Answer: (a).

134. Mr. X lent some amount of money at 4% S.I. and he obtained Rs. 520 less than he lent in 5 years. The sum lent is

[ICAI Mock: November 2022]

(a) Rs. 620 (b) Rs. 650

(c) Rs. 750 (d) None of these

Answer: (b).

135. Rs. 8,829 is invested into three different sectors in such a way that their amounts at 4% p.a. S.I. after 5 years; 6 and 8 years are equal. Find each part of the sum.

[ICAI Mock: November 2022]

(a) Rs. 3,069, Rs. 2,970; Rs. 2,790

(b) Rs. 3,089, Rs. 2,970; Rs. 2,790

(c) Rs. 3,609, Rs. 2,970; Rs. 2,790

(d) Rs. 3,069, Rs. 2,960; Rs. 2,760

Answer: (a).

136. A Rs.1000 bond paying annual dividends at 8.5% will be redeemed at par at the end of 10 years. Find the purchase price of this bond if the investor wishes a yield rate of 8%

[ICAI Mock: November 2022]

(a) Rs. 907.135 (b) Rs. 1033.54

(c) Rs. 945.67 (d) None of these

Answer: (b).

137. Mr. X invest Rs. 10,000 every year starting from today for next: 10 years suppose interest rate is 8% per annual compounded annually. Calculate future value of the annuity.

[ICAI Mock: November 2022]

(a) Rs. 1,56,454.88 (b) Rs. 1,56,554.88

(c) Rs. 1,44,865.625 (d) None of these

Answer: (a).

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