CA Foundation Maths Chp 4:- Time Value of Money

- A sum of Money doubles itself at compound interest in 10 years. In how many years will it become eight 1.
 - 10 (a)
 - (b) 30
 - (c) 40
 - (d) 35
- The time in which a sum of money will be doubled at 6% compound interest compounded interest 2. compounded interest compounded annually approximately.
 - (a) 10 years
 - (b) 12 years
 - (c) 13 years
 - (d) 14 years
- 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
 - (a) 12,006
 - (b) 12,040
 - (c) 12039
 - (d) 12035
- 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
 - (a) 5 years 6 months
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 - (c) 5 years 5 months

 - (d) none
- Nominal rate of Interest 9.9% p.a. If Interest is compounded monthly. What will be the effective rate of 5.

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Interest? (Given
$$\left(\frac{4033}{4000}\right)^{12} = 1.1036$$

- (a) 10.36 %
- (b) 9.36%
- (c) 11.36%
- (d) 9.9 %
- 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.
 - (a) 5%
 - (b) 6%
 - (c) 7.5%
 - (d) 9%

- 7. 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.
 - (a) 0.25 %
 - (b) 0.40%
 - (c) 0.50%
 - (d) 0.75%
- 8. The simple interest of P % for P years will be Rs. P on a sum of :
 - (a) Rs. $\frac{P}{100}$
 - (b) Rs. $\frac{100}{P}$
 - (c) Rs. $(\frac{P}{100} + 1)$
 - $\text{(d)} \quad \text{Rs.} \bigg(\frac{100}{P} 1 \bigg)$
- 9. 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?
 - (a) 9%
 - (b) 18%
 - (c) 4.5%
 - (d) 10%
- 10. The value of a machine depreciates 12% annually. If the present value of Rs.68,150 then its value in 3 years ago was.

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- (a) Rs. 1,10,000
- (b) Rs. 1,00,004
- (c) Rs. 92,000
- (d) Rs. 97,000
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- 11. 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
- 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
 - (a) 5.99%
 - (b) 5.95%
 - (c) 6.09%
 - (d) 6.90%

13.	annually is Given (1.14) ⁷ = 2.5023		
	(a) Rs.10730.71		
	(b) Rs.10735		
	(c) Rs.10734		
	(d) Rs.10237		
14.	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) (a) Rs.5216.11 (b) Rs.1917.13 (c) Rs. 52,161.1 (d) Rs. 19,171, 3		
15			
15.	The present value of Rs.1 to be receive after 3 year compounded annually at 11% interest is		
	(a) 0.713		
	(b) 0.811		
	(c) 0.731		
	(d) 0.658		
16.	Suppose your father 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)		
	(a) Rs. 17,434.25		
	(b) Rs. 17,344.25		
	(c) Rs. 17444.52		
	(d) Rs. 17,344.52		
17.	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		
	(a) Rs.6500 The Moths Tutor		
	(b) Rs. 6499.42		
	(c) Rs. 6600.52		
	(d) Rs.6700.52		
18.	A certain money doubles itself in 10 years when deposited on simple interest. It would triple itself in		
	(a) 30 years		
	(b) 20 years		
	(c) 25 years		
	(d) 15 years		
19.	A man deposited Rs. 8, 000 in a bank for 3 years at 5% per annum compound interest, after 3 years he will		
	get (a) Rs. 9,000		
	(b) Rs.8, 800		
	(c) Rs. 9,200		
	(d) Rs. 9261		

20.	calculate the value of furniture 3 years ago.				
	(a)	Rs. 30,000			
	(b)	Rs. 35,000			
	(c)	Rs. 40,000			
	(d)	Rs. 45,000			
21.	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				
	(a)	7 years			
	(b)	10 years			
	(c)	17 years (approximately)			
	(d)	none of these			
22.	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 10^{th} payment? [Given that $(1.005)^{10} = 1.0511$]				
	(a)	Rs. 2045			
	(b)	Rs.5055			
	(c)	Rs.2044			
	(d)	Rs.2065			
23.	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			
24.	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				
	(a)	Rs.49490 TheMathsTutor			
	(b)	Rs. 59049			
	(c)	Rs.61029			
	(d)	Rs.51049			
25.	If the effective rate of interest is 12% per annum and the interest is compounded quarterly, the nominal rate of interest per annum				
	(a)	11.78 %			
	(b)	11.21 %			
	(c)	11.89%			
	(d)	11.49 %			
26.	A machine can be purchased for Rs. 50, 000. Machine will be contributing Rs. 12, 000 per year for the next five years. Assuming borrowing cost is 10% per annum. Determine whether machine should be purchased or not				
	(a)	Should be purchased			
	(b)	Should not be purchased			
	(c)	Can't say about purchase			
	(d)	none of the above			

- 27. 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](a) Rs.6864.10 (b) Rs.6850.63 (c) Rs.6859 (d) Rs.6871 28. 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 (a) Rs.26080.55 (b) Rs.26580.55 (c) Rs.26280.55 (d) Rs.27080.55 29. 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 (a) Rs. 3000 (b) Rs.3700 (c) Rs.12000 (d) Rs.10000 30. Simple interest on Rs.3500 for 3 years at 12% per annum is (a) Rs.1200 (b) Rs.1260 (c) Rs.2260 (d) Rs. 2000 31. 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. KASH AGRAWAL (a) Rs.4214.78 (b) Rs. 4124.78 TheMathsTutor (c) Rs.4324.48 (d) Rs.4526.48 32. 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]
 - (a) Rs.687298.4
 - (b) Rs.685298.4
 - (c) Rs.585298.4
 - (d) Rs.587298.4
- 33. An overdraft of Rs. 50,000 to be paid back in equal annual installments over a period of 20 years. Find the value of Installment, if interest is compounded annually at 14% per annum.

[Given (1.14)²⁰= 13.74349]

- (a) Rs 7550.50
- (b) Rs 7549.30
- (c) Rs 7559.50
- (d) Rs 7560.50

	four years at the rate per annum equal to				
	(a)	7%			
	(b)	6%			
	(c)	5%			
	(d)	4%			
35.		or Rs. 46,875 was lent out at simple interest and at the end of 1 year 8months the total amount Rs. 50,000. Find the rate of interest percent per annum.			
	(a)	5%			
	(b)	6%			
	(c)	4%			
	(d)	8%			
36.	The	time by which a sum of money would treble itself at 8% p. a C. I is			
	(a)	14.28 years			
	(b)	14 years			
	(c)	12 years			
	(d)	none of these.			
37.	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]				
	(a)	Rs. 75,000			
	(b)	Rs. 76,000			
	(c)	Rs. 76,375.80			
	(d)	none of these. AKASH AGRAWAL			
38.	agre year	an purchased a house valued at Rs. 3,00,000. He paid Rs. 2,00,000 at the time of purchase and sed to pay the balance with interest at 12% per annum compounded half yearly in 20 equal half thy instalments. If the first instalment is paid after six months from the date of purchase then the runt of each instalment is.			
	(a)	Rs. 8,718.45			
	(b)	Rs. 8,769.21			
	(c)	Rs. 7,893.13			
	(d)	none of these			
39.	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				
	(a)	Rs. 2,000			
	(b)	Rs. 2,500			
	(c)	Rs. 3,000			
	(d)	none of these.			

34. Certain sum of money borrowed at simple interest amount to Rs.2688 in three years and to Rs.2784 in

40.	annı	erson invests Rs. 500 at the end of each year with a bank which pays interest at 10% p.a C.I. ially. The amount standing to his credit one year after he has made his yearly investment for the time is.[Given (1.1)12= 3.1384]			
	(a)	Rs. 11,761.36			
	(b)	Rs. 10,000			
	(c)	Rs. 12,000			
	(d)	none of these			
41.	reali	achine depreciates at 10% of its value at the beginning of a year. The cost and scrap value zed at the time of sale being Rs. 23,240 and Rs. 9,000 respectively. For how many years the hine was put to use?			
	(a)	7 years			
	(b)	8 years			
	(c)	9 years			
42	(d)	10 years			
42.	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				
	(a)	Rs.2,200			
	(b)	Rs.2,287			
	(c)	Rs. 2,285			
43.	(d) Rs.2290.84 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				
	(a)	Rs. 9,070			
	(b)	Rs. 9,069			
	(c)	Rs. 9,060			
	(d)	None AKASH AGRAWAL			
44.	A su	m of money triples itself in 18 years under simple interest. what is the rate of interest per annum?			
	(a)	9 %			
	(b)	9.09 %			
	(c)	11.11 %			
	(d)	13%			
45.	What time will be required for a sum of money to double itself at 8 % Simple interest?				
	(a)	8 Years			
	(b)	8.5 Years			
	(c)	12.5 Years			
	(d)	12 Years			
46.	The difference between simple interest and compound interest on a sum of ₹ 6,00,000 for two years is ₹ 6000. What is the annual rate of interest?				
	(a)	8 %			
	(b)	10 %			
	(c)	6 %			
	(d)	12 %			

47.	and 4th years being 4%, 3%, 2% and 1% respectively.				
	(a)	₹ 10,000			
	(b)	₹ 11,000			
	(c)	₹ 1035			
	(d)	₹ 11,305			
48.	A Machine was purchased for ₹ 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)				
	(a)	₹ 6606			
	(b)	₹ 6616			
	(c)	₹ 6660			
49.	What	₹ 6661 will be the population after three years when present population is ₹25,000 and population asses at the rate of 3 % in first year, 4 % in second year and 5 % in third year?			
	(a)	28119			
	(b)	29118			
	(c)	27000			
	(d)	30000			
50.	SI = 0.125 P at 10% p.a find the time				
	(a)	1.25 years			
	(b)	25 Years			
	(c)	0.25 Years			
	(d)	none			
51.		,000 becomes Rs. 10,000 in two years at simple interest. The amount that will become Rs. 6,875 in 3 s at the same rate of interest is:			
	(a)	Rs. 4,850 The Maths Tutor			
	(b)	Rs. 5,000			
	` '	Rs. 5,500			
	(d)	Rs. 5,275			
52.		difference between the simple and compound interest on a certain sum for 3 year at 5% p.a. is Rs. 75. The compound interest on the sum for 2 years at 5% p.a. is:			
	(a)	Rs. 3,175			
	(b)	Rs. 3,075			
	(c)	Rs. 3,275			
	(d)	Rs. 2,975			
53.		rson borrows Rs. 5,000 for 2 years at 4% p.a. simple interest. He immediately lends to another person			
	at 6	$\frac{1}{4}$ % p.a. for 2 years. Find his gain in the transaction per year:			
	(a)	Rs. 112.50			
	(b)	Rs. 125			
	(c)	Rs. 225			
	(d)	Rs. 167.50			

- 54. 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]
 - (a) leasing is not preferable
 - (b) leasing is preferable
 - (c) Cannot determined
 - (d) none of these
- 55. 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.
 - (a) Rs. 5000, 6%
 - (b) Rs.16000, 6%
 - (c) Rs.80000, 8%
 - (d) Rs. 10000, 10%
- 56. If a simple interest on a sum of money at 6% p.a for 7 tears is equal to twice of simple interest on another Sum for 9 years at 5% p.a . The ratio will be
 - (a) 2:15
 - (b) 7:15
 - (c) 15: 7
 - (d) 1:7

