

# CHARTERED ACCOUNTANCY - BUSINESS LEVEL 1.

## Business Mathematics and Statistics.

### Financial Mathematics

1. Find the simple interest on Rs 120,000 for 6 yrs. at 15% per annum.
2. In what time would the simple interest on Rs. 50000 amount to 68000/- at 12% per annum.
3. What sum would amount to Rs. 56000 in 4 years at 10% per annum simple interest.
4. Find the amount on Rs 40000 at 16% per annum compound interest in 5 years.
5. In what time will a sum of money double itself at 12.5% per annum compound interest.
6. At what rate percent compound interest will Rs. 40000 amount to Rs 60000 in 4 years.
7. Find the amount on Rs 500000 in 5 years at 15% per annum if compounded quarterly.
8. Find the effective interest rate equivalent to the nominal rate of 18% per annum compounded monthly.
9. A company buys a computer for Rs 200,000. If it depreciates at the rate of 12% per annum, what is the value of the computer after 4 years, if the reducing balance of depreciation is applied.
10. What is the present value of Rs 250,000 that will be received in 5 yrs. at 12% discounting rate.
11. What is the future value of an annuity at the end of 10 yrs. if Rs 6000 is deposited at the beginning of every year into an account earning 14% per annum compounded annually.

12. What is the present value of an annuity that pays Rs 10000/- per year at the end of every year for 5 yrs. if the discounting rate is 12% per annum.
13. A company estimates that it will have to replace a machine at a cost of Rs 1.2 million in 10 yrs. To have this money available in 10 yrs, a sinking fund is established, at 14% per annum, compounded annually. How much should be invested at the end of every year.
14. An investment of Rs 500,000/- at 14% simple interest per annum will mature after 5 yrs. What is the annual <sup>compound</sup> interest rate per annum that should be offered in order to get the same amount at maturity after 3 yrs. for the same investment.
15. A company borrowed Rs 800,000/- at an interest rate of 16% per annum for 10 years. The company must repay the loan in 10 yrs, starting at the end of first year. Calculate the annual repayment.
16. A company has taken out a Rs 500,000/- loan over 5 years. Interest is to be charged at 15% per annum. Calculate the monthly repayment that should be paid to amortize the debt.
- 17.

Answers: ① Rs 108000    ② 3 yrs    ③ Rs 40000    ④ Rs 84013.67  
 ⑤ 5.88 yrs    ⑥ 10.67%    ⑦ 104,408/-    ⑧ 19.56%  
 ⑨ 179909/-    ⑩ 141857/-    ⑪ 132267/-    ⑫ 36048/-  
 ⑬ Rs 62056.25    ⑭ 19.35%    ⑮ 165,520/-    ⑯ Rs 12429.81

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