# CONCEPT APPLICATION LEVEL - II

## SECTION -A

- **FILL IN THE BLANKS**

Q.1 The word percent means _____.

Q.2 _____% of 50 is 19.

Q.3 _____ is calculated on the sale value by applying the rate of tax as applicable.

Q.4 _____ is the price at which the article is purchased.

Q.5 _____ price is the price at which the article is sold.

Q.6 _____ = selling price – cost price.

Q.7 _____ = cost price – selling price

Q.8 Profit _____ $= \left(\frac{\text{Profit} \times 100}{\text{Cost price}}\right)\%$

Q.9 Loss _____ $= \left(\frac{\text{Loss} \times 100}{\text{Cost price}}\right)\%$

Q.10 Real cost = cost price + _____ .

Q.11 The money borrowed or lent is called the _____.

Q.12 The sum of the principal and the interest is called the _____.

Q.13 _____ is the interest paid on ₹ 100 for a specified period.

Q.14 The difference of tax recovered on sale vale and paid on purchase value is deposited to government as _____.

Q.15 Find the simple interest on ₹ 500 at 10% per annum for 3 years _____.

Q.16 In case of simple interest principal remains the same throughout the loan period. Is it ture ? _____.

Q.17 Write down the formula for calculating the amount of ₹ P in n years at r% per annum compounded annually. _____.

Q.18 What is the relationship among amount, principal and S.I.? _____.

Q.19 What is the difference between the compound interest compounded annually and the simple interest on ₹ 100 at 5% per annum for 1 year. _____.

Q.20 $P\left[\left(1+\frac{r}{100}\right)^{n}-1\right]$ = _____.

Q.21 In case of C.I., the principal increases every year. Does the rate of interest also vary in the case of C.I. ? _____.

Q.22 Express 5 paise per rupee per annum as per cent per annum _____.

Q.23 Express 0.5% per month as per cent per annum. _____.

Q.24 How many quarters are there in $1\frac{1}{2}$ years ? _____.

Q.25 _____ is always calculated on the marked price.

Q.26 In $P\left[1+\frac{R}{100}\right]^n$, R stands for _____.

Q.27 Cost price + profit gives _____.

Q.28 Comparison of two quantities by division is called _____.

Q.29 The principal + _____ gives amount.

Q.30 Rate of interest is usally specified as r% _____.

Q.31 Selling price-profit gives _____.

## SECTION -B

- **MULTIPLE CHOICE QUESTIONS**

Q.1 Find the ratio of 70 P to ₹14.

(A) 1 : 20 (B) 20 : 1 (C) 1 : 5 (D) $55\frac{2}{3}$

Q.2 Convert 2 : 3 to percent.

(A) $66\frac{3}{2}$ (B) $66\frac{2}{3}$ (C) $55\frac{3}{2}$ (D) $55\frac{2}{3}$

Q.3 A man gets 10% increase in his salary. If his new salary is ₹1,15,500, find his original salary.
(A) 10,500 (B) 1,05,000 (C) 2,05,000 (D) 2,32,700

Q.4 Atul is earning 10% more than his brother Amit. Find by what percent Amit's income is less than Atul's income.

(A) $9\frac{1}{11}$ (B) $11\frac{1}{11}$ (C) $9\frac{11}{17}$ (D) $9\frac{12}{17}$

Q.5 A fruit seller purchased some fruits. Later he found that 15% of the fruits were rotten. He sold 60% of the remaining fruits. He is now left with 34 fruits. Find the total fruits purchased by him.
(A) 200 (B) 250 (C) 100 (D) 300

Q.6 Kapil purchased an old car for ₹114400 and spent ₹5600 on its repair. He then sold the car for ₹150000. Find his gain percent in this transaction.
(A) 12.5% (B) 25% (C) 28% (D) 30%

Q.7 A shopkeeper bought 100 bulbs for ₹12 each. He found 10 bulbs to be fused and sold the remaining bulbs so as to gain 5% on whole transaction. At what price should he sell each bulb?
(A) 17 (B) 14 (C) 15 (D) 13

Q.8 A shopkeeper sold an article for ₹720 at a loss of 10%. At what price should he shell it so as to gain 5%?
(A) 870 (B) 900 (C) 850 (D) 840

Q.9 Raju sold two fans for ₹990 each. On selling one fan, he had a gain of 10% and on selling other fan, he had a loss of 10%. Find his gain or loss percent in the whole transaction.
(A) gain 1% (B) gain 10% (C) loss 1% (D) loss 10%

Q.10 A furniture seller is giving a discount of 14% on the sofa set. The marked price of the sofa set is ₹22000. Find the selling price of the sofa set after discount.
(A) 20,000 (B) 18,000 (C) 17,500 (D) 18,920

Q.11 To promote his sale, a shopkeeper charges ₹15488 for a T.V. set with marked price of ₹17600. Find the rate of discount given by him to the customer.
(A) 12% (B) 12.5% (C) 14% (D) 16%

Q.12 An article with marked price ₹1500 was sold to a customer for ₹1200. Find the rate of discount allowed on an article.
(A) 20% (B) 30% (C) 40% (D) 60%

Q.13 A radio was sold for ₹323 after allowing a discount of 15% on the marked price. Find the marked price of the radio.
(A) ₹400 (B) ₹450 (C) ₹350 (D) ₹380

Q.14 Renu Chauhan deposited a sum of ₹12500 in a bank for 3 years. If bank pays compound interest at the rate of 6% per annum, what amount will she get at the end of 3 years?
(A) 12,000.00 (B) 138210.50 (C) 14887.70 (D)12500.50

Q.15 Rajesh borrowed ₹100000 for 3 years from his friend at 7% compound annually. How much money will he pay to his friend at the end of 3 years?
(A) 122504.30 (B) 120000.00 (C) 11,0500.75 (D) 16,0000.50

Q.16 Mohan lent ₹1,60,000 to his friend for 2 years 3 months at the rate of 8% p.a. compounded annually. How much money will Mohan get as compound interest at the end of 2 years 3 months?
(A) 30350.56 (B) 30570.72 (C) 30356.48 (D) 30,000.00

Q.17 Find the difference between compound interest and simple interest on a sum of ₹25000 for 3 years at the rate of 4% per annum.
(A) 2000 (B) 1000 (C) 1500 (D) 3000

Q.18 Veena borrowed ₹5,12,000 from a bank for 1 year 6 months. If the bank charges 2½% per annum, compounded half-yearly, what amount will she have to pay after the given time period? Also, find the interest paid by her.
(A) 20,144 (B) 19,441 (C) 19,581 (D) 16,772

Q.19 Out of her total income, Mrs Sharma spends 20% on house rent and 70% of the rest on household expenses. If she saves ₹1800, what is her total income?
(A) 7500 (B) 8500 (C) 9600 (D) 9000

Q.20 On Sunday 845 people went to the zoo. On Monday only 169 people went. What is the per cent decrease in the people visiting the zoo on Monday?
(A) 90% (B) 80% (C) 60% (D) 70%

Q.21 The cost of an item is ₹44. This is 10% more than its cost in the previous year. Find the cost of the item in the previous year.
(A) 30 (B) 40 (C) 50 (D) 60

Q.22 A mixture of milk and water contains 7 parts of milk and 3 parts of water. Find the percentage of milk and water in the mixture.
(A) 25% &75% (B) 60% & 40% (C) 30% & 70% (D) 70% 30%

Q.23 A's income is 25% more than that of B. How much per cent is B's income less than that of A's?
(A) 30% (B) 40% (C) 20% (D) 50%

Q.24 Anurag's salary is increased by 10% and then decreased by 10%. Find the net percentage change in his salary.
(A) increase 1% (B) decrease 1% (C) decrease 2% (D) increase 1%

Q.25 The price of an article has been increased by 25%. By how much per cent must this new price be decreased to retain its former price?
(A) 15% (B) 17% (C) 18% (D) 20%

Q.26 An electronic good dealer purchased an old T.V. set for ₹8700. He spent ₹1100 on its repair and sold it at a profit of 8%. Find his selling price.
(A) 10,584 (B) 10,280 (C) 11,280 (D) 13,250

Q.27 If the cost price of 11 articles is equal to the selling price of 10 articles, find the gain per cent.
(A) 20% (B) 22% (C) 15% (D) 10%

Q.28 A dealer bought 17 fans at ₹460 each. He spent ₹40 as transportation charges and ₹20 per fan on packaging. He sells them at the rate of ₹550 per fan. Find his gain per cent.
(A) $41\frac{1}{14}\%$ (B) $14\frac{1}{41}\%$ (C) $22\frac{1}{41}\%$ (D) $41\frac{1}{23}\%$

Q.29 Find the rate of discount being given on a calculator whose selling price is ₹315 after deducting a discount of ₹210 on its marked price.
(A) 30% (B) 55% (C) 40% (D) 23%

Q.30 A merchant offers 8% discount on all his goods and still makes a profit of 15%. If an item is marked ₹250, find its cost price.
(A) 100 (B) 200 (C) 300 (D) 400

Q.31 I purchased a hair dryer for ₹5400 including 8%VAT. Find the price before VAT was added.
(A) 7000 (B) 5000 (C) 6000 (D) 8000

Q.32 The ratio of 50 paise to ₹1 is
(A) 1 : 2 (B) 2 : 1 (C) 1 : 1 (D) 1 : 5

Q.33 The ratio of 10 m to 1 km is
(A) 1 : 10 (B) 10 : 1 (C) 1 : 100 (D) 100 : 1

Q.34 The ratio of 10 km per hour to 30 km per hour is
(A) 3 : 1 (B) 1 : 2 (C) 1 : 3 (D) 2 : 1

Q.35 The ratio 1 : 4 converted to percentage is
(A) 50% (B) 25% (C) 75% (D) 4%

Q.36 The ratio 4 : 25 converted to percentage is
(A) 8% (B) 4% (C) 16% (D) 25%

Q.37 The fraction $\frac{2}{5}$ converted to percentage is
(A) 20% (B) 30% (C) 40% (D) 50%

Q.38 The fraction $\frac{1}{8}$ converted to percentage is
(A) $12\frac{1}{2}\%$ (B) 25% (C) 8% (D) 16%

Q.39 Out of 40 students in a class, 25% passed. How many students passed?
(A) 20 (B) 10 (C) 30 (D) 40

Q.40 Out of 100 students of a class, 30% like to watch T.V. How many students like to watch T.V.?
(A) 70 (B) 50 (C) 60 (D) 30

Q.41 There are 50 students in a class of which 40 are boys and the rest are girls. The ratio of the number of boys and number of girls is
(A) 2 : 3 (B) 1 : 5 (C) 4 : 1 (D) 2 : 5

Q.42 40% of 50 students of a class are good at Science. How many students are not good at Science?
(A) 20 (B) 30 (C) 10 (D) 40

Q.43 Apala has ₹200 with her. She spent 80% amount she had. How much money is left with her?
(A) ₹10 (B) ₹20 (C) ₹30 (D) ₹40

Q.44 If 20% of x = 40, then x is
(A) 20 (B) 40 (C) 120 (D) 200

Q.45 A mixture of milk and water contains 8 parts of milk and 2 parts of water. The percentage of milk in the mixture is
(A) 80% (B) 8% (C) 40% (D) 20%

Q.46 An alloy contains 20% of copper, 35% zinc and the rest as nickle. In 1.5kg alloy, the quantity of nickle is
(A) 765 g (B) 675 g (C) 575 g (D) 825 g

Q.47 If C.P. of a sofa set is ₹30000 and loss is 1%, then S.P., is
(A) ₹29700 (B) ₹33000 (C) ₹30300 (D) ₹29000

Q.48 If S.P. is ₹ 777.60 and gain is 8%, then C.P. is
(A) ₹ 812.60 (B) ₹ 835.20 (C) ₹ 720 (D) ₹ 820

Q.49 If S.P. of an article is $\frac{3}{2}$ of its C.P., then profit is

(A) ₹ 50 (B) 20% (C) 50% (D) 25%

Q.50 A cooker which is generally sold for ₹ 800 was sold for ₹ 700 due to festival season. What per cent discount was allowed ?

(A) $12\frac{1}{2}\%$ (B) 10% (C) $14\frac{2}{7}\%$ (D) 15%

Q.51 If x is less than y by 25% then y exceeds x by

(A) $33\frac{1}{3}\%$ (B) 25% (C) 75% (D) $66\frac{2}{3}\%$

Q.52 A man loses 12.5% of his money and after spending 70% of the remainder, has ₹ 210 left. At first the man had

(A) ₹ 720 (B) ₹600 (C) ₹ 800 (D) ₹ 880

Q.53 In a certain examination there were 2500 candidates, of them 20% are girls and the rest boys. Suppose 5% of boys and 40% of girls failed. The percentage of candidates who passed was

(A) 70% (B) 88% (C) 66% (D) 80%

Q.54 A number is increased by 20% and then again by 20%. By what percent should the increased number be reduced so as to get back the original number ?

(A) $30\frac{5}{9}\%$ (B) 42% (C) 44% (D) 41%

Q.55 In an examination, a student who gets 20% of the maximum marks fails by 5 marks. Another student who gets 30% of maximum marks gets 20 marks more than the pass mark. The necessary percentage required for passing is

(A) 23% (B) 20% (C) 32% (D) 22%

Q.56 If the numerator of a fraction is increased by 140% and the denominator is increased by 150% the resultant fraction is $\frac{4}{15}$. What is the original fraction

(A) $\frac{4}{18}$ (B) $\frac{5}{18}$ (C) $\frac{3}{10}$ (D) $\frac{3}{5}$

Q.57 A sum of ₹ 731 is dividing among A, B and C, such that A receives 25% more than B and B receives 25% less than C. What is C's share ?

(A) ₹ 272 (B) ₹ 262 (C) ₹ 258 (D) ₹ 200

Q.58 A student multiplied a number by $\frac{3}{5}$ instead of $\frac{5}{3}$. What is the percentage error in the calculation ?

(A) 54% (B) 34% (C) 44% (D) 64%

Q.59 A student secures 90%, 60% and 54% marks in test papers with 100, 150 and 200 respectively as maximum marks. The percentage of his aggregate is
(A) 64% (B) 70% (C) 72% (D) 68%

Q.60 A square is converted to rectangle by increasing its length by 20% and decreasing its width by 20%. Which of the following statement is true ?
(A) Area of rectangle = area of square (B) Area of rectangle = 120% area of square
(C) Area of rectangle = 96% area of square (D) Area of rectangle = 50% area of square

Q.61 A businessman allows two successive discount of 20% and 10%. If he gets ₹108 for an article, then its marked price is
(A) ₹ 124 (B) ₹ 140 (C) ₹ 150 (D) ₹ 170

Q.62 A dealer buys a table listed at ₹ 1500 and gets successive discount of 20% and 10%. He spends ₹20 on transportation and sells it at a profit of a 10%. The selling price of the table is
(A) ₹ 1150 (B) ₹ 1210 (C) ₹ 1250 (D) ₹ 1300

Q.63 If the cost price of 9 pens is equal to selling price of 11 pens. The gain or loss %
(A) $18\frac{2}{11}$ Loss (B) $18\frac{2}{11}$ gain (C) $16\frac{2}{7}$ (D) $16\frac{2}{7}$ loss

Q.64 A person sells two watches for ₹ 500 each. On one he losts 10% and on the other he gained 105 His gain or loss% is
(A) 1.5% gain (B) 1.5% loss (C) 1% loss (D) 1% gain

Q.65 A sells a bicycle of B at a profit of 20%. B sells it to C at a profit of 25%. If C pays ₹ 225 to it, the cost price of the bicycle for A is
(A) ₹ 115 (B) ₹ 130 (C) ₹ 150 (D) ₹ 140

Q.66 Rekha sold a watch at a profit of 15%. Had she bought it at 10% less and sold it for ₹ 28 less. She would have gained 20%. The C.P. of the watch is
(A) ₹ 250 (B) ₹ 400 (C) ₹ 425 (D) ₹ 450

Q.67 Two shopkeeper A and B sells machines at the same list price. The first (A) allows two successive discounts of 30% and 16% and the second (B) 20% and 26%. Which discount series is more advantageous to the customer ?
(A) Discount offered by 'A' (B) Discount offered by 'B'
(C) Both are equal (D) Can't be determined

Q.68 If selling price is doubled, the profit triples, then the profit percent is
(A) 120% (B) $66\frac{2}{3}\%$ (C) 100% (D) $103\frac{1}{3}\%$

Q.69 If a person makes a profit of 10% on 1/4th of the quantity sold and a loss of 20% on the rest, then his average percent profit or loss is
(A) 15% profit (B) 15% loss (C) 12.5% loss (D) 12.5% profit

Q.70 A man sold 250 chairs and had a gain equal to selling price of 50 chai₹ His profit percent is
(A) 5 (B) 10 (C) 25 (D) 50

Q.71 A shopkeeper on selling a pen for ₹ 10, losses $\frac{1}{11}$ th of what it costs to him. The cost price of pen is
(A) ₹ 9 (B) ₹ 10 (C) ₹ 11 (D) ₹ 12

Q.72 If I purchased 11 books for ₹ 10 and sold all the books at the rate of 10 books for ₹ 11 the profit per cent is
(A) 10% (B) 11% (C) 21% (D) 100%

Q.73 A dealer professing to sell his goods at cost price, uses a 900 gm weight for a kilogram. His gain percent is
(A) 9% (B) 10% (C) 11% (D) $11\frac{1}{9}\%$

Q.74 Toffees are bought at the rate of 3 for a rupee. To gain 50%, they must be sold at
(A) 2 for a rupee (B) 1 for a rupee (C) 4 for a rupee (D) 5 for a rupee

Q.75 By selling toffees at 20 for a rupee, a man loses 4%. To gain 20%, he must sell
(A) 16 toffees for a rupee (B) 20 toffees for a rupee
(C) 24 toffees for a rupee (D) 25 toffees for a rupee

Q.76 A dealer sold two cattle for ₹ 500 each. On one of them he lost 10% and on the other, he gained 10%. His gain or loss per cent in the entire transaction was
(A) 10% loss (B) 1% gain (C) 1% loss (D) neither loss nor gain

Q.77 A man sells two commodities for ₹ 4,000 each, neither loss nor gain in the deal. If he sold one commodity at a gain of 25%, the other commodity is sold at a loss of
(A) $16\frac{2}{3}\%$ (B) $18\frac{2}{9}\%$ (C) 25% (D) none of these

Q.78 Raghu bought 4 dozen oranges at ₹ 12 per dozen and 2 dozen oranges at ₹ 16 per dozen. He sold them all to earn 20% profit. At what price per dozen did he sell the oranges ?
(A) ₹ 14.40 (B) ₹ 16 (C) ₹ 16.80 (D) ₹ 19.20

Q.79 At what percent above the cost price must an article be marked so as to gain 33% after allowing the customer at discount of 5% ?
(A) 38% (B) 40% (C) 43% (D) 48%

Q.80 A shopkeeper professes to sell all things at a discount of 10%, but increases the selling of each article by 205. His gain on each article is
(A) 6% (B) 8% (C) 10% (D) 12%

Q.81 The compound interest for 1st year and 2nd year on a certain sum will be
(A) Same (B) Different
(C) Depends on principal (D) Depends on rate of interest

Q.82 A sum of money lent at compound interest yields ₹ 100 at the end of 1st year and ₹ 105 at the 2nd year. The rate %per annum is

(A) 4 (B) 6 (C) $2\frac{1}{2}$ (D) 5

Q.83 The C.I. on a certain sum for 2 years in ₹ 41 and S.I. is ₹ 40. Then the rate per annum is

(A) 5% (B) 4% (C) $2\frac{1}{2}\%$ (D) 8%

Q.84 The compound interest on ₹ 8000 for 1 year at 10% p.a. payable half yearly is
(A) ₹ 820 (B) ₹ 800 (C) ₹400 (D) ₹ 1600

Q.85 The C.I. on ₹ 8000 at 15% p.a. for $\frac{1}{3}$ years is

(A) ₹ 9660 (B) ₹ 1660 (C) ₹ 1600 (D) ₹ 4800

Q.86 In what time will ₹ 10000 amount to ₹ 12100 at 10% p.a. compounded annually ?

(A) 3 years (B) $1\frac{1}{2}$ years (C) 2 years (D) 1 year

Q.87 The C.I. on a sum of money for 2 years is ₹ 170 and the S.I. on the same sum at the same rate of interest for 3 years is ₹ 240. The rate of interest p.a. is

(A) 8% (B) $16\frac{1}{4}\%$ (C) $12\frac{1}{2}\%$ (D) $7\frac{1}{2}\%$

Q.88 The present population of a town is 150000. The population of the town increases 4% annually. The population after 2 years will be
(A) 152240 (B) 162240 (C) 163240 (D) 153240

Q.89 Nanoo and Meenu borrowed ₹ 400 each at 10% interest per annum. Nanoo borrowed at compound interest. If both the cases, the interest was calculated half yearly. At the end of one year
(A) Both paid the same amount as interest (B) Nanoo paid ₹ 1 more as interest
(C) Meenu paid ₹ 5 more as interest (D) Meenu paid ₹ 5 less as interest

Q.90 The population of a village increase @5% p.a. If present population is 8000, after how many years the population will be 9261 ?

(A) 2 years (B) 3 years (C) $3\frac{1}{2}$ years (D) 4 years

Q.91 Of a certain sum, $\frac{1}{3}$rd is invested at 3%, $\frac{1}{6}$th at 6% and the rest at 8%. If the SI for 2 years from all these investments amount to ₹ 600, then the original sum was
(A) ₹ 2000 (B) ₹ 3000 (C) ₹ 4000 (D) ₹ 5000

Q.92 Bhanu borrowed a certain sum of moeny at 12% per annum for 3 years and Madhuri borrowed the same sum at 24% per annum for 10 years. The ratio of their amounts, is
(A) 1 : 3 (B) 2 : 1 (C) 2 : 3 (D) 2 : 5

Q.93 Compound interest on ₹ 25000 at 20% p.a. for $2\frac{1}{2}$ years, if interest is compounded annually, is
(A) ₹ 39600 (B) ₹ 14600 (C) ₹ 37500 (D) ₹ 12500

Q.94 A certain sum of money invested at a certain rate of compound interest doubles in 5 years. In how many years will it become 4 times ?
(A) 10 years (B) 12 years (C) 15 years (D) 20 years

Q.95 The difference between CI and SI on ₹ 8000 for 3 years at 2.5% p.a. is
(A) ₹15.125 (B) ₹ 10.125 (C) ₹ 18.125 (D) ₹ 19.125

Q.96 A sum of money, put out at compound interest, becomes ₹ 672 in two years and ₹ 714 in three years the rate of interest is
(A) 5% per annum (B) 6% per annum (C) $6\frac{1}{4}$ per annum (D) $7\frac{1}{2}\%$ per annum

Q.97 The least number of complete year in which sum of money at 20% will be mroe than doubled is
(A) 8 years (B) 10 years (C) 12 years (D) 4 years

Q.98 The value of a machine depreciates @25% p.a. If its present value is ₹ 14400. The value of machine 2 years ago is
(A) ₹ 8100 (B) ₹ 9216 (C) ₹ 22500 (D) ₹ 25600

Q.99 The correct formula is
(A) $\text{Principal} = \text{Amount}\left(1+\frac{\text{Rate}}{100}\right)^{\text{Time}}$ (B) $\text{Amount} = \text{Principal}\left(1+\frac{\text{Rate}}{100}\right)^{\text{Time}}$
(C) $\text{Amount} = \text{Principal}\left(1+\frac{\text{Rate}}{100}\right)^{\text{Rate}}$ (D) None of these

Q.100 The difference between the compound interest compounded annually and the simple interest on ₹ 625 at 10% per annum for 1 year is
(A) ₹ 10 (B) ₹ 100 (C) ₹ 15 (D) 0

Q.101 A sum becomes ₹ 3,136 after 2 years at 12% per annum compounded annually. The sum is
(A) ₹ 2,000 (B) ₹ 2,500 (C) ₹ 3,000 (D) ₹ 3,500

Q.102 David borrowed ₹ 1,500 at 8% simple interest for 2 years and he lent it to Tahir for 2 years at 10% per annum compound interest, compounded annually. David's profit is :
(A) ₹ 240 (B) ₹ 315 (C) ₹ 75 (D) none of these

Q.103 The amount for sum of ₹ 600 for 1 year at the rate of 20% p.a. compounded half-yearly is
(A) ₹ 626 (B) ₹ 640 (C) ₹ 720 (D) ₹ 726

Q.104 On which of the following percent profit or percent loss is calculated ?
(A) S.P. (B) C.P. (C) marked price (D) none of these

Q.105 The discount is always calculated on which of the following ?
(A) S.P. (B) C.P. (C) marked price (D) none of these

Q.106 VAT is always calculated on which of the following ?
(A) S.P. (B) C.P. (C) marked price (D) none of these

Q.107 If interest is compounded half yearly then time period in taken :
(A) twice as much as the number of given years (B) half as much as the number of given years
(C) same as the number of given years (D) none of these

Q.108 If the interest is compounded quaraterly, then the 'rate of interest per annum' :
(A) reduced to half (B) reduced to one-fourth
(C) is doubled (D) becomes four times

Q.109 If the marked price of an iterm is ₹ 10 and a discount of 10% is allowed then its sales price is
(A) ₹ 10 (B) ₹ 9 (C) ₹ 11 (D) none of these

Q.110 A machinery worth ₹ P is depreciated by 5% per annum. Which of the following will be its value after 1 year ?
(A) $P\left[1-\frac{5}{100}\right]$ (B) $P\left[1+\frac{5}{100}\right]$ (C) $P\left[\left(1+\frac{5}{100}\right)-1\right]$ (D) $P\left[1-\left(1-\frac{5}{100}\right)\right]$

Q.111 If the marked price of an item is ₹ 1050 and sales price is ₹ 1000 then discount is :
(A) 5% (B) $4\frac{16}{21}\%$ (C) $5\frac{5}{19}\%$ (D) none of these

Q.112 An article marked at 10% more than its cost price. If a discount of 10% is allowed then which of the following is true ?
(A) 1% gain (B) 1% loss (C) no gain and no loss (D) 1.1% loss

Q.113 If an article sold for ₹ 100 then there is a gain of ₹ 20, which of the following is the gain percent ?
(A) 25% (B) 22% (C) 20% (D) $16\frac{2}{3}\%$

Q.114 An amount becomes 6 times in 7 years when invested under S.I. at a certain rate. In how many years will the amount become 16 times of the original amount at the same rate? **[IMO-2016]**
(A) 28 years (B) 20 years (C) 21 years (D) 30 years

Q.115 If 35% of a number is 12 less than 50% of that number, then the number is _____. **[IMO-2016]**
(A) 40 (B) 50 (C) 60 (D) 80

Q.116 The monthly income of Komal and Asha are in the ratio of 4 : 3. Their monthly expenses are in the ratio of 3 : 2. However both saves ₹600 per month. What is their total monthly income? **[IMO-2016]**
(A) ₹8400 (B) ₹5600 (C) ₹4200 (D) ₹2800

Q.117 Sudharshan invested ₹15,000 at the rate of 10% per annum compounded half yearly. What amount will Sudharshan get at the end of the year? **[IMO-2016]**
(A) ₹16,537.50 (B) ₹16,500 (C) ₹16,525.50 (D) ₹18,150

Q.118 A house is purchased by Mohit, Arun and Armaan. Arun contributes $\frac{23}{60}$ of Mohit's contribution while, Armann contributes $\frac{1}{3}$ of Mohit's contribution. If Mohit's contribution is ₹1500000, then find the contribution of Armaan and Arun. **[IMO-2016]**
(A) ₹5,00,000, ₹5,75,000 (B) ₹5,00,000, ₹6,75,000
(C) ₹6,00,000, ₹5,00,000 (D) ₹6,25,000, ₹5,25,000

Q.119 Raju purchased item for ₹4,500 and sold it at a gain of 15%. From that amount he purchased another item and sold it at a loss of 10%. What is his overall gain/loss? **[IMO-2016]**
(A) Gain of ₹152.50 (B) Gain of ₹157.50
(C) Loss of ₹165 (D) Neither gain nor loss

Q.120 A man had ₹4800 in his locker two years ago. In the first year, he deposited 20% of the amount in his locker. In the second year, he deposited 25% of the new amount in his locker. Find the amount at present in his locker. **[IMO-2016]**
(A) ₹5200 (B) ₹6800 (C) ₹7200 (D) ₹8000

Q.121 If $A = \frac{1}{4}$ B and $B = \frac{1}{2}$ C, then find the value of A : B : C. **[IOM-2016]**
(A) 8 : 4 : 1 (B) 4 : 2 : 1 (C) 1 : 4 : 8 (D) 1 : 2 : 4

Q.122 Harry wants to mix the flour of two different rates so that he can sell at the rate he wants. In what proportion he must mix the flour at ₹16.6 per kg with another flour at ₹16.45 per kg so that the mixture can be sold at the rate of ₹16.54 per kg? **[IOM-2016]**
(A) 1 : 3 (B) 4 : 3 (C) 1 : 2 (D) 3 : 2

Q.123 The ratio of the ages of two boys is 3 : 4. After 3 years, the ratio will be 4 : 5. The ratio of their ages after 21 years will be **[IOM-2016]**
(A) 14 : 17 (B) 17 : 19 (C) 11 : 12 (D) 10 : 11

Q.124 When principal = ₹S, rate of interest = 2r% p.a., then a person will get the amount after 3 years at compound interest **[IOM-2016]**

(A) $₹ S\left(1+\frac{r}{100}\right)^3$ (B) $₹ 3S\left(1+\frac{r}{100}\right)^3$ (C) $₹ S\left(1+\frac{r}{50}\right)^3$ (D) $₹ \frac{6Sr}{100}$

Q.125 In a partnership business, B's capital was half of A's. If after 8 months, B withdrew half of his capital and after 2 months more A withdrew $\frac{1}{4}$ th of his capital, then the profit ratio of A and B will be **[IOM-2016]**

(A) 10 : 23 (B) 23 : 10 (C) 5 : 2 (D) 2 : 5

Q.126 A sum of money placed at a compound interest doubles itself in 5 years. It will amount to eight times itself at the same rate of interest in **[IOM-2016]**

(A) 12 years (B) 10 years (C) 20 years (D) 15 years

Q.127 A sum of ₹7,930 is divided into 3 parts and given a loan at 5% simple interest to A, B and C for 2, 3 and 4 years respectively. If the amounts of all three are equal after their respective periods of loan, then A received a loan of **[IOM-2016]**

(A) ₹3,050 (B) ₹2,760 (C) ₹2,800 (D) ₹2,750

Q.128 There were two different copper alloys of total weight 50 kg. The first contains 40% less copper than the second. Determine the percentage of copper in the first and second alloys, if it is known that there were 6 kg of copper in the first alloy and 12 kg in the second. **[IOM-2016]**

(A) 20%, 80% (B) 16%, 78% (C) 20%, 60% (D) 30%, 70%

## SECTION - C

- **PASSAGE**

### Passage – 1

The cost of producing a magazine is made up from two parts, typing and printing. In 2009 the typing cost ₹ 3.00 for every page and the printing cost ₹ 18.50 for every 100 copies of the magazine.

Q.1 Find the total cost of producing 600 copies of a magazine with 32 pages.

Q.2 The magazines were sold for 40 paise each.
(A) Find the number of magazines that needed to be sold so that no loss was made.
(B) Calculate the percentage profit that would have been made if all of these 600 magazines were sold.
(C) 4% of the magazines were given away, and the remainder were sold. Find the profit that was actually made.

### Passage-2

Rihana lives in Chennai. Her friend Suhana lives in Bombay. On a weekday evening Rihana can call Suhana long distance and talk for 10 min for ₹ 500. If she calls on Sunday, there is a 35% discount.

Q.3 The cost of a 20 min call on Sunday is

(A) 650 (B) 6.50 (C) 65.0 (D) 0.650

Q.4 How long would Rihana talk on Sunday for ₹ 5.00 ?

(A) 8 min (B) 7 min (C) 10 min (D) 6 min

## SECTION - D

- **ASSERTION & REASON**

(A) If both **Assertion** and **Reason** are correct and Reason is the **correct explanation** of Assertion.
(B) If both **Assertion** and **Reason** are correct, but Reason is the **not the correct explanation** of Assertion.
(C) If **Assertion** is correct but Reason is the **incorrect**.
(D) If **Assertion** is incorrect but Reason is the **correct**.

Q.1 **Assertion :** If 'a' is x% more than 'b' and 'b' is y% less than 'a'. Then relation between x and y is

$$\frac{1}{y}-\frac{1}{x}=\frac{1}{100}$$

**Reason :** If 'a' exceeds 'b' by P% then 'b' is short of 'a' by $\frac{100\times P}{100+P}$%.

Q.2 **Assertion :** Two whole numbers whose sum is 64, cannot be in the ratio 3 : 4.
**Reason :** For dividing a number into two whole numbers, the sum of the terms of the ratio must be a factor of that number.

Q.3 **Assertion :** The numbers 4, 6 and 9 are in continued proportion.
**Reason :** The numbers 2, 4, 6 are also in continued proportion.

Q.4 In a test on percent application Priyanka answered 28 of the 35 questions correctly.
**Assertion :** She answered 80% of the questions correctly.
**Reason :** She answered 20% of the question correctly.

Q.5 **Assertion :** An article is sold at ₹ 1425 at a loss of 5%. It's C.P. is ₹ 1500.
**Reason :** If the shopkeeper has to make a 10% profit in question given statement then the S.P. should be ₹ 6150.

## SECTION - E

- **MATCH THE COLUMN**

Q.1 Match the column

| | **Column I** | | **Column II** |
|---|---|---|---|
| (A) | Percentage is | (p) | a fraction whose denominator is 100. |
| (B) | Selling price is | (q) | $\frac{\text{Principle}\times\text{rate}\times\text{time}}{100}$ |
| (C) | Simple interest is | (r) | $\left(\frac{\text{One quantity}}{\text{Other quantity}}\times 100\right)\%$ |
| | | (s) | $\left(1+\frac{\text{Profit}}{100}\right)\times \text{C.P.}$ |
| | | (t) | C.P. – Loss |
| | | (u) | Amount – Principal |

Q.2

| | Column I | | Column II |
|---|---|---|---|
| (A) | Marked price is | (p) | marked price – selling price |
| (B) | Net price is | (q) | the price printed on the items. |
| (C) | Discount is | (r) | the price payable after reducing the discount from the marked price |
| | | (s) | the reduction given on the marked price by the shopkeeper |
| | | (t) | $\frac{100 \times \text{S.P.}}{100 - \text{Rate of discount}}$ |

Q.3

| | Column I | | Column II |
|---|---|---|---|
| (A) | VAT is calculate on _____ price | (i) | marked price |
| (B) | Discount is always counted on the _____ price | (ii) | Twice |
| (C) | Profit or loss is always calculated on _____ price | (iii) | Half |
| (D) | If the interest compounded half yearly the time period become _____ . | (iv) | Selling price |
| (E) | If the interest compounded half yearly the rate of interest become _____ . | (v) | Cost price |

**Q.4**

| | Column I | | Column II |
|---|---|---|---|
| (A) | 1 cm to 2 m | (p) | 1 : 1000 |
| (B) | 1 min to 1 h | (q) | 24 : 1 |
| (C) | 1m to km | (r) | 1 : 365 |
| (D) | 1 day to 1h | (s) | 1 : 200 |
| (E) | 1 day to 1 year | (t) | 1 : 60 |

**Q.5**

| | Column I | | Column II |
|---|---|---|---|
| (A) | The ratio of 3.5 kg to 280 gm is | (p) | 10.20 |
| (B) | The compound ratio of 3 :4, 8 : 15 and 25 : 28 is | (q) | 0.05 |
| (C) | 0.35% of a number is equivalent to multiplying it by the number | (r) | 5 : 14 |
| (D) | 20% of 30% of 20% of ₹ 850 is | (s) | 25 : 2 |
| (E) | Half of 1 percent written as a decimal is | (t) | 0.0035 |

## SECTION - F

- **CHART BASED QUESTION**

Q.1 Study the Menu chart and answer the following questions based on it.

(i) A family went for a dinner and paid bill as follows.

Tea = ₹ 194.40; Dosa = ₹ 105; Kadai Paneer = ₹ 98; Chowmein = ₹ 46

Find the profit earned by the restaurant on this bill ?

(ii) Find the difference in the profit percent in the following two payments

(a) Tea → ₹ 129.60; Dosa → ₹ 214.20; Chowmein → ₹ 99; Rice → ₹ 234

(b) Tea → ₹ 302.40; Dosa → ₹ 119; Chowmein → ₹ 173.25

**Picture based questions**

Q.1

| **Summer Special** |
|---|
| Save 20% on Vanilla Ice cream maker |
| Rs. 36.00 |

Reena, Anshi and Dipanshu want to buy the ice cream maker as a birthday present for their mother. Study the advertisement and find the sale price.