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Compound Interest Questions for SBI PO Pre, IBPS PO Pre, SBI Clerk Mains, IBPS Clerk Mains & LIC AAO Exams.

Direction: Read the following questions carefully and choose the right answer.

1. A man lent Rs. 4500 at 30% compound interest per annum for 3 years. What is the difference between the interest earned by the man in the 2nd year only and the interest earned by the man in the 3rd year only?

- A. Rs. 545.5 B. Rs. 502 C. Rs. 526.5 D. Rs. 532 E. Rs. 529

2. A man saves Rs.20,000 at the beginning of each year and puts the money in a bank that pays 10% interest per year, interest being compounded annually. What would be the total savings of the man at the end of 6 years?

- A. Rs. 196840 B. Rs. 169840 C. Rs. 189480 D. Rs. 199480 E. Rs. 168840

3. A bank lent Rs. X to a farmer at 50/3% p.a for 1 year 73 days. How much Compound interest the farmer had to pay if the Simple interest for the first year is Rs. 3000?

The values of Compound Interest and Sum lent are given in the options; choose the option which correctly states the above question.

- A. Rs. 6300, Rs. 36000 B. Rs. 3700, Rs. 18000 C. Rs. 5800, Rs. 18000 D. Rs. 5400, Rs. 18000
E. Rs. 3700, Rs. 12000

4. Shyam deposited Rs. 80000 in a bank which pays 10% compound interest for 2 years. Then after 2 years, he started a business with amount (sum + interest) along with Ram, with capital of Rs. 60,000. Shyam invested for 6 months and left. Ram invested for the whole year. What will be the ratio of their profits at the end of the year?

- A. 150 : 221 B. 121 : 150 C. 121 : 130 D. 130 : 121 E. 155 : 101

5. A man takes a loan of Rs 216000 from a bank, to be returned in three years at a rate of 16.67% p.a. compound interest. The man returns Rs 84000 and Rs 58000 after first and second year. How much money will he have to return after third year to settle the loan?

- A. Rs. 161000 B. Rs. 138000 C. Rs. 152000 D. Rs. 175000 E. None of these

6. Aman gives Rs. 500000 to Bhuvan at 12% p.a. compound interest for two years. Bhuvan gives 80% of the money received from Aman to Chetan at 20% p.a. interest,

compounded half yearly for two years. Two years later he receives his due amount from Chetan and gives Aman his due amount. What is the amount left with Bhuvan?

- A. Rs. 52980 B. Rs. 58440 C. Rs. 67880 D. Rs. 62780 E. Rs. 54670

7. Rs. X is required to earn a monthly interest of Rs. 400 at 10% per annum at simple interest. Rs. Y is required to earn same interest as X when compounded semi-annually at 10% pa. Find the difference between X and Y.

- A. 1170.74 B. 1331.26 C. 928.34 D. 979.66 E. None of these

8. Sumit borrows Rs. 15000 at 10% compound interest. At the end of each year he pay back Rs.3000. How much amount should he pay at the end of the third year to clear his debt?

- A. Rs. 14030 B. Rs. 14005 C. Rs. 12050 D. Rs. 13035 E. Rs. 12035

9. A invested some money at $r\%$ which grows to $676/441$ times when invested for two years in a scheme where interest is compounded annually, how long will the same sum of money take to triple itself if invested at ' $r/100$ '% rate of interest in a scheme where the interest is computed using the simple interest method.

- A. 120 years B. 840 years C. 105 years D. 720 years E. None of these

10. Sunil lent some amount to Poonam for 3 years at the rate of 20% per annum simple interest and the equal amount to Sabnam for 2 years at the rate of 25% per annum compound interest compounded annually. At the end of time duration, the amount received from Poonam was Rs. 5625 more than that from Sabnam. How much money did he lend to each?

- A. Rs. 2,00,000 B. Rs. 1,00,000 C. Rs. 2,50,000 D. Rs. 1,50,000 E. None of these

11. A man deposited certain amount of money on compound interest for 3 years at the rate of 10% per annum. The difference between the amount accumulated after 3 years and the amount accumulated after 2 years is Rs. 968. If the same principal amount is deposited at simple interest at the rate of $x\%$ per annum for 5 years, then find the value of ' x ', if the simple interest obtained by man is Rs. 3200.

- A. 7.5 B. 7 C. 8 D. 8.5 E. 5

12. Two friends Pratik and Sameer have some amount of money in the ratio 14 : 9. Pratik puts his money at compound interest of 12.5% p.a for three years, while Sameer lends his money at simple interest for three years at the rate 20% p.a. If the interest earned by Pratik is Rs. 7595, what is the total amount earned by Sameer after three years?

A. Rs. 19442 B. Rs. 18432 C. Rs. 17986 D. Rs. 18562 E. None of these

13. Aman takes Rs 62,500 from a bank at simple interest at the rate of 8% per annum. After 1 year he returns 25% of the amount and after another year he returns 33.33% of the amount. What is the total amount to be returned after 3rd year to clear the loan?

A. Rs. 39236 B. Rs. 38352 C. Rs. 42960 D. Rs. 39366 E. None of these

14. The compound interest earned after three years and that earned after two years on a certain sum of money, differ by Rs 5880. What is the principal sum of money if the rate of interest is 16.67% p.a?

A. Rs. 27432 B. Rs. 25920 C. Rs. 26780 D. Rs. 29870 E. None of these

15. Compound interest on a certain sum at the rate of 12% per annum after 2 years is Rs.142464. Find the simple interest on that sum at the rate of 15% per annum for 7 years.

A. Rs. 588000 B. Rs. 568000 C. Rs. 586000 D. Rs. 566000 E. None of these

16. Find the difference between compound interest and simple interest on a sum of Rs.48000 at the rate of 15% per annum for three years.

A. Rs. 3200 B. Rs. 3204 C. Rs. 3402 D. Rs. 3202 E. None of these

17. A man deposited Rs. 40,000 in a bank at 10% per annum, compounded annually for two years. He wanted to keep the amount deposited at the end of the two years, but there was a new law in place that for any amount in the account that date onwards, any annual interest greater than Rs.2,500 would be taxed. Also, the rate of interest was reduced to 8% per annum. What amount should he remove from his account to ensure that he just avoids paying the tax? Assume that his account had zero balance before he deposited Rs. 40,000.

A. Rs. 31,250 B. Rs. 24,000 C. Rs. 21,684 D. Rs. 18,050 E. Rs. 17,150

18. Kishan borrowed a certain sum from the bank. The bank charges a simple interest of 10 % per annum. Kishan later realized that he no longer needs the entire money. So he lent 60 percent of the borrowed sum to Vikas at the rate of 20% per annum compounded annually. At the end of 3 years, Vikas paid him a sum of Rs. 1555200. How much amount(in Rs.) will Kishan pay to the bank if he repays the entire loan at the end of 4 years?

A. 2400000

B. 2700000

C. 2100000

D. 2500000

E. 2000000

19. Three friends, Anil, Bipin, and Chandu invested some money at the rate of interest 10% per annum, 12.5% per annum, and 20% per annum simple interest respectively. If the total interest accrued at the end of 2 years was Rs. 4200 and the amount invested by Anil was 150% of the amount invested by Bipin and the amount invested by Chandu is 25% more than the amount invested by Bipin. Find the difference between the amount invested by Anil and Chandu?

A. Rs. 1000

B. Rs. 1500

C. Rs. 1800

D. Rs. 1250

E. None of these

20. Riya borrows Rs. 8000 from a bank at $(12)\frac{1}{2}$ % p.a. compound interest. At the end of every year, she pays Rs. 3000 as part of repayment of loan and interest. How much she still owes to the bank after paying three such instalments ?

A. Rs. 1218.75

B. Rs. 1465.50

C. Rs. 1300

D. Rs. 1150

E. Rs. 1450

21. A father gives Rs. 90000 to his son. The son purchases a TV, Phone and a bike for Rs. 15000, Rs. 13000 and Rs. 35000 respectively and puts the remaining money in a scheme that pays C.I. at 15% per annum. Find the total percentage change in amount received by him initially, if after two years, he sells off all the items at 80% of the purchase price and also withdraws his money from the scheme.

A. 6.25% decrease

B. 8.54% increase

C. 4.32% decrease

D. 5.48% increase

E. None of these

22. Amritansh invested Rs. 45000 in a scheme offering 10% compound interest for 3 years. Arun invested Rs. 'x' less than Amritansh in another scheme offering 12% simple interest for 3 years. Find the value of 'x' if the interest earned by Amritansh is Rs. 315 more than the interest earned by Arun.

A. 3500

B. 4500

C. 7500

D. 6000

E. 4000

23. The compound interest accrued on an amount in two years is Rs. 26096 less than the amount. The difference between the compound interest and the simple interest accrued on the same amount but at half the rate of interest in two years is Rs. _____ and the amount is Rs. 35000.

A. 114

B. 132

C. 126

D. 144

E. None of these

24. Prabhas had Rs.190000 with him for the Diwali shopping. He purchases a laptop, an iPhone and a bike for Rs. 45000, Rs. 60000 and Rs. 50000 respectively and puts the

remaining money in a bank deposit that pays CI at 12% per annum. After two years, he sells off all the items at 90% of the original price and also withdraws his entire money from the bank by closing the account. Find the total percentage change in the asset.

- A. - 4.5% B. +3.47% C. - 4.32% D. - 3.47% E. No Change

25. Akshay invested Rs. 35000 in scheme A and Rs. 24000 in scheme B. Scheme A is offering interest at the rate of R% compounded annually and scheme B is offering simple interest at rate of (R+4)% per annum. After 2 years, the interest earned by Akshay from scheme A is Rs. 64 more than interest earned from scheme B. Find the value of R.

- A.12 B. 10 C. 8 D. 7 E. 5

26. Dhiru Bhai deposited a certain amount of money at C.I. for 3 years at the rate of 10% per annum. The difference between the amount accumulated after 3 years and the amount accumulated after 2 years is Rs. 968. If the same amount is deposited at S.I. at the rate of x% per annum for 5 years and the simple interest obtained by Dhiru Bhai is Rs. 3200, then find the value of 'x'.

- A. 7.5 B. 7 C. 8 D. 8.5 E. 5

27. P and Q's father gave them Rs. 18, 00, 000 in the ratio of 5 : 1, respectively. Q deposited his share at 5% simple interest for 5 years and then he deposited the accumulated amount at 10% CI for 2 years. P deposited his share at 6% CI for 2 years. They invested their respective accumulated amounts in a business which earned a profit of Rs. 5, 70, 000 in the 1st year. What was the difference between P and Q's share of 1st year's profit?

- A. 328000 B. 328500 C. 300000 D. 328440 E. 324880

28. Arun invested Rs. 'x' in a scheme offering 18% simple interest for three years whereas Varun invested Rs. '2x - 3000' in another scheme offering 10% compound interest for three years. Find the value of 'x' if the interest earned by Arun is Rs. 261 more than the interest earned by Varun.

- A. 9000 B. 8000 C. 7000 D. 6000 E. 5000

29. A person invested some money under compound interest compounded annually and at the end of 2 years he received a total sum of Rs. 580800. If the rate of interest were 2% more then he would have received Rs. 21312 more in the same time period. What was the total money invested by the person?

A. Rs. 500000 B. Rs. 520000 C. Rs. 480000 D. Rs. 468000 E. None of these

30. If the difference between the simple interest and compound interest for 2 years is Rs. 160 and the simple interest for second year is Rs.1000, then find the principal.

A. Rs. 6250 B. Rs. 7250 C. Rs. 8000 D. Rs. 10000 E. Rs. 16000

31. A person had Rs 1 lakh out of which he puts Rs. 28000 at 25% p.a. compound interest and the remaining amount at 16.67% p.a. compound interest. What is the difference between the interests obtained from the two investments after two years?

A. Rs. 10250 B. Rs. 12000 C. Rs. 9750 D. Rs. 11500 E. None of these

32. A person has Rs. 40000, 40% of which he puts at 12.5% p.a. compound interest and rest he puts at simple interest at 10% p.a. What is the total interest obtained after two years?

A. Rs. 9050 B. Rs. 8500 C. Rs. 10020 D. Rs. 8750 E. None of these

33. A sum of money put at compound interest at $r\%$ p.a. gives amount of Rs. 6561 after 4 years and Rs. 5832 after three years. If Rs. 18000 is put at $r\%$ SI for two years, what will be the amount at the end of two years?

A. Rs. 22222.22 B. Rs. 22500 C. Rs. 19200 D. Rs. 21400 E. None of these

34. A person has Rs. 40000 out of which he puts Rs. 12000 at 10% SI for 3 years and Rs 16000 at 12.5% CI for 2 years and keeps the rest with himself. What is the total amount with him after three years?

A. Rs. 52240 B. Rs. 35850 C. Rs. 42650 D. Rs. 47850 E. Rs. 45260

35. A person has Rs. 90000 with him, $\frac{1}{3}$ of it he puts at 20% SI for 2 years and $\frac{2}{3}$ of the remaining at 12.5% CI for 2 years rest of the money he spends on shopping. The difference between the interest obtained from SI and CI is what percent of the money spent on shopping?

A. 8.25% B. 5.25% C. 7.85% D. 4.75% E. None of these

36. A man deposited Rs. 25000 for 3.5 years on scheme 1 which gives simple interest at the rate of 12% per annum. If the simple interest earned from scheme 1 is deposited on scheme 2 at compound interest for 2 years to get a total amount of Rs. 11797.8 and the rate of compound interest given by scheme 2 is $x\%$ per annum, then find the value of x ?

A. 5 B. 6 C. 7 D. 8 E. 9

- 37.** Rohan invested Rs. 'x' in a scheme which offers simple interest at the rate of 12% per annum for the first 3 years and compound interest at the rate of 10% for the next 2 years. After 5 years, he earned a total interest of Rs. $(x - 1772)$. If the same amount is invested in another scheme which offers compound interest at the rate of 15% per annum, then find the interest earned by him in 2 years.
- A. Rs. 1612.50 B. Rs. 1662.50 C. Rs. 1710 D. Rs. 1762.50 E. None of these
- 38.** Karan invested Rs. 8000 in scheme A offering 20% compound interest for one year and a half year compounded half yearly. He then invested the whole amount he has received in scheme B offering 15% simple interest for five years. Find the total amount received by him after six and a half years.
- A. Rs. 18436 B. Rs. 18634 C. Rs. 18832 D. Rs. 19030 E. None of these
- 39.** A certain amount becomes 4 times in 15 years at the rate of R% per annum simple interest. If Rs. 30000 is invested at the rate of R% per annum compound interest compounded annually, then what will be total compound interest earned in 3 years?
- A. Rs. 18450 B. Rs. 21840 C. Rs. 18650 D. Rs. 16450 E. None of these
- 40.** A person lends some money at 8% per annum simple interest for three years. At the end of third year, he receives Rs. 250 as interest. How much more money (approximately) he would have received if the rate of interest were 12% per annum compounded annually?
- A. Rs. 172 B. Rs. 162 C. Rs. 152 D. Rs. 192 E. Rs. 182
- 41.** The ratio of the amount for two years under compound interest annually and for one year under simple interest is 9 : 7. If the rate of interest is same, then the value of rate of interest is:
- A. 28.57% B. 29.02% C. 29.76% D. 29.57% E. None of these
- 42.** A sum of money becomes 5 times of itself in 25 years at simple interest. If Rs. 12500 was invested at the same rate of interest for two years, compounded annually then what would have been the compound interest?
- A. Rs. 4320 B. Rs. 4325 C. Rs. 4330 D. Rs. 4350 E. None of these
- 43.** A man gave 50% of his savings of Rs. 168200 to his wife and divided the remaining sum among his sons Gautam and Gambhir whose ages are 15 years and 13 years respectively. He divided it in such a way that each of his sons who invested the individual sum at 5% compound interest rate per annum, would receive the same amount when they attain the age of 18 years. The share of Gambhir was:

A. Rs. 42050 B. Rs. 40000 C. Rs. 45000 D. Rs. 45500 E. None of these

44. Vijay Mallya returned a sum of money in 2 annual instalments of Rs 33,80,000 each at the rate of $8\frac{1}{3}\%$ pa at compound interest. Find the sum borrowed from the bank?

A. Rs. 31,20,000 B. Rs. 75,00,000 C. Rs. 60,00,000 D. Rs. 66,00,000 E. None of these

45. Avinash invests Rs. 1600 at 20% compound interest per annum for 2 years. The amount earned by him after 2 years was again invested at 25% per annum simple interest for 3 years. Find the simple interest earned by Avinash.

A. Rs. 1562 B. Rs. 1458 C. Rs. 2042 D. Rs. 1844 E. Rs. 1728

46. Karan invested certain amount in three different insurance companies X, Y and Z that yielded him interest at the simple interest rate of 8%, 10% and 12% per annum respectively and the amount invested in company Z was 130% of the amount invested in company X and 210% of the amount invested in company Y respectively. If the total interest accrued in one year was Rs. 4800, what was the amount invested in company Y? (Find the approximate value)

A. Rs. 7984 B. Rs. 9974 C. Rs. 5576 D. Rs. 4382 E. None of these

47. A sum at the rate of 12% per annum after 10 years becomes Rs.79200. Find the difference between compound interest and simple interest on that sum after three years, at the rate of 20% per annum.

A. Rs. 3608 B. Rs. 6408 C. Rs. 4608 D. Rs. 5208 E. None of these

48. Difference between compound interest and simple interest on a certain sum at the rate of 8% per annum for two years is Rs.4096. Find the compound interest on that sum after three years at the rate of 12% per annum.

A. Rs. 209153.92 B. Rs. 158153.92 C. Rs. 229153.92 D. Rs. 259153.92 E. None of these

49. Asha took an educational loan of Rs. 4,00,000 from a nationalized bank for her 2 years course. She returned half of the amount (including interest) at the completion of her studies and remaining after 3 years from the end of her course. If she would be charged at 7% p.a. at CI during her course and at 10% p.a. at CI after the completion of the course. Then what is her total interest amount?

A. Rs. 1,98,765.35 B. Rs. 1,33,752.38 C. Rs. 1,67,190.47 D. Rs. 1,45,618.50 E. None of these

50. A sum at simple interest amounts to Rs.109760 at the rate of 8% per annum after 12 years. Find the compound interest on that sum at the same rate of interest after 3 years.

A. Rs. 11543.872 B. Rs. 14543.872 C. Rs. 18654.324 D. Rs. 12345.672 E. None of these

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The Question Bank

1. एक आदमी ने 3 साल के लिए 30% प्रति वर्ष की चक्रवृद्धि ब्याज पर 4500 रु लेता है। केवल 2 वर्ष के अंत में आदमी द्वारा अर्जित ब्याज और केवल 3 वर्ष के अंत में आदमी द्वारा अर्जित ब्याज के बीच अंतर क्या है?

A. Rs. 545.5 B. Rs. 502 C. Rs. 526.5 D. Rs. 532 E. Rs. 529

2. एक आदमी प्रत्येक वर्ष की शुरुआत में 20,000 रुपये बचाता है और एक बैंक में डालता है जो प्रति वर्ष 10% ब्याज देता है, ब्याज सालाना चक्रवृद्धि होता है। 6 साल के अंत में आदमी की कुल बचत क्या होगी?

A. Rs. 196840 B. Rs. 169840 C. Rs. 189480 D. Rs. 199480 E. Rs. 168840

3. एक बैंक ने 1 वर्ष 73 दिनों के लिए एक किसान को X रु 50/3% प्रतिवर्ष की दर पर दिए। यदि पहले वर्ष के लिए साधारण ब्याज 3000 रु है तो किसान ने बैंक को चक्रवर्ती ब्याज के तौर पर कितना भुगतान किया?

चक्रवर्ती ब्याज और राशि के मान विकल्पों में दिए गए हैं; वह विकल्प चुनें जो उपरोक्त प्रश्न को सही ढंग से बताता है।

A. Rs. 6300, Rs. 36000 B. Rs. 3700, Rs. 18000 C. Rs. 5800, Rs. 18000 D. Rs. 5400, Rs. 18000
E. Rs. 3700, Rs. 12000

4. श्याम ने एक बैंक में 80000 रु जमा किये जो 2 साल के लिए 10% चक्रवृद्धि ब्याज देता है। फिर 2 साल बाद, उसने कुलराशि (राशि + ब्याज) के साथ राम जिसने 60,000 रु राशि का निवेश किया के साथ एक व्यवसाय शुरू किया। श्याम ने 6 महीने के लिए निवेश किया और चला गया। राम ने पूरे साल निवेश किया। वर्ष के अंत में उनके मुनाफे का अनुपात क्या होगा?

A. 150 : 221 B. 121 : 150 C. 121 : 130 D. 130 : 121 E. 155 : 101

5. एक व्यक्ति बैंक से 216000 रुपये का ऋण लेता है, जिसे 16.67% प्रतिवर्ष चक्रवृद्धि ब्याज की दर से तीन वर्षों में वापस किया जाना है। व्यक्ति पहले और दूसरे साल के बाद 84000 रुपये और 58000 रुपये लौटाता है। ऋण के निपटान के लिए उसे तीसरे वर्ष के बाद कितना पैसा वापस करना होगा?

A. Rs. 161000 B. Rs. 138000 C. Rs. 152000 D. Rs. 175000 E. इनमें से कोई नहीं।

6. अमन, भुवन को दो साल के लिए 12% प्रतिवर्ष की दर से वार्षिक चक्रवृद्धि ब्याज पर 500000 रुपये देता है। भुवन अमन से मिले पैसे का 80% चेतन को दो साल के लिए 20% प्रतिवर्ष की दर से, अर्धवार्षिक चक्रवर्ती ब्याज पर देता है दो साल बाद वह चेतन से अपनी बकाया राशि प्राप्त करता है और अमन को उसकी बकाया राशि देता है। भुवन के पास कितनी राशि बची है?

A. Rs. 52980 B. Rs. 58440 C. Rs. 67880 D. Rs. 62780 E. Rs. 54670

7. 10% प्रतिवर्ष की वार्षिक साधारण ब्याज की दर से 400 रु का मासिक ब्याज प्राप्त करने के लिए X रु की आवश्यकता होती है। 10% प्रति वर्ष की अर्ध-वार्षिक चक्रवर्ती की दर से X के समान ब्याज अर्जित करने के लिए Y रु की आवश्यकता होती है। X और Y के बीच अंतर ज्ञात कीजिए।

A. 1170.74 B. 1331.26 C. 928.34 D. 979.66 E. इनमें से कोई नहीं।

8. सुमित ने 10% चक्रवृद्धि ब्याज पर 15000 रु उधार लिए। प्रत्येक वर्ष के अंत में वह 3000 रुपये का भुगतान करता है। अपने उधार को समाप्त करने के लिए तीसरे वर्ष के अंत में उसे कितनी राशि का भुगतान करना चाहिए?

A. Rs. 14030 B. Rs. 14005 C. Rs. 12050 D. Rs. 13035 E. Rs. 12035

9. A r% की दर से कुछ धन का निवेश करता है, जो इस योजना में दो साल के लिए निवेशित होने पर 676/441 गुना तक बढ़ जाता है, जहां सालाना चक्रवर्ती ब्याज मिलता है, उसी दर पर उसी राशि को निवेश किए जाने पर तीन गुना कितने समय में हो जायेगा ऐसी योजना जहां साधारण ब्याज पद्धति का उपयोग करके ब्याज की गणना की जाती है।

A. 120 वर्ष B. 840 वर्ष C. 105 वर्ष D. 720 वर्ष E. इनमें से कोई नहीं।

10. सुनील ने 20% प्रति वर्ष की दर से पूनम को 3 साल के लिए साधारण ब्याज पर और 25% प्रति वर्ष की दर से सबनम को 2 साल के लिए चक्रवर्ती ब्याज पर बराबर राशि दी। समय अवधि के अंत में, पूनम से प्राप्त राशि सबनाम से 5625 रुपये अधिक थी। उसने प्रत्येक को कितना पैसा उधार दिया?

A. Rs. 2,00,000 B. Rs. 1,00,000 C. Rs. 2,50,000 D. Rs. 1,50,000 E. इनमें से कोई नहीं।

11. एक व्यक्ति ने 10% प्रति वर्ष की दर से 3 साल के लिए चक्रवृद्धि ब्याज पर कुछ राशि जमा की। 3 साल के बाद जमा हुई राशि और 2 साल के बाद जमा हुई राशि के बीच का अंतर 968 रु है। यदि उसी मूल राशि को 5 वर्ष के लिए x% प्रति वर्ष की दर से साधारण ब्याज पर जमा किया जाता है, तो 'x' का मान ज्ञात कीजिए, यदि साधारण ब्याज 3200 रु है।

A. 7.5 B. 7 C. 8 D. 8.5 E. 5

12. दो दोस्तों प्रतीक और समीर के पास 14: 9 के अनुपात में कुछ राशि है। प्रतीक ने तीन साल के लिए 12.5% प्रतिवर्ष के चक्रवृद्धि ब्याज पर अपना पैसा लगाया, जबकि समीर ने 20 % प्रतिवर्ष की दर से तीन साल के लिए अपने पैसे साधारण ब्याज पर उधार दिए। यदि प्रतीक द्वारा अर्जित ब्याज 7595 रु है। समीर द्वारा तीन वर्षों के बाद अर्जित कुल राशि क्या है?

A. Rs. 19442 B. Rs. 18432 C. Rs. 17986 D. Rs. 18562 E. इनमें से कोई नहीं।

13. अमन एक बैंक से 8% प्रति वर्ष की दर से साधारण ब्याज पर 62,500 रुपये लेता है। 1 वर्ष के बाद वह राशि का 25% वापस करता है और दूसरे वर्ष के बाद वह 33.33% राशि वापस करता है। 3 वर्ष के बाद ऋण चुकाने के लिए वापस दी जाने वाली कुल राशि क्या है?

A. Rs. 39236 B. Rs. 38352 C. Rs. 42960 D. Rs. 39366 E. इनमें से कोई नहीं।

14. तीन साल के बाद और दो साल के बाद एक निश्चित राशि पर अर्जित चक्रवर्ती ब्याज अंतर 5880 रुपये है। ब्याज की दर 16.67% प्रतिवर्ष है तो मूलधन क्या है?

A. Rs. 27432 B. Rs. 25920 C. Rs. 26780 D. Rs. 29870 E. इनमें से कोई नहीं।

15. एक महिला मजदूर द्वारा 10 घंटे में किया गया कार्य एक पुरुष मजदूर द्वारा 8 घंटे में तथा एक लड़की मजदूर द्वारा 12 घंटे में किये जाने वाले कार्य के बराबर है। यदि 12 घंटे प्रतिदिन कार्य करके 10 पुरुष मजदूर कार्य को 16 दिन में

खत्म कर सकते हैं तो 32 पुरुष मजदूर, 32 महिला मजदूर और 32 लड़की मजदूर साथ मिलकर 8 घंटे प्रतिदिन कार्य करते हुए कितने दिन में कार्य खत्म करेंगे?

A. Rs. 588000 B. Rs. 568000 C. Rs. 586000 D. Rs. 566000 E. इनमें से कोई नहीं।

16. तीन वर्षों के लिए प्रति वर्ष 15% की दर से 48000 रुपये की राशि पर चक्रवृद्धि ब्याज और साधारण ब्याज के बीच का अंतर ज्ञात कीजिए।

A. Rs. 3200 B. Rs. 3204 C. Rs. 3402 D. Rs. 3202 E. इनमें से कोई नहीं।

17. एक व्यक्ति ने एक बैंक में 10% प्रति वर्ष चक्रवर्ती वार्षिक ब्याज की दर से 40,000 रुपये जमा किए। वह जमा की गई राशि को दो वर्षों के अंत में रखना चाहता था, लेकिन उस स्थान पर एक नया कानून था कि उस तारीख तक किसी भी राशि के लिए, 2,500 रुपये से अधिक किसी भी वार्षिक ब्याज पर कर लगाया जाएगा। साथ ही, ब्याज की दर को घटाकर 8% प्रति वर्ष कर दिया गया। उसे यह सुनिश्चित करने के लिए अपने खाते से कितनी राशि निकालनी चाहिए कि वह कर का भुगतान करने से बचता है? मान लें कि 40,000 रुपये जमा करने से पहले उसके खाते में शून्य शेष था।

A. Rs. 31,250 B. Rs. 24,000 C. Rs. 21,684 D. Rs. 18,050 E. Rs. 17,150

18. किशन ने बैंक से एक निश्चित राशि उधार ली। बैंक प्रति वर्ष 10% का साधारण ब्याज लेता है। बाद में किशन को महसूस हुआ कि उसे अब पूरे पैसे की जरूरत नहीं है। इसलिए उन्होंने सालाना उधार ली गई राशि का 60 प्रतिशत 20% की चक्रवर्ती वार्षिक ब्याज दर से विकास को उधार दिया। 3 साल के अंत में, विकास ने उन्हें 1555200 रुपये का भुगतान किया। यदि वह 4 वर्षों के अंत में संपूर्ण ऋण चुकाता है, तो किशन कितनी राशि (रु में) बैंक को भुगतान करेगा?

A. 2400000 B. 2700000 C. 2100000 D. 2500000 E. 2000000

19. तीन दोस्तों, अनिल, बिपिन, और चंदू ने कुछ पैसा क्रमशः 10% प्रतिवर्ष, 12.5% प्रतिवर्ष और 20% प्रतिवर्ष साधारण वार्षिक ब्याज की दर पर निवेश किया। यदि 2 वर्षों के अंत में अर्जित कुल ब्याज 4200 रुपये था और अनिल द्वारा निवेशित राशि बिपिन द्वारा निवेश की गई राशि का 150% थी और चंदू द्वारा निवेशित राशि, बिपिन द्वारा निवेश की गई राशि से 25% अधिक है। अनिल और चंदू द्वारा निवेश की गई राशि के बीच अंतर ज्ञात कीजिए?

A. Rs. 1000 B. Rs. 1500 C. Rs. 1800 D. Rs. 1250 E. इनमें से कोई नहीं।

20. रिया एक बैंक से $(12)\frac{1}{2}\%$ प्रतिवर्ष चक्रवृद्धि ब्याज की दर पर 8000 रुपये उधार लेती है। हर साल के अंत में, वह ऋण और ब्याज की अदायगी के हिस्से के रूप में 3000 रुपये का भुगतान करती है। इस तरह की तीन किस्तों का भुगतान करने के बाद भी उस पर बैंक का कितना बकाया है?

A. Rs. 1218.75 B. Rs. 1465.50 C. Rs. 1300 D. Rs. 1150 E. Rs. 1450

21. एक पिता अपने बेटे को 90000 रुपये देता है। बेटा एक टीवी, फोन और एक बाइक क्रमशः 15000 रुपये, 13000 रुपये और 35000 रुपये में खरीदता है और शेष धन एक ऐसी योजना में लगाता है जो 15% प्रति वर्ष की दर से चक्रवर्ती ब्याज का भुगतान करता है। आरंभ में उसके द्वारा प्राप्त राशि में कुल प्रतिशत परिवर्तन का पता लगाएं,

अगर दो साल के बाद, वह खरीद मूल्य के 80% पर सभी वस्तुओं को बेचता है और योजना से अपने पैसे भी निकालता है।

A. 6.25% decrease B. 8.54% increase C. 4.32% decrease D. 5.48% increase E. इनमें से कोई नहीं।

22. अमृतांश ने 3 साल के लिए 10% चक्रवृद्धि ब्याज देने वाली योजना में 45000 रुपये का निवेश किया। अरुण ने 3 साल के लिए 12% साधारण ब्याज देने वाली एक अन्य योजना में अमृतांश से 'x' रु कम का निवेश किया। अगर अमृतांश द्वारा अर्जित ब्याज अरुण द्वारा अर्जित ब्याज से 315 रुपये अधिक है तो 'x' का मान ज्ञात कीजिए।

A. 3500 B. 4500 C. 7500 D. 6000 E. 4000

23. दो वर्षों में राशि पर अर्जित चक्रवृद्धि ब्याज राशि की तुलना में 26096 रुपये कम है। चक्रवृद्धि ब्याज और एक ही राशि पर मिलने वाले साधारण ब्याज के बीच का अंतर, लेकिन दो वर्षों में ब्याज की आधी दर से ___ रु है और यह राशि 35000 रु है।

A. 114 B. 132 C. 126 D. 144 E. इनमें से कोई नहीं।

24. प्रभास के पास दिवाली शॉपिंग के लिए 190000 रु थे। वह एक लैपटॉप, एक आईफोन और एक बाइक क्रमशः 45000 रुपये, 60000 रुपये और 50000 रुपये में खरीदता है और शेष पैसा बैंक जमा में लगाता है जो 12% प्रति वर्ष की दर से चक्रवर्ती ब्याज का भुगतान करता है। दो साल के बाद, वह सभी वस्तुओं को मूल कीमत के 90% पर बेच देता है और खाता बंद करके बैंक से अपने पूरे पैसे भी निकाल लेता है। संपत्ति में कुल प्रतिशत परिवर्तन का पता लगाएं।

A. -4.5% B. +3.47% C. -4.32% D. -3.47% E. No Change

25. अक्षय ने स्कीम A में 35000 रुपये और स्कीम B में 24000 रुपये का निवेश किया। स्कीम A, R% की वार्षिक दर पर चक्रवर्ती ब्याज देती है और स्कीम B (R + 4)% की वार्षिक दर पर साधारण ब्याज देती है। 2 साल के बाद, स्कीम A से अक्षय द्वारा अर्जित ब्याज, स्कीम B से अर्जित ब्याज से 64 रुपये अधिक है। R का मान ज्ञात कीजिए।

A. 12 B. 10 C. 8 D. 7 E. 5

26. धीरू भाई ने चक्रवर्ती ब्याज पर 10% प्रति वर्ष की दर से 3 वर्षों के लिए एक निश्चित राशि जमा की। 3 साल के बाद संचित राशि और 2 साल के बाद संचित राशि का अंतर 968 रुपये है। यदि उसी राशि को साधारण ब्याज पर 5 वर्ष के लिए x% प्रति वर्ष की दर से जमा किया जाता है और धीरू भाई द्वारा प्राप्त साधारण ब्याज 3200 रु है, तो 'x' का मान ज्ञात कीजिए।

A. 7.5 B. 7 C. 8 D. 8.5 E. 5

27. P और Q के पिता ने उन्हें क्रमशः 5: 1 के अनुपात में 18, 00, 000 रुपये दिए। Q ने 5 साल के लिए 5% साधारण ब्याज पर अपना हिस्सा जमा किया और फिर उसने 2 साल के लिए 10% चक्रवर्ती ब्याज पर संचित राशि जमा की। P ने 2 वर्षों के लिए 6% चक्रवर्ती ब्याज पर अपना हिस्सा जमा किया। उन्होंने एक व्यवसाय में अपनी संचित राशि का निवेश किया, जिसने 1 वर्ष में 5, 70, 000 रुपये का लाभ कमाया। P और Q के हिस्से के बीच 1 साल के लाभ में अंतर क्या था?

A. 328000 B. 328500 C. 300000 D. 328440 E. 324880

28. अरुण ने तीन साल के लिए 18% साधारण ब्याज देने वाली योजना में 'x' का निवेश किया, जबकि वरुण ने तीन वर्षों के लिए 10% चक्रवृद्धि ब्याज देने वाली दूसरी योजना में '2x - 3000' का निवेश किया। अरुण द्वारा अर्जित ब्याज वरुण द्वारा अर्जित ब्याज से 261 रुपये अधिक होने पर 'x' का मान ज्ञात कीजिए।

A. 9000 B. 8000 C. 7000 D. 6000 E. 5000

29. एक व्यक्ति ने सालाना चक्रवृद्धि ब्याज के तहत कुछ धन का निवेश किया और 2 साल के अंत में उसे कुल 580800 रुपये प्राप्त हुए। यदि ब्याज की दर 2% अधिक होती तो उसे समान समय अवधि में 21312 रुपये अधिक मिलते। व्यक्ति द्वारा कुल कितना धन का निवेश किया गया?

A. Rs. 500000 B. Rs. 520000 C. Rs. 480000 D. Rs. 468000 E. इनमें से कोई नहीं।

30. यदि 2 साल के लिए साधारण ब्याज और चक्रवृद्धि ब्याज के बीच अंतर 160 रुपये है और दूसरे वर्ष के लिए साधारण ब्याज 1000 रुपये है, तो मूलधन ज्ञात करें।

A. Rs. 6250 B. Rs. 7250 C. Rs. 8000 D. Rs. 10000 E. Rs. 16000

31. एक व्यक्ति के पास 1 लाख रुपये थे जिसमें से वह 28000 रुपये 25% प्रतिवर्ष चक्रवृद्धि ब्याज पर और शेष राशि 16.67% प्रतिवर्ष चक्रवृद्धि ब्याज पर रखता है। दो वर्षों के बाद दोनों निवेशों से प्राप्त ब्याज के बीच अंतर क्या है?

A. Rs. 10250 B. Rs. 12000 C. Rs. 9750 D. Rs. 11500 E. इनमें से कोई नहीं।

32. एक व्यक्ति के पास 40000 रु हैं, जिसमें से वह 40% 12.5% प्रति वर्ष चक्रवृद्धि ब्याज पर रखता है और बाकी वह 10% प्रति वर्ष साधारण ब्याज पर रखता है। दो वर्षों के बाद प्राप्त कुल ब्याज क्या है?

A. Rs. 9050 B. Rs. 8500 C. Rs. 10020 D. Rs. 8750 E. इनमें से कोई नहीं।

33. r% प्रतिवर्ष की दर से चक्रवृद्धि ब्याज पर लगाई गई धनराशि 4 वर्षों के बाद 6561 रुपये और तीन वर्षों के बाद 5832 रुपये की राशि देती है। अगर 18000 रुपये को दो साल के लिए r% साधारण ब्याज पर रखा जाता है, तो दो साल के अंत में राशि क्या होगी?

A. Rs. 22222.22 B. Rs. 22500 C. Rs. 19200 D. Rs. 21400 E. None of these

34. एक व्यक्ति के पास 40000 रुपये हैं, जिसमें से 12000 रुपये वह 3 साल के लिए 10% साधारण ब्याज पर और 16000 रुपये 2 साल के लिए 12.5% चक्रवृद्धि ब्याज पर रखता है और बाकी अपने पास रखता है। तीन साल बाद उसके पास कुल राशि क्या है?

A. Rs. 52240 B. Rs. 35850 C. Rs. 42650 D. Rs. 47850 E. Rs. 45260

35. एक व्यक्ति के पास 90000 रुपये हैं, इसमें से $\frac{1}{3}$ वह 2 साल के लिए 20% साधारण ब्याज पर रखता है और शेष का $\frac{2}{3}$ 2 साल के 12.5% चक्रवृद्धि ब्याज पर रखता है और बाकी पैसे वह खरीदारी पर खर्च करता है। साधारण ब्याज और चक्रवृद्धि ब्याज से प्राप्त ब्याज के बीच का अंतर खरीदारी पर खर्च किए गए धन का कितना प्रतिशत है?

A. 8.25% B. 5.25% C. 7.85% D. 4.75% E. इनमें से कोई नहीं।

36. एक आदमी ने स्कीम 1 पर 3.5 साल के लिए 25000 रुपये जमा किए जो 12% प्रति वर्ष की दर से साधारण ब्याज देता है। यदि स्कीम 1 से अर्जित साधारण ब्याज स्कीम 2 पर 11797.8 रुपये की कुल राशि प्राप्त करने के लिए 2 साल के लिए चक्रवृद्धि ब्याज पर जमा की जाती है और स्कीम 2 द्वारा दी गई चक्रवृद्धि ब्याज की दर प्रतिवर्ष $x\%$ है, तो x का मान ज्ञात कीजिए?

A. 5 B. 6 C. 7 D. 8 E. 9

37. रोहन ने एक योजना में ' x ' रु का निवेश किया, जो पहले 3 वर्षों के लिए 12% प्रति वर्ष की दर से साधारण ब्याज और अगले 2 वर्षों के लिए 10% की दर से चक्रवृद्धि ब्याज प्रदान करता है। 5 वर्षों के बाद, उन्होंने $(x - 1772)$ रु का कुल ब्याज अर्जित किया। यदि उसी राशि को किसी अन्य योजना में निवेश किया जाता है जो 15% प्रतिवर्ष की दर से चक्रवृद्धि ब्याज प्रदान करता है, तो 2 वर्षों में उसके द्वारा अर्जित ब्याज का पता लगाएं।

A. Rs. 1612.50 B. Rs. 1662.50 C. Rs. 1710 D. Rs. 1762.50 E. इनमें से कोई नहीं।

38. करन ने स्कीम A में 8000 रुपये का निवेश किया जो एक साल और छह महीने के लिए 20% छमाही चक्रवृद्धि ब्याज की दर से चक्रवृद्धि ब्याज देता है। फिर उसने स्कीम B में प्राप्त पूरी राशि का निवेश पांच वर्षों के लिए 15% साधारण ब्याज पर किया। छह साल और छह महीने बाद उसके द्वारा प्राप्त कुल राशि का पता लगाएं।

A. Rs. 18436 B. Rs. 18634 C. Rs. 18832 D. Rs. 19030 E. इनमें से कोई नहीं।

39. एक निश्चित राशि 15 वर्षों में $R\%$ प्रति वर्ष साधारण ब्याज 4 गुनी हो जाती है। यदि $R\%$ वार्षिक चक्रवृद्धि ब्याज की दर से 30000 रु निवेश किए जाते हैं, तो 3 वर्षों में अर्जित कुल चक्रवृद्धि ब्याज क्या होगा?

A. Rs. 18450 B. Rs. 21840 C. Rs. 18650 D. Rs. 16450 E. इनमें से कोई नहीं।

40. एक व्यक्ति 8% वार्षिक दर से, तीन वर्ष के लिए साधारण ब्याज पर कुछ पैसे देता है। तीसरे वर्ष के अंत में, उसे ब्याज के रूप में 250 रुपये मिलते हैं। यदि वार्षिक ब्याज की दर 12%, चक्रवृद्धि ब्याज पर होती, तो उसे कितना पैसा अधिक मिलता ? (लगभग)

A. Rs. 172 B. Rs. 162 C. Rs. 152 D. Rs. 192 E. Rs. 182

41. चक्रवृद्धि ब्याज प्रतिवर्ष के तहत दो वर्ष की और साधारण ब्याज प्रतिवर्ष के तहत एक वर्ष की मिश्रधन का अनुपात 9:7 है, यदि ब्याज की दर सामान है तो ब्याज की दर का मान क्या है ?

A. 28.57% B. 29.02% C. 29.76% D. 29.57% E. इनमें से कोई नहीं।

42. साधारण व्याज पर 25 वर्षों में कोई धन अपना 5 गुना हो जाता है। अगर 12500 रुपये को चक्रवर्ती व्याज पर दो साल के लिए समान दर पर निवेश किया गया था, तो चक्रवर्ती व्याज क्या था ?

A. Rs. 4320 B. Rs. 4325 C. Rs. 4330 D. Rs. 4350 E. इनमें से कोई नहीं।

43. एक आदमी ने अपनी बचत(168200 रुपये) का 50% अपनी पत्नी को और अपने बेटों गौतम और गंभीर के बीच शेष राशि बांट दी, जिनकी उम्र क्रमशः 15 साल और 13 वर्ष है। उन्होंने इसे इस तरह से विभाजित किया कि उनके प्रत्येक बेटे जिन्होंने प्रति वर्ष 5% चक्रवर्ती ब्याज दर पर व्यक्तिगत राशि का निवेश किया, उन्हें 18 वर्ष की आयु प्राप्त होने पर वही राशि प्राप्त होगी। गंभीर का हिस्सा क्या था।

A. Rs. 42050 B. Rs. 40000 C. Rs. 45000 D. Rs. 45500 E. इनमें से कोई नहीं।

44. विजय माल्या ने चक्रवृद्धि ब्याज पर 8 (1/3)% प्रतिवर्ष की दर से 33,80,000 रुपये की 2 वार्षिक किस्तों में धनराशि बैंक को वापस की। बैंक से उधार ली गई राशि ज्ञात कीजिये?

A. Rs. 31,20,000 B. Rs. 75,00,000 C. Rs. 60,00,000 D. Rs. 66,00,000 E. इनमें से कोई नहीं।

45. अविनाश ने 2 साल के लिए 20% प्रति वर्ष चक्रवृद्धि ब्याज पर 1600 रु निवेश किये। 2 साल बाद उसके द्वारा अर्जित की गई राशि को फिर से 3 साल के लिए 25% प्रति वर्ष साधारण ब्याज पर निवेश किया गया। अविनाश द्वारा अर्जित साधारण ब्याज का पता लगाएं।

A. Rs. 1562 B. Rs. 1458 C. Rs. 2042 D. Rs. 1844 E. Rs. 1728

46. करन ने तीन अलग-अलग बीमा कंपनियों X, Y और Z में कुछ राशि का निवेश किया, जिससे उन्हें क्रमशः 8%, 10% और 12% की साधारण ब्याज दर पर ब्याज मिला और कंपनी Z में निवेश की गई राशि कंपनी X में निवेश की गई राशि का 130% थी और कंपनी Y में निवेश की गई राशि का 210% थी। यदि एक वर्ष में अर्जित कुल ब्याज 4800 रुपये था, तो कंपनी Y में निवेश की गई राशि क्या थी? (अनुमानित मान ज्ञात करें)

A. Rs. 7984 B. Rs. 9974 C. Rs. 5576 D. Rs. 4382 E. इनमें से कोई नहीं।

47. 10 साल बाद 12% प्रति वर्ष की दर से एक राशि 79200 रुपये हो जाती है। तीन वर्षों के बाद उस राशि पर चक्रवृद्धि ब्याज और साधारण ब्याज के बीच 20% की दर से अंतर ज्ञात कीजिए।

A. Rs. 3608 B. Rs. 6408 C. Rs. 4608 D. Rs. 5208 E. इनमें से कोई नहीं।

48. दो साल के लिए 8% प्रति वर्ष की दर से एक निश्चित राशि पर चक्रवृद्धि ब्याज और साधारण ब्याज के बीच का अंतर 4096 रुपये है। 12% प्रति वर्ष की दर से तीन वर्ष के बाद उस राशि पर चक्रवृद्धि ब्याज ज्ञात कीजिए।

A. Rs. 209153.92 B. Rs. 158153.92 C. Rs. 229153.92 D. Rs. 259153.92 E. इनमें से कोई नहीं।

49. आशा ने 2 साल के कोर्स के लिए राष्ट्रीयकृत बैंक से 4,00,000 रुपये का शैक्षिक ऋण लिया। उसने अपनी पढ़ाई पूरी होने पर आधी रकम (ब्याज सहित) और अपने कोर्स के अंत से 3 साल बाद बची हुई राशि वापस कर दी। यदि उसे पाठ्यक्रम के दौरान में 7% प्रतिवर्ष चक्रवर्ती ब्याज और पाठ्यक्रम के पूरा होने के बाद में 10% प्रतिवर्ष चक्रवर्ती ब्याज लिया जाएगा। फिर उसकी कुल ब्याज राशि क्या है?

A. Rs. 1,98,765.35 B. Rs. 1,33,752.38 C. Rs. 1,67,190.47 D. Rs. 1,45,618.50 E. इनमें से कोई नहीं।

50. एक राशि 12 वर्षों के बाद 8% प्रति वर्ष की दर से साधारण ब्याज पर 109760 रु हो जाती है। 3 वर्ष के बाद समान दर पर उस राशि पर चक्रवृद्धि ब्याज ज्ञात कीजिए।

A. Rs. 11543.872 B. Rs. 14543.872 C. Rs. 18654.324 D. Rs. 12345.672 E. इनमें से कोई नहीं।

CORRECT ANSWERS:

1	C	11	C	21	C	31	A	41	A
2	B	12	B	22	B	32	A	42	A
3	B	13	D	23	C	33	B	43	B
4	B	14	B	24	D	34	D	44	C
5	A	15	A	25	C	35	E	45	E

6	B	16	C	26	C	36	B	46	B
7	A	17	E	27	D	37	A	47	C
8	D	18	C	28	D	38	B	48	D
9	B	19	A	29	C	39	B	49	B
10	D	20	A	30	A	40	A	50	B

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Explanations:

1. Interest earned by the man on 2nd year

$$= 4500 \times \left[\left\{ 1 + \left(\frac{30}{100} \right) \right\}^2 - 1 \right] - \left(\frac{4500 \times 30 \times 1}{100} \right)$$

$$= 4500 \times \left(\frac{69}{100}\right) - 1350 = 3105 - 1350 = \text{Rs. } 1755$$

Interest earned by the man on 3rd year

$$= 4500 \times \left[\left\{1 + \left(\frac{30}{100}\right)\right\}^3 - 1\right] - 4500 \times \left[\left\{1 + \left(\frac{30}{100}\right)\right\}^2 - 1\right]$$

$$= 4500 \times \left(\frac{1197}{1000}\right) - 4500 \times \frac{69}{100} = 5386.5 - 3105 = \text{Rs. } 2281.5$$

Therefore, required difference = $2281.5 - 1755 = \text{Rs. } 526.5$

Hence, option C is correct.

2. The first Rs. 20000 would become $20000(1.1)^6$ after 6 years, the second will become $20000(1.1)^5$, the third will become $20000(1.1)^4$, the fourth will become $20000(1.1)^3$, the fifth will become $20000(1.1)^2$ and the sixth will become $20000(1.1)$.

$$\text{Total amount} = 20000 [(1.1) + (1.1)^2 + (1.1)^3 + (1.1)^4 + (1.1)^5 + (1.1)^6]$$

$$= (20000)(1.1) [1 + (1.1) + (1.1)^2 + (1.1)^3 + (1.1)^4 + (1.1)^5]$$

$$= 22000 \frac{(1.1)^6 - 1}{1.1 - 1} = 22000 (7.72) = \text{Rs. } 169840$$

Hence, option B is correct.

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3.

$$\text{Rate} = 16 \frac{2}{3} \% = \frac{1}{6}$$

$$\frac{P \times R \times T}{100} = \text{Rs. } 3000$$

$$P = \text{Rs. } 18000$$

Let us suppose Principal = 36

Interest for 1st year = 6 (which is the simple interest)

Interest for 2nd year = 6 + 1 = 7

$$\text{Interest for 73 days} = \frac{7 \times 73}{365} = 1.4$$

Total interest = 6 + 1.4 = 7.4

36 corresponds to 18000

1 will correspond to 500

7.4 will correspond to $500 \times 7.4 = \text{Rs. } 3700$

So, the Compound Interest for 1 year 73 days is Rs. 3700 and the Sum lent to the farmer is Rs. 18000.

Hence, option B is correct.

4. Capital of Shyam = Rs. 80,000
Rate of Interest = 10%
Time for which he deposited in bank = 2 years

$$\text{Amount} = 80000 \left(1 + \frac{10}{100}\right)^2$$

$$\text{Amount} = \frac{80000 \times 121}{100} = \text{Rs. } 96800$$

Investment of Shyam in business = Rs. 96800

Investment of Ram in business = Rs. 60000

$$\text{Ratio of their profits} = \frac{96800 \times 6}{60000 \times 12}$$

Ratio = 968 : 1200 = 121 : 150

Hence, option B is correct.

5. Money took = Rs 216000

Amount after first year

$$= 216000 \times \left(1 + \frac{16.67}{100}\right) = 216000 \times \frac{7}{6} = 252000$$

Amount paid after first year = 84000, amount remaining = $252000 - 84000 = 168000$

Amount to be paid after second year

$$= \frac{7}{6} \times 168000 = 196000$$

Amount paid after second year = 58000, amount remaining = 196000 – 58000 = 138000

Amount to paid after third year

$$= \frac{7}{6} \times 138000 = \text{Rs } 161000$$

Hence, option A is correct.

6. Money Bhuvan has to return to Aman after two years

$$= 500000 \times \left(1 + \frac{12}{100}\right)^2 = \text{Rs. } 627200$$

Money given by Bhuvan to Chetan = 80% (500000) = Rs. 400000, so amount left with him = Rs. 100000

Amount Chetan returns to Bhuvan after two years

$$= 400000 \times \left(1 + \frac{10}{100}\right)^2 = \text{Rs. } 585640$$

Total amount after receiving money from Chetan after two years = Rs. (585640 + 100000) = Rs. 685640

Money left after returning due amount of Aman = Rs. (685640 – 627200) = Rs. 58440

Hence, option B is correct.

7. Total Interest = 12 × 400 = 4800

$$P = \frac{(S.I \times 100)}{R} \times T = 48000$$

$$\text{Compound interest} = Y \left(1 + \frac{R}{100}\right)^2 - Y = 4800$$

$$Y = 46829.26$$

$$\text{Difference} = \text{Rs. } (48000 - 46829.26) = 1170.74$$

Hence, option A is correct.

8. Amount after 10% compound interest = $15000 + 1500 = 16500$

At the end of the first year he pays back 3000. Next year Principal will be –

$$16500 - 3000 = 13500$$

Amount after 10% compound interest = $13500 + 1350 = 14850$

At the end of the second year he pays back 3000, next year Principal will be –

$$14850 - 3000 = 11850$$

At the end of third year,

Amount after 10% compound interest = $11850 + 1185 = 13035$

So, he had to pay Rs. 13035 at the end of third year to clear his debt.

Hence, option D is correct.

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9. Amount after compound interest is given by

$$A = p \left(1 + \frac{R}{100}\right)^t$$

$$\frac{676}{441} = \left(1 + \frac{r}{100}\right)^2$$

$$r = \frac{5}{21} \%$$

For a sum to become 3 times of principle, it should earn an interest equal to 2 time of principle

Let the principle be x therefore interest = $2x$

$$S.I. = \frac{PRT}{100}$$

$$2x = \frac{x \times \frac{5}{21} \times t}{100}$$

$$\Rightarrow t = 840 \text{ years}$$

Hence, option B is correct.

10. Let the total amount he lent to each person = Rs. x

SI @ 20% per annum at the end of 3 years

$$= \frac{P \times R \times T}{100} = \frac{x \times 20 \times 3}{100} = 0.6x$$

The total amount he received from Poonam = $x + 0.6x = \text{Rs } 1.6x$

CI @ 25% per annum at the end of 2 years

$$= p \left(1 + \frac{r}{100}\right)^n - p = x \left(1 + \frac{25}{100}\right)^2 - x = x \times \frac{25}{16} - x$$

$$= 1.5625x - x = \text{Rs } 0.5625x$$

The amount he received from Sabnam = $x + 0.5625x = \text{Rs } 1.5625x$

The difference = $1.6x - 1.5625x = \text{Rs } 5625$

$$0.0375x = 5625$$

$$x = \text{Rs } 150000$$

Hence, option D is correct.

11. Let the principal amount deposited on compound interest be Rs. p

$$\text{Amount accumulated after 3 years} = p \times 1.1^3$$

$$\text{Amount accumulated after 2 years} = p \times 1.1^2$$

$$\text{So, } p \times 1.1^3 - p \times 1.1^2 = 968$$

$$1.331p - 1.21p = 968$$

$$0.121p = 968$$

$$p = \text{Rs.}8000$$

$$\text{So, } 3200 = \frac{8000 \times x \times 5}{100}$$

$$x = 8$$

Hence, option C is correct.

- 12.** Let the amount with pratik and sameer be 14k and 9k

Total amount after 3 yrs at 12.5% interest

$$= 14k \times \left(1 + \frac{12.5}{100}\right)^3 = 14k \times \left(\frac{9}{8}\right)^3$$

Total interest earned by pratik

$$= 14k \times \left(\frac{9}{8}\right)^3 - 14k = 14k \times \left[\left(\frac{9}{8}\right)^3 - 1\right] = 7595$$

Which gives us $k = 1280$

The amount with sameer = $9k = 9 \times 1280 = 11520$

Amount earned after 3 years at 20% p.a

$$= 11520 \times \left(1 + \frac{20 \times 3}{100}\right)^3 = \text{Rs. } 18432$$

Hence, option B is correct.

- 13.** Money taken from bank = Rs 62500, Rate = 8%p.a

$$\text{Amount after 1 year} = \frac{62500 \times 108}{100} = 67500,$$

he returns 25% of this amount so the amount remaining

$$= \frac{3}{4} \times 67500 = 50625$$

$$\text{Amount after 2 years} = \frac{50625 \times 108}{100} = 54675,$$

he returns 33.33% of this amount so the remaining amount
 $= \frac{2}{3} \times 54675 = 36450$

Amount to be returned after 3 years

$$= \frac{36450 \times 108}{100} = 39366$$

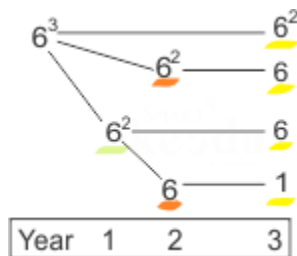
Hence, option D is correct.

14. Let the principal amount be 6^3

Rate of interest = 16.67% ($1/6$)

So, we can calculate the compound interest of three years. The image shows the CI for every year.

The difference between the CI after 2 yrs and that after 3 years = interest earned only in third year =
 $6^2 + 6 + 6 + 1 = 49$



As the ratio of interest and principal will remain the same we can compare the ratio of this condition with the given one.

$$\frac{49}{6^3} = \frac{5880}{P} \rightarrow P = \text{Rs } 25920$$

Hence, option B is correct.

15. We know that

$$CI = P \left[\left(1 + \frac{r}{100} \right)^2 - 1 \right]$$

$$\Rightarrow 142464 = P \left[\left(1 + \frac{12}{100} \right)^2 - 1 \right]$$

$$\Rightarrow 142464 = P \left[\left(1 + \frac{3}{25} \right)^2 - 1 \right]$$

$$\Rightarrow 142464 = P \left[\left(\frac{28}{25} \right)^2 - 1 \right]$$

25

$$\Rightarrow 142464 = P \frac{784 - 625}{625}$$

$$\Rightarrow P = 142464 \times \frac{625}{159}$$

$$\Rightarrow P = \text{Rs.}560000$$

$$SI = \frac{P \times r \times t}{100}$$

Hence,

$$\text{reqd. SI} = \frac{560000 \times 15 \times 7}{100} = \text{Rs.}588000$$

Hence, option (A) is correct.

16. Traditional approach:

$$CI = 48000 \times \frac{115}{100} \times \frac{115}{100} \times \frac{115}{100} - 48000$$

$$= 73002 - 48000 = \text{Rs.} 25002$$

$$SI = \frac{48000 \times 15 \times 3}{100} = \text{Rs.} 21600$$

Required difference = Rs. (25002 - 21600) = Rs.3402

Smart approach:

We know that, for three years

$$CI - SI = P \left(\frac{r}{100} \right)^2 \times \frac{300 + r}{100}$$

$$CI - SI = 48000 \left(\frac{15}{100} \right)^2 \times \frac{315}{100}$$

$$\Rightarrow CI - SI = 48000 \times \frac{9}{400} \times \frac{315}{100}$$

$$\Rightarrow CI - SI = \text{Rs.}3402$$

Hence, option (C) is correct.

- 17.** To just avoid paying tax, the interest for the third year should be exactly Rs. 2,500.

This interest is being calculated on the amount collected by the end of the second year i.e. just for one year.

For one year, simple and compound interest give the same value.

Hence, let the amount that gives exactly Rs. 2,500 as interest for 1 year at 8% be Rs. x.

$$\therefore x = 2500 \times \frac{100}{8} = \text{Rs. } 31,250$$

Actual amount collected at 10% compounded annually for 2 years = $40000 \times (1.1)^2 = \text{Rs. } 48,400$

Hence, the amount that he should remove = $48000 - 31250 = \text{Rs. } 17,150$

Hence, option E is correct.

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- 18.** Let the amount borrowed by Kishan be Rs. 100x.

We know that he gave 60 % of this money to Vikas. Hence, amount given to Vikas must be Rs. 60x.

Thus, the amount that Vikas will have to pay to Kishan must be Rs. $60x \times 1.2 \times 1.2 \times 1.2$

We have been given that

$$60x \times 1.2 \times 1.2 \times 1.2 = 1555200$$

$$\Rightarrow x = 15000$$

Hence,

Kishan must have borrowed $15000 \times 100 = \text{Rs. } 1500000$ from the bank

Thus, interest paid by him will be $1500000 \times 0.1 \times 4 = 600000$

Thus, he must have paid back Rupees $1500000 + 600000 = \text{Rs. } 2100000$ to the bank.

Hence, option C is correct.

- 19.** The amount invested by Anil was 150% of the amount invested by Bipin and the amount invested by Chandu is 25% more than the amount invested by Bipin

Let Bipin invested Rs. $4x$ @ 12.5% per annum

The investment of Anil = 150% of $4x = 6x$ @ 10% per annum and the investment of Chandu = 125% of $4x = 5x$ @ 20% per annum

According to the question,

SI received by Anil in 2 years = Rs. $1.2x$

SI received by Bipin in 2 years = Rs. x

SI received by Chandu in 2 years = Rs. $2x$

Total interest received = Rs. $(1.2x + x + 2x) = \text{Rs. } 4.2x$

According to the question,

$$4.2x = 4200$$

$$\Rightarrow x = 1000$$

Difference between amount invested by Anil and Chandu = $(6x - 5x) = x = 1000$

Hence option A is correct

- 20.** After 1st instalment amount to be paid by Riya

$$= 8000 \left(1 + \frac{25}{200}\right) - 3000 = 9000 - 3000 = \text{Rs. } 6000$$

After 2nd instalment amount to be paid by Riya

$$= 6000 \left(1 + \frac{25}{200}\right) - 3000 = 6750 - 3000 = \text{Rs. } 3750$$

After 3rd instalment amount to be paid by Riya

$$= 3750 \left(1 + \frac{25}{200}\right) - 3000 = 4218.75 - 3000 = \text{Rs. } 1218.75$$

Hence, option A is correct.

21. The final value of all the items,
 $\Rightarrow \frac{80}{100} \times 63000 + 27000 \times \frac{115}{100} \times \frac{115}{100} = 86107.5$

Initial money = Rs. 90000

The drop in value = $\frac{(90000 - 86107.5)}{90000} \times 100 = 4.32\%$

Hence, option C is correct.

22. Compound interest earned by Amritansh after 3 years = $45000 \times \{(1 + 0.10)^3 - 1\} = 45000 \times 0.331 =$
 Rs.14895

Simple interest earned by Arun after three years = $(45000 - x) \times 3 \times 0.12 =$ Rs. $(16200 - 0.36x)$

So, according to the question

$14895 - (16200 - 0.36x) = 315$

$0.36x - 1305 = 315$

$0.36x = 1620$

$x = \frac{1620}{0.36} = 4500$

So, the value of 'x' = 4500

Hence, option B is correct.

23. Let R be the rate of interest,

Amount = Rs. 35000

CI = Rs. $(35000 - 26096) =$ Rs. 8904

According to the question,

$\Rightarrow 35000 \left(1 + \frac{r}{100}\right)^2 = 35000 + 8904$

$\Rightarrow \left(1 + \frac{r}{100}\right)^2 = \frac{43904}{35000} = 1.2544$

$\Rightarrow (1 + \frac{r}{100}) = \sqrt{1.2544}$



100

$$\Rightarrow R = 12\%$$

In this case rate of interest should be half rate

$$= \frac{12}{2} = 6\%$$

Using formula, $(CI - SI) = p \left(\frac{r}{100} \right)^2$

$$\Rightarrow 35000 \left(\frac{6}{100} \right)^2$$

Required difference = Rs. 126

Hence, option C is correct.

24. As the initial values of the products are given.

The final value would be:

$$\Rightarrow 0.9 \times 155000 + 35000 \times 1.12 \times 1.12 = 139500 + 43904 = 183404$$

$$\text{The drop in value} = \frac{190000 - 183404}{190000} = 3.47\%$$

Hence D is the correct option.

25. Interest earned from scheme A

$$= 35000 \left[\left(1 + \frac{R}{100} \right)^2 - 1 \right]$$

Interest earned from scheme B

$$= 24000 \left[\frac{R+4}{100} \right] \times 2$$

According to the question,

$$35000 \left[\left(1 + \frac{R}{100} \right)^2 - 1 \right] - 24000 \left[\frac{R+4}{100} \right] \times 2 = 64$$

$$35000 \left[\left(1 + \frac{R}{100} \right)^2 - 1 \right] - 480 [R + 4] = 64$$

$$3.5(100 + R)^2 - 480R = 36984$$

$$3.5(10000 + R^2 + 200R) - 480R = 36984$$

$$70000 + 7R^2 + 1400R - 960R = 73968$$

$$7R^2 + 440R - 3968 = 0$$

$$7R^2 - 56R + 496R - 3968 = 0$$

$$7R(R - 8) + 496(R - 8) = 0$$

$$(R - 8)(7R + 496) = 0$$

$$R = 8 \text{ or } R = -496 / 7$$

So option C is the correct answer.

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26. Let the principal amount deposited on compound interest be Rs. p

$$\text{Amount accumulated after 3 years} = p \times 1.1^3$$

$$\text{Amount accumulated after 2 years} = p \times 1.1^2$$

$$\therefore p \times 1.1^3 - p \times 1.1^2 = 968$$

$$\Rightarrow 1.331p - 1.21p = 968$$

$$\Rightarrow 0.121p = 968$$

$$\Rightarrow p = \text{Rs. } 8000$$

$$\therefore 3200 = \frac{8000 \times x \times 5}{100}$$

$$\Rightarrow x = 8$$

Hence, option C is correct.

27.

$$P's \text{ share} = \frac{5}{6} \times 1800000 = 1500000$$

$$Q's \text{ share} = \frac{1}{6} \times 1800000 = 300000$$

$$P's \text{ accumulated amount after 2 years} = 1500000 \times (1 + 0.06)^2 = 1685400$$

$$Q's \text{ accumulated amount after 5 years} = 300000 \times (1 + 0.05 \times 5) = 375000$$

$$Q's \text{ accumulated amount after 7 years} = 375000 \times (1 + 0.1)^2 = 453750$$

$$\text{Profit sharing ratio between P and Q at the end of 1st year} = 1685400 : 453750 = 11236 : 3025$$

$$P's \text{ share of 1}^{st} \text{ year profit} = \frac{11236}{14261} \times 570440 = 449440$$

$$Q's \text{ share of 1}^{st} \text{ year profit} = \frac{3025}{14261} \times 570440 = 121000$$

$$\text{Required difference} = 449440 - 121000 = 328440$$

Hence, option D is correct.

28. Interest earned by Arun = $x \times 3 \times 0.18 = \text{Rs. } 0.54x$

$$\text{Interest earned by Varun} = (2x - 3000)\{(1 + 0.10)^3 - 1\} = (2x - 3000) \times 0.331 = \text{Rs. } (0.662x - 993)$$

According to the question,

$$0.54x - (0.662x + 993) = 261$$

$$\Rightarrow 0.122x = 732$$

$$\Rightarrow x = 6000$$

So, the value of $x = 6000$

Hence, option D is correct.

29. Let the person had invested Rs. a @ $r\%$ per annum CI

$$\text{The amount received by him} = a \left(1 + \frac{r}{100}\right)^2 = 580800 \text{ ----- (i)}$$

When the rate of interest was 2% more then

$$= a \left(1 + \frac{r+2}{100}\right)^2 = 580800 + 21312 = 602112 \text{ ----- (i i)}$$

Divide (i) and (ii)

$$\frac{\left(1 + \frac{r}{100}\right)^2}{\left(1 + \frac{r+2}{100}\right)^2} = \frac{580800}{602112} = \frac{3025}{3136}$$

$$\frac{1 + \frac{r}{100}}{1 + \frac{r+2}{100}} = \frac{55}{56}$$

By solving, $r = 10$

Put the value of r in the equation (i)

$$a \left(1 + \frac{10}{100}\right)^2 = 580800$$

By solving, $a = \text{Rs. } 480000$

Hence, option C is correct.

30. Simple Interest for all years would remain same.

Further, SI and CI for first year would remain same.

Difference after two years is 160.

Compound Interest of two years = 2160

Simple Interest = 2000

Now, 160 is the interest on 1000 Rs.

Interest Rate would be = 16%

$$1000 = \frac{16 \times 1 \times P}{100}$$

$P = 6250$

Hence, option A is correct.

31. Interest from first investment

$$= 28000 \left(1 + \frac{1}{4}\right)^2 - 28000 = 15750$$

Interest from second investment

$$= 72000 \left(1 + \frac{1}{6}\right)^2 - 72000 = 26000$$

$$\text{Required difference} = 26000 - 15750 = \text{Rs } 10250$$

Hence, option A is correct.

32. Amount put at CI = 40% of 40000 = Rs. 16000

Amount put at SI = 60% of 40000 = Rs. 24000

$$\text{CI} = 16000 \times \left(1 + \frac{1}{8}\right)^2 - 16000 = \text{Rs. } 4250$$

$$\text{SI} = \frac{24000 \times 10 \times 2}{100} = 4800$$

Total interest = Rs. (4800 + 4250) = Rs 9050

Hence, option A is correct.

33.

$$\text{Let } 1 + \frac{r}{100} = k$$

$$\frac{Pk^4}{Pk^3} = \frac{6561}{5832}$$

$$K = 1 + \frac{729}{5832}$$

$$1 + \frac{r}{100} = 1 + \frac{1}{8}$$

$$r = 12.5\%$$

$$18000 \times \left(1 + 12.5 \times \frac{2}{100}\right) = 18000 \times \frac{5}{4} = 22500$$

Hence, option B is correct.

34. Amount left with him = 40000 – 16000 – 12000 = 12000

$$\text{Amount after 3 years} = 12000 + 12000 \left(1 + 3 \times \frac{10}{100}\right) + 16000 \left(1 + \frac{1}{8}\right)^2 = \text{Rs. } 47850$$

Hence, option D is correct.

35.

$$\text{Amount put at SI} = \frac{90000}{3} = \text{Rs. } 30000,$$

$$\text{Amount put at CI} = \frac{2}{3} \times 60000 = \text{Rs. } 40000$$

Shopping = Rs. 20000

$$\text{SI} = \frac{30000 \times 2 \times 20}{100} = \text{Rs. } 12000$$

$$\text{CI} = \left[40000 \times \left(1 + \frac{1}{8}\right)^2\right] - 40000 = \text{Rs. } 10625$$

Difference = Rs. (12000 - 10625) = Rs. 1375

$$\text{Reqd. \%} = \frac{1375}{20000} \times 100 = 6.875\%$$

Hence, option E is correct.

36. In scheme 1:

Principal = Rs. 25000

Rate of simple interest = 12% per annum

Time period = 3.5 years

Simple interest earned from scheme 1

$$= \frac{25000 \times 12 \times 3.5}{100} = \text{Rs. } 10500$$

In scheme 2:

Principal = Rs. 10500

Amount = 11797.8

Rate of simple interest = x% per annum

Time period = 2 years

$$\text{So, } 11797.8 = 10500 \left(1 + \frac{x}{100}\right)^2$$

$$\text{So, } \left(1 + \frac{x}{100}\right)^2 = 1.1236$$

$$\text{So, } \left(1 + \frac{x}{100}\right)^2 = (1.06)^2$$

$$\text{So, } x = 6$$

Hence, option B is correct.

- 37.** Amount after 3 years = $x + (x \times 3 \times 0.12) = x + 0.36x = \text{Rs. } 1.36x$
Amount after 5 years = $1.36x \times (1.1)^2 = 1.36x \times 1.21 = \text{Rs. } 1.6456x$
Interest earned = $1.6456x - x = 0.6456x$
So, $0.6456x = x - 1772$
 $0.3544x = 1772$
 $x = 5000$
So, required interest earned if invested in 15% CI = $5000 \times (1.15^2 - 1) = \text{Rs. } 1612.50$
Hence, option A is correct.

- 38.** Amount received by Karan from scheme A

$$= 8000 \times \left(1 + \frac{20}{2 \times 100}\right)^{1.5 \times 2}$$

$$= 8000 \times 1.1^3 = 8000 \times 1.331 = \text{Rs. } 10648$$

$$\text{Interest earned by Karan from scheme B} = 10648 \times 5 \times 0.15 = \text{Rs. } 7986$$

$$\text{So, total amount received by Karan} = \text{Rs. } (10648 + 7986) = \text{Rs. } 18634$$

Hence, option B is correct.

- 39.** Amount increases by 300% in 15 years

$$\text{Percentage increase in 1 year} = \frac{300\%}{15} = 20\%$$

Interest earned on Rs. 30000 at the rate of 20% per annum compounded annually in 3 years

$$= 30000 \times \left(1 + \frac{20}{100}\right)^3 - 30000$$

$$= 30000 \times (1.2)^3 - 30000$$

$$= \text{Rs. } (51840 - 30000) = \text{Rs. } 21840$$

Hence, option B is correct.

- 40.** Let the principal = Rs. P
Then SI for 3 years @ 8% per annum

$$= \frac{P \times R \times T}{100} = \frac{P \times 8 \times 3}{100} = 250$$

$$P = \text{Rs. } 1041.67 \text{ approximately}$$

CI for 3 years @ 12% per annum on 1041.67

$$CI = P \left(1 + \frac{R}{100}\right)^N - P$$

$$= 1041 \left(1 + \frac{12}{100}\right)^3 - 1041.67 = \text{Rs. } (1463.47 - 1041.67) = \text{Rs. } 421.8$$

$$\text{The required difference} = \text{Rs. } (421.8 - 250) = \text{Rs. } 171.8 = \text{Rs. } 172 \text{ approximately}$$

Hence, option A is correct.

- 41.** Let amount = Rs. P, and rate of interest = r %

After two years when interest is compounded, amount

$$= P \left(1 + \frac{r}{100}\right)^2$$

After one year when interest is simple, amount

$$= P \left(1 + \frac{R}{100}\right)$$

According to question the ratio of the amount for two years under compound interest annually and for one year under simple interest is 9 : 7

$$\frac{P \left(1 + \frac{r}{100}\right)^2}{P \left(1 + \frac{r}{100}\right)} = \frac{9}{7}$$

$$1 + \frac{r}{100} = \frac{9}{7}$$

$$\underline{r = 2}$$

100 7

$$r = \frac{200}{7} = 28.57\%$$

Hence, option A is correct.

- 42.** Let the sum of money = x then interest = $5x - x = 4x$

$$SI = \frac{P \times R \times T}{100}, 4x = \frac{X \times R \times 25}{100}, R = 16\%$$

CI on Rs. 12500 for 2 years @ 16% per annum

$$= 12500 \left(1 + \frac{16}{100}\right)^2 - 12500 = 4320$$

Hence, option A is correct.

- 43.** Total share of Gautam and Gambhir = Rs. 84100

Let share of Gautam = Rs. x

Share of Gambhir = Rs. (84100 - x)

$$x \left(1 + \frac{5}{100}\right)^3 = (84100 - x) \left(1 + \frac{5}{100}\right)^5$$

$$x = 44100$$

Share of Gambhir = Rs. (84100 - 44100) = Rs. 40000

Hence, option B is correct.

- 44.** Total sum is divided in 2 parts and installment of each is Rs.33,80,000

For 1st year

$$\text{Amount} = P1 \left(1 + \frac{R}{100}\right)^T$$

$$\Rightarrow 33,80,000 = P1 \left(1 + \frac{25}{300}\right)^1$$

$$\Rightarrow P1 = 31,20,000$$

Similarly for 2nd year:

$$\Rightarrow 33,80,000 = P2 \left(1 + \frac{25}{300}\right)^2$$

$$\Rightarrow P2 = 28,80,000$$

$$\text{Total sum borrowed} = P1 + P2 = 31,20,000 + 28,80,000 = 60,00,000$$

Hence, option C is correct.

45. Amount earned in 2 years on Compound Interest = $1600 \times (1.2)^2 = \text{Rs.}2304$

$$\text{Simple interest earned} = 2304 \times 0.25 \times 3 = \text{Rs.}1728$$

Hence, option E is correct.

46. Amount invested in Z

$$= X \times \frac{130}{100} \Rightarrow X = \frac{100Z}{130}$$

Amount invested in Y

$$= Y \times \frac{210}{100} \Rightarrow Y = \frac{100Z}{210}$$

According to the question

$$\frac{100z}{130} \times 8 \times 1 + \frac{100z}{210} \times 10 \times 1 + \frac{Z \times 12 \times 1}{100} = 4800$$

$$\Rightarrow \frac{8Z}{130} + \frac{Z}{21} + \frac{3Z}{25} = 4800$$

$$\Rightarrow \frac{Z(4200 + 3250 + 8190)}{68250} = 4800$$

$$\Rightarrow \frac{15640Z}{68250} = 4800$$

$$\Rightarrow Z = \frac{4800 \times 68250}{15640}$$

$$\Rightarrow Z = 20946.29 = \text{Rs.}20946$$

Amount invested in Y

$$= \frac{100Z}{210} = 100 \times \frac{20946}{210}$$

$$= \text{Rs.}9974.28 = \text{Rs.}9974$$

Hence, option (B) is correct.

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47. Let the sum = Rs.P

$$\frac{P \times r \times t}{100} + P = \text{Amount}$$

$$\Rightarrow \frac{P \times 12 \times 10}{100} + P = 79200$$

$$\Rightarrow \frac{120P}{100} + P = 79200$$

$$\Rightarrow \frac{120P + 100P}{100} = 79200$$

$$\Rightarrow \frac{220P}{100} = 79200$$

$$\Rightarrow P = 79200 \times \frac{100}{220}$$

$$\Rightarrow P = \text{Rs.}36000$$

We know that

$$CI - SI = P \times \left(\frac{r}{100}\right)^2 \times \frac{300 + r}{100}$$

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$$\Rightarrow CI - SI = 36000 \times \left(\frac{20}{100}\right)^2 \times \frac{300 + 20}{100}$$

$$\Rightarrow CI - SI = 36000 \times \frac{1}{25} \times \frac{320}{100}$$

$$\Rightarrow CI - SI = \text{Rs.}4608$$

Hence, option C is correct.

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48. We know that, for two years

$$CI - SI = P \left(\frac{r}{100}\right)^2$$

$$\Rightarrow 4096 = P \left(\frac{8}{100}\right)^2$$

$$\Rightarrow 4096 = P \left(\frac{2}{25}\right)^2$$

$$\Rightarrow P = 4096 \times \frac{625}{4}$$

$$\Rightarrow P = 640000$$

Reqd. CI

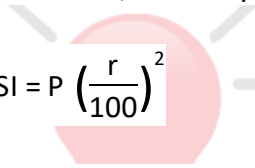
$$= 640000 \times \frac{112}{100} \times \frac{112}{100} \times \frac{112}{100} - 640000$$

$$= 899153.92 - 640000 = \text{Rs.}259153.92$$

Hence, option D is correct.

49. After 2 years amount

$$\Rightarrow 4,00,000 (1 + \underline{\quad} \%)^2$$



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100

$$\Rightarrow 4,00,000 (1.07)^2$$

$$\Rightarrow \text{Rs. } 4,57,960$$

$$\text{Returned amount at the end of her studies} = \text{Rs. } \frac{4,57,960}{2} = \text{Rs. } 2,28,980$$

$$\text{After 3 more years} = 2,28,980 \left(1 + \frac{10}{100}\right)^3$$

$$\Rightarrow \text{Rs. } 2,28,980(1.1)^3$$

$$\Rightarrow \text{Rs. } 3,04,772.38$$

$$\text{Total amount that she paid} = \text{Rs. } (2,28,980 + 3,04,772.38) \Rightarrow \text{Rs. } 5,33,752.38$$

$$\text{Total interest} = \text{Rs. } (5,33,752.38 - 4,00,000) \Rightarrow \text{Rs. } 1,33,752.38$$

Hence, option B is correct.

50. Let the required sum = Rs.P

$$\frac{P \times 8 \times 12}{100} + P = 109760$$

$$\Rightarrow \frac{96P + 100P}{100} = 109760$$

$$\Rightarrow 196P = 10976000$$

$$\Rightarrow P = \frac{10976000}{196}$$

$$\Rightarrow P = \text{Rs. } 56000$$

$$\text{Reqd CI} = 56000 \times \frac{108}{100} \times \frac{108}{100} \times \frac{108}{100} - 56000$$

$$= 70543.872 - 56000 = \text{Rs. } 14543.872$$

Hence, option B is correct.

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