EXERCISE – 1

Percentage

1. Express:

   (i) 35% as fraction   (ii) $4\frac{1}{8}$ as per cent   (iii) $17\frac{1}{2}$% as decimal   (iv) 9.5 as per cent

2. Evaluate:

   (i) 10% of 5 litres   (ii) $3\frac{7}{8}$% of 500 kg   (iii) $12\frac{1}{2}$% of 480 cm   (iv) $\frac{3}{4}$% of Rs. 1200

3. Find the value of x when:

   (i) 20% of x = 40   (ii) $\frac{1}{2}$% of x = 9

4. Rajni scored 62% in English, 80% in mathematics and 56% in Social Science. If the maximum marks in these subjects were 50, 100 and 75 respectively, find her aggregate percentage.

5. Vikram got an increase of 10% in his salary. If the salary after increase was Rs. 36355, find his salary before increase.

6. 60% students in a school are boys. Find the total number of students in the school if 120 are girls.

7. A mixture of milk and water contains 8 parts of milk and 2 parts of water. Find the percentage of milk in the mixture.

8. A's income is 20% less than that of B's. How much per cent is B's income more than A's?

9. In an election, there were only two candidates for the post of president. The winning candidate got 53% of the total votes. His opponent got 31000 votes which represented 31% of the total votes. Find (i) the number of votes and (ii) the winning margin.

10. 40% passengers from a train got down at station A, 60% of the remaining passengers got down at station B. If there were still 540 passengers in the train, how many passengers were before station A provided no one boarded the train at station A and station B.

11. The value of a car depreciates 20% every year. If after two years the price of a car is Rs. 208000, find the original price of the car.

12. Find the ratio of
    (i) 36 to 64   (ii) 40 paise to Rs. 3
    (iii) 24 minutes to an hour   (iv) 125 mL to 2 liters.

13. Find the ratio of the price of coffee to that of tea, when coffee costs Rs. 24 per 100 g and tea costs Rs. 80 per kg.

14. Convert the following ratios into percent's:
    (i) 2 : 5   (ii) 3 : 5   (iii) 13 : 20.

15. Find the number whose 13% is 65.

16. Find the number whose $6\frac{1}{4}$% is 2.

17. 72% of 25 students are good in mathematics. How many students are not good in it?

18. A basket contains 350 eggs. If 12% of the eggs are rotten, find the number of eggs good enough to be sold.

19. Mr. Hamid saves 12% of his salary. if he receives Rs. 7350 per month as salary, find his monthly expenditure.

20. Ankita spends 92% of her monthly income. If he saves Rs. 550 per month, what is her monthly income?

21. The salary of a clerk was increased by 7%. If his present salary is Rs. 6077.60, what was salary before the increment?

22. In an examination, 96% of the candidates passed and 50 failed. How many candidates appeared?

Profit Loss & Discount

23. Find the S.P. if
    (a) M.P. = Rs 5450 and discount = 5%
    (b) M.P. = Rs 1300 and discount = 1.5%

24. Find the M.P. if
    (a) S.P. = Rs 495 and discount = 1%
    (b) S.P. = Rs 9,250 and discount = $7\frac{1}{2}$%

25. Find discount in per cent when
    (a) M.P. = Rs 625 and S.P. = Rs 562.50
    (b) M.P. = Rs 900 and S.P. = Rs 873

26. At a clearance sale, all goods are on sale at 45% discount. If I buy a skirt marked Rs 600, how much would I need to pay?

27. A shopkeeper offers his customers 10% discount and still makes a profit of 26%. What is the actual cost to him of an article marked Rs 280?

28. A shopkeeper marks his goods at such a price that after allowing a discount of 12.5% for cash payment, he still makes a profit of 10%. Find the marked price of an article which costs him Rs 245.

29. A dealer buys an article for Rs 380. At what price must he mark it so that after allowing a discount of 5%, he still makes a profit of 25%?

30. A tradesman allows a discount of 15% on the written price. How much above the cost price must he mark his goods to make a profit of 19%?

31. I mark up the computers I am selling by 20% and sell them at a discount of 15%. What is my net gain percent?

32. Articles are marked at a price which gives a profit of 25%. After allowing a certain discount, the profit reduces to $12\frac{1}{2}$ %. Find the discount percent.

33. The marked price of an article is Rs 500. The shopkeeper gives a discount of 5% and still makes a profit of 25%. Find the cost price of the article.

34. Ashima sold two coolers for Rs 3,990 each. On selling one cooler she gained 5% and on selling the other she suffered a loss of 5%. Find her overall gain or loss % in whole transaction.

35. A lady buys some pencils for Rs 3 and an equal number for Rs 6. She sells them for Rs 7. Find her gain or loss%.

36. On selling a chair for Rs 736, a shopkeeper suffers a loss of 8%. At what price should he sell it so as to gain 8%?

37. Rishi bought a wrist watch for Rs. 2200 and sold it for Rs. 1980. Find has loss and loss percent.

38. If the cost price of 18 mangoes is the same as the selling price of 16 mangoes, find the gain percent.

39. If the C.P. of 25 chairs is equal to the S.P. of 30 chairs, find the loss percent.

40. A girl buys lemons at 4 for Rs. 3 and sells them at 5 for Rs. 4. How much percent loss or gain does she make?

41. A person sells an article for Rs. 550, gaining $\frac{1}{10}$ of its C.P. Find gain percent.

42. A dishonest dealer professes to sell his goods at cost price, but he uses a weight of 960 grams for 1 kg. Find his gain percent.

43. A man purchases two fans for Rs. 2160. By selling one fan at a profit of 15% and the other at a loss of 9% he neither gains nor losses in the whole transection. Find the cost price of each fan.

44. A man bought two T.V. sets for Rs. 42500. He sold one at a loss of 10% and other at a profit of 10%. If the selling price of each T.V. set is same, determine the C.P. of each set.

45. A man sold two articles at Rs. 25920 each. These were sold at 8% gain and 4% loss respectively. Find the gain or loss percent in the whole transaction.

46. A toy was sold at a gain of 12%. Had it been sold for Rs. 33 more, the gain would have been 14%. Find the cost price of the toy?

47. A man bought an article and sold it at a gain of 10%. If he had bought it at 20% less and sold it for Rs. 10 more, he would have made a profit of 40%. Find the C.P. of the article?

48. If the selling price of 10 pens is equal to cost price of 14 pens, find the gain percent.

49. If the selling price of 18 oranges is equal to the cost price of 16 oranges, find the loss percent.

50. By selling a book for Rs. 258, a bookseller gains 20%. for how much should he sell it to gain 30%?

51. A defective briefcase costing Rs. 800 is being sold at a loss of 8%. If the price is further reduced by 5%, find its selling price.

52. By selling 90 ball pens for 160 a person loses 20%. How many ball pens should be sold for Rs. 96 so as to have a profit of 20%?

53. After allowing a discount of 12% on the marked price of an article, it is sold for Rs. 880. Find its marked price.

54. A shopkeeper marks his goods at such a price that after allowing a discount of 12.5% for cash payment, he still makes a profit of 10%. Find the marked price of an article which costs him Rs. 245.

55. A dealer buys an article for Rs. 380. At what price must be mark it so that after allowing a discount of 5%, he still makes a profit of 25%?

56. 1 mark up the computers 1 am selling by 20% and sell them at a discount of 15%. What is my net gain percent?

57. A trader marks his goods 40% above the cost price and gives a discount of 20% on the marked price. Find his gain percent.

58. A dealer of scientific instruments allows 20% discount on the marked price of the instruments and still makes a profit of 25%. If his gain over the sale of an instrument is Rs. 150, find the marked price of the instrument.

59. A shop selling sewing machines offers 3% discount on all cash purchases. What cash amount does a customer pay for a sewing machine the price of which is marked as Rs. 650.

60. After allowing a discount of $7\frac{1}{2}$% on the marked price, an article is sold for Rs. 555. Find its marked price.

61. A shopkeeper allows his customers 10% off on the marked price of goods and still gets a profit of 25%. What is the actual cost to him of an article marked Rs. 250?

Compound Interest

62. Maria invests Rs. 93750 at 9.6% per annum for 3 years and the interest is compounded annually. Calculate:
    (i)   The amount standing to her credit at the end of second year.
    (ii)   The interest for the third year.

63. Find the compound interest on Rs. 8000 for $1\frac{1}{2}$ years at 10% per annum, interest being payable half-yearly.

64. Find the compound interest on Rs 1000 for two years at 4% per annum.

65. Vijay obtains a loan of Rs 64000 against his fixed deposits. if the rate of interest be 2.5 paise per rupee per annum, calculate the compound interest payable after 3 years.

66. Simple interest on a sum of money for 3 years at $6\frac{1}{4}$% per annum is Rs 2400. What will be the compound interest on that sum at the same rate for the same period?

67. Compute the compound interest on Rs 12000 for 2 years at 20% per annum when compounded half-yearly.

68. Find the compound interest on Rs. 1000 at the rate of 8% per annum for $1\frac{1}{2}$ years when interest is compounded half-yearly.

69. Find the compound interest on Rs. 160000 for one year at the rate of 20% per annum, if the interest is compounded quarterly.

70. Roma borrowed Rs. 64000 from a bank for $1\frac{1}{2}$ years at the rate of 10% per annum. Compute the total compound interest payable by Roma after $1\frac{1}{2}$ years, if the interest is compounded half-yearly.

71. Vijay obtains a loan of Rs. 64000 against his fixed deposits. If the rate of interest be 2.5 paise per rupee per annum, calculate the compound interest payable after 3 years.

72. Simple interest on a sum of money for 3 years at $6\frac{1}{4}$ % per annum is Rs. 2400, what will be the compound interest on that sum at the same rate for the same period?

73. Ramesh deposited Rs. 7500 in a bank which pays him 12% interest per annum compounded quarterly. What is the amount which he receives after 9 months?

74. Ram Singh buys a refrigerator for Rs. 4000 on credit. The rate of interest for the first year is 5% and of the second year is 15%. How much will it cost him if he pays the amount after two years?

75. Rahman lent Rs. 16000 to Rasheed at the rate of $12\frac{1}{2}$ % per annum compound interest. Find the amount payable by Rasheed to Rahman after 3 years.

76. Find the difference between the compound interest and simple interest. On a sum of Rs. 50000 at 10% per annum for 2 years.

77. Kamal borrowed Rs. 57600 from LIC against her policy at $12\frac{1}{2}$ % per annum to build a house. Find the amount that she pays to the LIC after $1\frac{1}{2}$ years if the interest is calculated half-yearly.

78. What sum will become Rs. 9826 in 18 months if the rate of interest is $2\frac{1}{2}$ % per annum and the interest is compounded half-yearly?

79. In which time will Rs. 800 amount to Rs. 882 at 5% per annum compound annually?

80. In what time will Rs. 64000 amount to Rs. 68921, rate R = 5% per annum. Being compounded half-yearly?

81. Reena borrowed from Kamal certain sum for two years at simple interest. Reena lent this sum to Hamid at the same rate for two years compound interest. At the end of two years she received Rs. 110 as compound interest but paid Rs. 100 as simple interest. Find the sum and rate of interest.

82. On what sum will the compound interest at 5% per annum for 2 years compounded annually be Rs. 164?

83. What sum will amount to Rs. 4913 in 18 months, if the rate of interest is $12\frac{1}{2}$ % per annum, compounded half-yearly?

84. In how much time would Rs. 5000 amount to Rs. 6655 at 10% per annum compound interest?

85. In what time will Rs. 1000 amount to Rs. 1331 at 10% per annum, compound intersect?

86. Find the rate percent per annum if Rs. 2000 amount to Rs. 2662 in $1\frac{1}{2}$ years, interest being compounded half-yearly?

87. Find the rate percent per annum, if Rs. 2000 amount to Rs.2315.25 in an year and a half, interest being compounded six monthly.

88. In a factory the production of scooters rose to 48400 from 40000 in 2 years. Find the rate of growth per annum.

89. A factory increased its production of three wheelers from 80000 in 1999 to 92610 in 2002. Find the annual rate of growth of production of three wheelers.

90. The population of a city is 125000. If the annual birth rate and death rate are 5.5% and 3.5% respectively, calculate the population of city after 3 years.

91. Three years ago, the population of a town was 50000. If the annual increase during three successive years be at the rate of 4%, 5% and 3% respectively, find the present population.

92. There is a continuous growth in population of a village at the rate of 5% per annum. If its present population is 9261, what it was 3 years ago?

93. The population of a town increases at the rate of 50 per thousand. Its population after 2 years will be 22050. Find its present population.

EXERCISE – 2

1. An alloy contains 32% copper, 40% nickel and rest zinc. find the mass of the zinc in 1 kg of the alloy.
2. A motorist travelled 122 kilometres before his first stop. If he had 10% of his journey to complete at this point, how long was the total ride?
3. If 23% of a is 46, then find a.
4. If Chameli had Rs 600 left after spending 75% of her money, how much did she have in the beginning?
5. Kishan spends 30% of his salary on food and donates 3% of his salary in a temple. In a particular month, he spends Rs. 231 on these two items. What is his total salary for this month?
6. A man loses 20% of his money. After spending 25% of the remainder, he has Rs. 480.00 left. How much money did he originally have?
7. Sita is practicing basket ball. She has managed to score 32 baskets in 35 attempts. What is her success rate in per centage?
8. The human body is made up mostly of water. In fact, about 67% of a person's total body weight is water. If Jyoti weights 56 kg, how much of her weight is water?
9. The per cent of pure gold in 14 carat gold is about 58.3%. A 14 carat gold ring weighs 7.6 grams. How many grams of pure gold are in the ring?
10. A student used the proportion $\frac{n}{100} = \frac{5}{32}$ to find 5% of 32. What did the student do wrong?
11. In a factory, women are 35% of all the workers, the rest of the workers being men. The number of men exceeds that of women by 252. Find the total number of workers in the factory.
12. Three bags contain 64.2 kg of sugar. The second bag contains $\frac{4}{5}$ of the contents of the first and the third contains $45\frac{1}{2}$% of what there is in the second bag. How much sugar is there in each bag?
13. x is 5% of y, y is 24% of z. If x = 480, find the values of y and z.
14. Deepti went to school for 216 days in a full year. If her attendance is 90%, find the number of days on which the school was opened.
15. An alloy of tin and copper consists of 15 parts of tin and 105 parts of copper. Find the percentage of copper in the alloy?
16. An alloy contains 36% zinc, 40% copper and the rest is nickel. Find in grams the quantity of each of the contents in a sample of 1 kg alloy.
17. Rakesh's income is 25% more than that of Rohan. What percent is Rohan's income less than Rakesh's income?
18. The value of a machine depreciates every year by 10%. What will be its value after 2 years if its present value is Rs. 50,000?
19. The salary of an officer has been increased by 50%. By what percent the new salary must be reduced to restore the original salary?
20. Rain forests are home to 90,000 of the 2,50,000 identified plant species in the world. What per cent of the world's identified plant species are found in rain forests?
21. Madhu's room measures 6m × 3m. Her carpet covers 8m². What per cent of floor is covered by the carpet?
22. A shopkeeper marks his goods in such a way that after allowing a discount of 25% on the marked price, he still makes a profit of 50%, find the ratio of the C.P. to the M.P.
23. A cycle dealer offers a discount of 10% and still makes a profit of 26%. What is the actual cost to him of a cycle whose marked price is Rs. 840?
24. Rajat purchased 120 reams of paper at Rs. 80 per ream. He spent Rs. 280 on transportion, paid octroi at rate of 40 paise per ream and paid Rs. 72 to the collie. If he wants to have a gain of 8%, what must be the selling price per ream?

25. 100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. Find the percentage of profit or loss?

26. By selling an article, Sameer earned a profit equal to one-fourth of the price he bought it. If he sold it for Rs. 375. Then what was the cost price?

27. A person bought 20 litres of milk at the rate of Rs. 8 per litre. He got it churned after spending Rs. 10 and 5 kg of cream and 20 litres of toned milk were obtained. If he sold the cream at Rs. 30 per kg and toned milk at Rs. 4 per litre, his profit in the transation is:

28. Given that carbon -14(C_{14}) decays at a constant rate in such a way that it reduces to 50% in 5568 years. Find the age of an old wooden piece in which the carbon is only 12.5% of the original.

29. A new car costs Rs. 360000. Its price depreciates at the rate of 10% a year during the first two years thereafter. What will be the price of the car after 3 years?

30. Babita bought 160 kg of mangoes at Rs 48 per kg. She sold 70% of the mangoes at Rs 70 per kg and the remaining mangoes at Rs 40 per kg. Find Babita's gain or loss per cent on the whole dealing.

31. A shopkeeper was selling all his items at 25% discount. During the off season, he offered 30% discount over and above the existing discount. If Pragya bought a skirt which was marked for Rs 1,200, how much did she pay for it?

32. Ayesha announced a festival discount of 25% on all the items in her mobile phone shop. Ramandeep bought a mobile phone for himself. He got a discount of Rs 1,960. What was the marked price of the mobile phone?

33. A cycle merchant allows 25% commission on his advertised price and still makes a profit of 20%. If he gains Rs 60 over the sale of one cycle, find his advertised price.

34. How much percent more than the C.P. should a manufacturer mark his goods so that after allowing a discount of 20% on the marked price, he gains 10%?

35. A shopkeeper allows a discount of 10% to his customers and still gains 20%. Find the marked price of an article which costs Rs 450 to the shopkeeper.

36. A dealer of scientific instruments allows 20% discount on the marked price of the instruments and still makes a profit of 25%. If his gain over the sale of an instrument is Rs 150, find the marked price of the instrument.

37. Find the compound interest on Rs 1000 at the rate of 10% per annum for 18 months when interest is compounded half-yearly.

38. A new car costs Rs. 360000. Its price depreciates at the rate of 10% a year during the first two years and at the rate of 20% a year thereafter. What will be the price of the car after 3 years?

39. Afridi purchased an old scooter for Rs. 16000. If the cost of scooter after 2 years depreciates to Rs. 14440, find the rate of depreciation.

40. The value of a machine depreciates at the rate of 10% per annum. What will be its value 2 years hence, if the present value is Rs. 100000? Also, find the total depreciation during this period.

41. Mohan purchased a house for Rs. 30000 and its value is depreciating at the rate of 255 per year. Find the value of the house after 3 years.

42. The value of a machine depreciates at the rate of 10% per annum. It was purchased 3 years ago. If its present value is Rs. 9680, for how much was it purchased?

43. If a number x is 10% less than another number y and y is 10% more than 125, then find the value of x.

44. Anshul borrowed Rs. 26,400 from a bank to buy a scooter at rate of 15% p.a. compounded yearly. What amount will he pay at the end of 2 years and 4 months to clear the loan?

45. Rohit invested Rs. 60000 at interest rate of 12% per annum compounded half yearly. What amount would he get (i) after 6 months (ii) after 1 year?

46. Javed took a loan of Rs. 80000 from a bank. If the rate of interest is 10% per annum, find the difference in amounts he would be pay after $1\frac{1}{2}$ years if the interest is

(i)   Compounded annually
(ii)   Compounded half yearly

EXERCISE – 3

1. The ratio 5 : 4 expressed as a percent equals:
   (a) 12.5%　　　　(b) 40%　　　　(c) 80%　　　　(d) 125%

2. 3.5 can expressed in terms of percentage as:
   (a) 0.35%　　　　(b) 3.5%　　　　(c) 35%　　　　(d) 350%

3. Half of 1 percent written as a decimal is :
   (a) 0.005　　　　(b) 0.05　　　　(c) 0.02　　　　(d) 0.2

4. What is 15 percent of Rs. 34?
   (a) Rs. 3.40　　　　(b) Rs. 3.75　　　　(c) Rs. 4.50　　　　(d) Rs. 5.10

5. 63% of $3\dfrac{4}{7}$ is:
   (a) 2.25　(b) 2.40　　　　(c) 2.50　　　　(d) 2.75

6. The fraction representing 30% is :
   (a) $\dfrac{3}{10}$ %　　　　(b) $\dfrac{3}{10}$　　　　(c) $\dfrac{10}{3}$　　　　(d) $\dfrac{3}{100}$

7. $\dfrac{1}{8}$ % means :
   (a) $\dfrac{1}{8}$　　　　(b) $\dfrac{100}{8}$　　　　(c) $\dfrac{8}{100}$　　　　(d) $\dfrac{1}{800}$

8. A person spends $33\dfrac{1}{3}$ % of his total income on food. Amount spend on food will be what part of his income:
   (a) $33\dfrac{1}{3}$　　　　(b) $3\dfrac{1}{33}$　　　　(c) $\dfrac{1}{3}$　　　　(d) $\dfrac{1}{33}$

9. $\dfrac{2}{5}$ of total students in a class have opted Maths. Find the percentage of students opting Maths :
   (a) $\dfrac{2}{5}\times 100$　　　　(b) $\dfrac{5}{2}\times 100$　　　　(c) $\dfrac{2}{5}\times\dfrac{1}{100}$　　　　(d) $\dfrac{5}{2}\times\dfrac{1}{100}$

10. What percent of Rs. 150 is Rs. 30 :
    (a) 5%　　　　(b) 20%　　　　(c) 30%　　　　(d) 45%

11. Income of a person is Rs. 50,000. He pays income tax at the rate of 15%. Find the amount of income tax :
    (a) 750 Rupees　　　　(b) 7500 Rupees　　　　(c) 1500 Rupees　　　　(d) 75 Rupees

12. 85% of total 500 students of a school are boys. The number of girls will be :
    (a) 75　　　　(b) 15　　　　(c) 425　　　　(d) 415

13. In a garden 10% of the trees were uprooted due to decay. 180 trees are left there, the total no. of trees are :
    (a) 170　　　　(b) 190　　　　(c) 200　　　　(d) 210

14. 20% of Rs. 500 will be equal to :
    (a) 30% of 700　　　　(b) 10% of 500　　　　(c) 40% of 250　　　　(d) 50% of 400

15. 15% of which number is 45 :
    (a) 300　　　　(b) 400　　　　(c) 250　　　　(d) 200

16. A motorcycle was sold at 20% profit for Rs.40,000. Its cost price is **:**
    (a) Rs. $40000 \times \dfrac{100}{120}$

    (b) Rs. $40000 \times \dfrac{120}{100}$

(c) Rs. $40000 \times \frac{80}{100}$

(d) Rs. $40000 \times \frac{100}{80}$

17. If C.P. is Rs. 1750, S.P. is Rs. 1925 the profit percent is :

(a) $9\frac{1}{10}$ (b) 10   (c) 25   (d) 110

18. On sale of a blanket for Rs. 380, there was a loss of Rs. 20 its loss percent will be :

(a) $\frac{20}{380} \times 100$ (b) $\frac{20}{400} \times 100$ (c) $\frac{400}{380} \times 100$ (d) $\frac{380}{400} \times 100$

19. An old cycle was purchased for Rs. 600, Rs. 200 was spent on its repair. It was sold for Rs. 500. Its loss percent :

(a) $16\frac{2}{3}$ (b) $33\frac{2}{3}$ (c) $37\frac{1}{2}$ (d) 40

20. Mechanic Raj purchased a motorcycle for Rs. 20,000 and sold it at 5% loss. Its selling price is :

(a) Rs. $\frac{5}{100} \times 20,000$ (b) Rs. $\frac{95}{100} \times 20,000$ (c) Rs. $\frac{105}{100} \times 20,000$ (d) Rs. $\frac{100}{95} \times 20,000$

21. A dealer mark the price of an article by 40% more than C.P. He allows 10% commission, his profit percent is:

(a) 26   (b) 30   (c) 36   (d) 40

22. A dealer sells watches for Rs. 510 after allowing 15% commission on their marked prices. The marked price of watch is :

(a) $\frac{100}{85} \times 510$ (b) $\frac{100}{115} \times 510$ (c) $\frac{115}{100} \times 510$ (d) $\frac{100}{95} \times 510$

23. An article costing Rs.100 is sold for Rs. x. The loss percent is :

(a) $\frac{100-x}{100} \times 100$ (b) $\frac{x-100}{100} \times 100$ (c) $\frac{100-x}{x} \times 100$ (d) $\frac{x-100}{x} \times 100$

24. The CP of 21 articles is equal to SP of 18 articles. Find the gain or loss per cent:

(a) $12\frac{1}{2}$% gain   (b) $12\frac{1}{2}$% loss   (c) $16\frac{2}{3}$% gain   (d) $16\frac{2}{3}$% loss

25. If by selling 110 mangoes, the C P of 120 mangoes is realised, the gain per cent is :

(a) $9\frac{1}{11}$ %   (b) $9\frac{1}{9}$%   (c) $10\frac{10}{11}$ %   (d) $11\frac{1}{9}$%

26. A vendor loses the selling price of 4 oranges on selling 36 oranges. His loss per cent is :

(a) 10%   (b) $11\frac{1}{9}$%   (c) $12\frac{1}{2}$%   (d) None of these

27. A tradesman sold an article at a loss of 20%. Had he sold it for Rs 100 more, he should have gained 5%. The cost price of the article was :

(a) Rs 360   (b) Rs 400   (c) Rs 425   (d) Rs 450

28. Half of 1 percent written as a decimal is:

(a) 0.005   (b) 0.05   (c) 0.02   (d) 0.2

29. What is 15 percent of Rs. 34?

(a) Rs. 3.40   (b) Rs. 3.75   (c) Rs. 4.50   (d) Rs. 5.10

30. 63% of $3\frac{4}{7}$ is:

(a) 2.25   (b) 2.40   (c) 2.50   (d) 2.75

31. 88% of 370 + 24% of 210 – ? = 118

(a) 256   (b) 258   (c) 268   (d) 358

32. 40% of 1640 + ? = 35% of 980 + 150% of 850

(a) 372   (b) 842   (c) 962   (d) 1052

33. 60% of 264 is the same as: s
    (a) 10% of 44   (b) 15% of 1056   (c) 30% of 132   (d) None of these

34. 270 candidates appeared for an examination, of which 252 passed. The pass percentage is:
    (a) 80%   (b) $83\frac{1}{2}$ %   (c) $90\frac{1}{3}$ %   (d) $93\frac{1}{3}$ %

35. Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?
    (a) 3. 5   (b) 4. 5   (c) 6. 5   (d) None of these

36. Peter purchased a machine for Rs. 80,000 and spent Rs. 5000 on repair and Rs. 1000 on transport and sold it with 25% profit. At what price did he sell the machine?
    (a) Rs. 1, 05, 100   (b) Rs. 1, 06, 250   (c) Rs, 1, 07, 500   (d) Rs. 1, 17, 500

37. Single discount equivalent to two successive discounts of 50% and 49% is:
    (a) 88%   (b) 99%   (c) 74.5%   (d) 49.5%

38. A shop keeper after allowing a discount of 30%, he have 40% profit. How much % he has written above cost price?
    (a) 80%   (b) 70%   (c) 100%   (d) 75%

39. Compound interest is:
    (a) Always greater than the simple interest
    (b) Always less then the simple interest
    (c) Always equal to the simple interest
    (d) Always greater or equal to the simple interest

40. The compound interest on Rs. 4000 at 4% per annum for 2 years compounded annually is:
    (a) Rs. 804.12   (b) Rs. 708.4   (c) Rs. 408.2   (d) Rs. 326.4

41. The difference between the compound interest compounded annually and the simple interest on Rs. 2050 at 10% per annum for 1 year is:
    (a) Rs. 10   (b) Rs. 100   (c) Rs. 15   (d) Rs. 0

42. The time in which sum of Rs. 1000 will amount to Rs. 1331 at 10% per annum, compounded annually is
    (a) 1 year   (b) 2 years   (c) 3 years   (d) 4 years

43. The difference in S.I> and C.I> on a certain sum of money in 2 years at 15% p.a. is Rs. 144. The sum is:
    (a) Rs. 6000   (b) Rs. 6200   (c) Rs. 6300   (d) Rs. 6400

44. A sum becomes Rs. 4548.6 after 2 years at 14% per annum compounded annually. The sum is:
    (a) Rs. 2000   (b) Rs. 2500   (c) Rs. 3000   (d) Rs. 3500

45. The compound interest on Rs. 4500 for 3 years at 10% per annum compounded annually is:
    (a) Rs. 1488.35   (b) Rs. 1486.88   (c) Rs. 1487.25   (d) Rs. 1489.5

46. Mohit invests a sum of ₹ 41, 250 at the rate of 6% per annum. What approximate compound interest will he obtain at the end 3 years?
    (a) ₹ 8, 100   (b) ₹ 7, 425   (c) ₹ 8, 210   (d) ₹ 7, 879

47. Mini buys $\frac{39}{20}$ kg ghee at the rate ₹ 166 per kg, $\frac{3}{5}$ kg butter at the rate of ₹ 90 per kg and $\frac{9}{5}$ kg peas at the rate of ₹ 75 per kg. if she gives a ₹ 1000 note to the shopkeeper, how much change should she get back?
    (a) ₹ 487.30   (c) ₹ 512.70   (c) ₹ 524.70   (d) ₹ 647.40

48. Given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statements is/are necessary to answer the question.
    In how many years will a sum of money put at simple interest triple itself?
    I. The interest earned in 4 years is half the sum.
    II.The rate of interest is 12 ½ %
    III. The sum doubles itself in 8 years at simple interest.
    (a) Any one of the three   (b) Any two of the three

(c) All I, II, III   (d) II and III only

49. A man bought a house for ₹ 5 lakhs and rents it. He puts $12\frac{1}{2}$ % of each month's rent aside for repairs, pays ₹ 1660 as annual taxes and realizes 10% on his investment thereafter. What is the monthly rent of the house?

(a) ₹ 2460   (b) ₹ 2500   (c) ₹ 4920   (d) ₹ 5000

50. Riya started a business investing ₹ 25000. After 3 months, Sneha joined her with a capital of ₹ 30,000. At the end of the year, they made a profit of ₹ 19000. What will be the Riya's share in the profit?

(a) ₹ 9423   (b) ₹ 12500   (c) ₹ 14000   (d) ₹ 10000

51. By what percent will the area of a square change if its side is increased by 10%?

(a) 10% increase   (b) 20% increase   (c) 10% decrease   (d) 21% increase

52. The population of a city increase by 30% every year. If the present population is 338000, then what was the population of the city two years ago?

(a) 300000   (b) 250000   (c) 200000   (d) 240000

53. Two – fifth of one-third of three-seventh of a number is 15. What is 40 percent of that number?

(a) 72   (b) 84   (c) 136   (d) None of these

54. The sum of two numbers is $\frac{28}{25}$ of the first number. The second number is what percent of the first?

(a) 12%   (b) 14%   (c) 16%   (d) 18%

55. In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is $\frac{2}{3}$ of the number of students of 8 years age which is 48. What is the total number of students in the school?

(a) 72   (b) 80   (c) 120   (d) None of these

56. A man spends 35% of his income on food, 25% on children's education and 80% of the remaining on house rent. What percent of his income he is left with?

(a) 8%   (b) 10%   (c) 12%   (d) 14%

57. What percent decrease in salaries would exactly cancel out 20 percent increase?

(a) $16\frac{2}{3}$ (b) 18   (c) 20   (d) $33\frac{1}{3}$

58. If inflation increase at a rate of 8% p.a., what will a Rs, 20 article cost at the end of two years?

(a) Between Rs. 20 and Rs. 21   (b) Between Rs. 21 and Rs. 22
(b) Between Rs. 22 and Rs. 23   (d) Between Rs. 23 and Rs. 24

59. The value of a machine depreciates at the rate of 10% every year. It was purchased 3 years ago. If its present value is Rs. 8748, its purchase price was

(a) Rs. 10, 000   (b) Rs. 11, 372   (c) Rs. 12, 000   (d) Rs. 12, 500

60. The present population of a country estimated to be 10 crores is expected to increase to 13.31 crores during the next three years. The uniform rate of growth is :

(a) 8%   (b) 10%   (c) 12.7%   (d) 15%

61. Two numbers are less than a third number by 30% and 37% respectively. How much percent is the second number less than the first?

(a) 3%   (b) 4%   (c) 7%   (d) 10%

62. Two candidates contested for a post of an election. 70 votes were declared as invalid. The victorious candidate secured 55% votes and won the election by 90 votes. Total numbers of votes polled is :

(a) 475   (b) 565   (c) 970   (d) 1070

63. In an examination, 450 candidates were boys and 550 were girls. If 32% of the boys and 38% of the girls passed the examination, the percentage of failed candidates is :

(a) 35.3%   (b) 62%   (c) 64.7%   (d) 68%

64. In an examination, a candidate must secure 45% marks to pass. Ashok secures 325 marks but he fails by 35 marks. What were the maximum marks for the examination?

(a) 1800   (b) 900   (c) 800   (d) 750

65. The population of a village at the beginning of a year was 10000. During that, it increased by 5 percent and during next year decreased by 5 percent. At the end of the second year, the population of the village was :
(a) 9975   (b) 10500   (c) 10525   (d) 10075

66. The value of a machine depreciates from Rs. 32768 to Rs. 21952 in three years. What is the rate percentage of depreciation?
(a) 11%   (b) 12.5%   (c) 33%   (d) 12.25%

67. The population of a city increase at the rate of 10% annually. Its present population is 90.51 lacs. The population 3 years ago was nearly.
(a) 60 lacs   (b) 68 lacs   (c) 71 lacs   (d) 72.8 lacs

68. If the area of rectangle is increased by 13% and its breadth is increased by 5%, then what is the percentage increase in its length? (approximately)
(a) 10 %   (b) 8 %   (c) 18%   (d) 12%

69. In how many years, Rs. 150 will produce the same interest @ 8% as Rs. 800 produce in 3 years @ $4\frac{1}{2}$%?
(a) 6   (b) 8   (c) 9   (d) 12

70. If a sum of money at simple interest doubles in 6 years, it will become 4 times in :
(a) 12 years   (b) 14 years   (c) 16 years   (d) 18 years

71. A sum of money trebles itself in 15 years 6 months. In how many years would it double itself?
(a) 6 years 3 months   (b) 7 years 9 months
(c) 8 years 3 months   (d) 9 years 6 months

72. At what rate percent per annum will the simple interest on a sum of money be $\frac{2}{5}$ of the amount in 10 years?
(a) 4%   (b) $5\frac{2}{3}$%   (c) 6%   (d) $6\frac{2}{3}$%

73. In how much time would the simple interest on a certain sum be 0.125 times the principal at 10% per annum?
(a) $1\frac{1}{4}$year   (b) $1\frac{1}{3}$year   (c) $2\frac{1}{4}$year   (d) $2\frac{3}{4}$year

74. Rs. 1000 is invested at 5% simple interest. If the interest is added to the principal every 10 years, the amount will become Rs. 2000 after
(a) 15 years   (b) 18 years   (c) 20 years   (d) $16\frac{2}{3}$ years

75. If Rs. 64 amounts to Rs. 83.20 in 2 years, what will Rs. 86 amount to in 4 years at the same rate percent per annum?
(a) Rs. 137.60   (b) Rs. 124.70   (c) Rs. 114.80   (d) Rs. 127.40

76. What will be the difference between simple and compound interest @ 10% per annum on a sum of Rs. 1000 after 4 years?
(a) Rs. 31   (b) Rs. 32.10   (c) Rs. 64.10   (d) None of these

77. If the compound interest on a sum for 2 years at $12\frac{1}{2}$% per annum is Rs. 510, the simple interest on the same sum at the same rate for the same period of time is :
(a) Rs. 400   (b) Rs. 450   (c) Rs. 460   (d) Rs. 480

78. The simple interest on a certain sum of money for 3 years at 8% per annum is half the compound interest on Rs.4000 for 2 years at 10% per annum. The sum placed on simple interest is :
(a) Rs. 1550   (b) Rs. 1650   (c) Rs. 1750   (d) Rs. 2000

79. The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum?
(a) 8   (b) 10   (c) 12   (d) None of these

80. The ratio of the cost price and the selling price is 4 : 5. The profit percent is :
(a) 10%   (b) 20%   (c) 25%   (d) 30%

81. If selling price is doubled, the profit triples. Find the profit percent :
(a) $66\frac{2}{3}$ %   (b) 100%   (c) $105\frac{1}{3}$%   (d) 120%

82. The profit earned by selling an article for Rs. 900 is double the loss incurred when the same article is sold for Rs. 450. At what price should the article be sold to make 25% profit?

(a) Rs 600   (b) Rs 750   (c) Rs 800   (d) Data inadequate

83. If the cost price of 12 pens is equal to the selling price of 8 pens, the gain percent is :

(a) 25%   (b) $33\frac{1}{3}$%   (c) 50%   (d) $66\frac{2}{3}$%

84. A man bought some fruits at the rate of 16 for Rs. 24 and sold them at the rate of 8 for Rs. 18. What is the profit percent?

(a) 25%   (b) 40%   (c) 50%   (d) 60%

85. By selling 12 toffees for a rupee, a man loses 20%. How many for a rupee should he sell to get a gain of 20%?

(a) 5   (b) 8   (c) 10   (d) 15

86. Arun purchased 30 kg of wheat at the rate of Rs. 11.50 per kg and 20 kg of wheat at the rate of Rs. 14.25 per kg. He mixed the two and sold the mixture. approximately what price per kg should he sell the mixture to make 30% profit?

(a) Rs. 14.80   (b) Rs. 15.40   (c) Rs. 16.38   (d) Rs. 18.20

87. A shopkeeper professes to sell his goods at cost price but uses a weight of 800 gm instead of kilogram weight. Thus, he makes a profit of :

(a) 20%   (b) $16\frac{2}{3}$ %   (c) 25%   (d) None of these

88. A fair price shopkeeper takes 10% profit on his goods. He lost 20% goods during theft. His loss percent is :

(a) 8   (b) 10   (c) 11   (d) 12

89. A house worth Rs. 1, 50, 000 is sold by X to Y at 5% profit. Y sells the house back to X at 2% loss. Then, in the entire transaction :

(a) X loses Rs. 1350   (b) X gains Rs. 3150

(c) X loses Rs, 4350   (d) X gains Rs. 4350

90. Rahul purchased a scooter at $\frac{13}{15}$ of its selling price and sold it at 12% more than its selling price. His gain is :

(a) 20%   (b) $29\frac{3}{13}$ %   (c) 30%   (d) $38\frac{1}{13}$%

91. If 5% more is gained by selling an article for Rs. 350, than by selling it for Rs. 340, the cost of the article is:

(a) Rs. 50   (b) Rs. 160   (c) Rs. 200   (d) Rs. 225

92. A businessman sold $\frac{2}{3}$ of his stock at a gain of 20% and the rest at a gain of 14%. The overall percentage of gain to the businessman is :

(a) 12%   (b) 17%   (c) 18%   (d) 20%

93. Two – third of a consignment was sold at a profit of 5% and the remainder at a loss of 2%. If the total profit was Rs. 400, the value of the consignment (in Rs.) was

(a) 10, 000   (b) 12, 000   (c) 15, 000   (d) 20, 000

94. An article was sold for Rs, y after giving a discount of X%. Then, its list price is :

(a) $\frac{100y}{100-x}$ (b) $\frac{100\,y}{1-x}$ (c) $\frac{100y}{1-\frac{x}{(x/100)}}$ (d) None of these

95. Find the selling price of an article if a shopkeeper allows two successive discounts of 5% each on the marked price of Rs. 80.

(a) Rs. 70.10   (b) Rs. 70.20   (c) Rs. 72   (d) Rs. 72.20

96. A tradesman marks his goods 30% above the C.P. If he allows a discount of $6\frac{1}{4}$ %, then his gain percent is :

(a) $21\frac{7}{8}$ %   (b) 22%   (c) $23\frac{3}{4}$ %   (d) None of these

97. At what price should a shopkeeper mark a radio that costs him Rs. 1200 in order that he may often a discount of 20% on the marked price and still make a profit of 25%?

(a) Rs. 1675   (b) Rs. 1875   (c) Rs. 1900   (d) Rs. 2025

98. A shopkeeper earns a profit of 12% on selling a book at 10% discount on the printed price. The ratio of the cost price to the printed price of the book is:

    (a) 45 : 56   (b) 50 : 61   (c) 55 : 69   (d) 99 : 125

99. A tradesman given 4% discount on the marked price and gives 1 article free for buying every 15 articles and thus gains 35%. The marked price is above the cost price by :

    (a) 20%   (b) 39%   (c) 40%   (d) 50%

100. If a commission of 10% is given on the written price of an article, the gain is 20%. If the commission is increased to 20%, the gain is :

    (a) $6\frac{2}{3}\%$ (b) $7\frac{1}{4}\%$ (c) $12\frac{1}{2}\%$ (d) $13\frac{1}{3}\%$

EXERCISE – 4

1. A's income is 60% of B's income. If A's expenditure is Rs. 260 less than B's and their savings are 10% and 20% of their incomes, find their incomes respectively.
    (a) Rs. 600 and Rs. 1000   (b) Rs. 540 and Rs. 900
    (c) Rs. 1200 and Rs. 2000   (d) None of these

2. If the price of commodity increase first by 20%, then by 40% and subsequently decreases by 30%. Then what is the net percentage increase/decrease in the price.
    (a) 12.4% increase   (b) 7.8% decrease
    (c) 6.24% decrease   (d) 17.6% increase

3. A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?
    (a) 3%   (b) 4%   (c) 5%   (d) 6%

4. Reena took a loan of Rs. 1200 with simple interest for as many years as the rate of interest. If she paid Rs. 432 as interest at the end of the loan period, what was the rate of interest?
    (a) 3.6   (b) 6   (c) 18   (d) None of these

5. A sum fetched a total simple interest of Rs. 4016.25 at the rate of 9 percent p.a. in 5 years. What is the sum?
    (a) Rs. 4462.50   (b) Rs. 8032.50   (c) Rs. 8900   (d) Rs. 8950

6. The simple interest at x% for x years will be Rs. x on a sum of :
    (a) Rs. x   (b) Rs.$\left(\frac{100}{x}\right)$ (c) Rs. 100 x   (d) Rs. $\left(\frac{100}{x^2}\right)$

7. The difference between compound interest and simple interest on a sum for 2 years at 10% per annum, when the interest is compounded annually is Rs. 16. If the interest were compounded half-yearly, the difference in two interests would be
    (a) Rs. 24.81   (b) Rs. 26.90   (c) Rs.31.61   (d) Rs. 32.40

8. Mr. Dua invested money in two schemes A and B offering compound interest @ 8 p.c.p.a. and 9 p.c.p.a. respectively. If the total amount of interest accrued through two schemes together in two years was Rs.4818.30 and the total amount invested was Rs. 27,000, what was the amount invested in Scheme A?
    (a) Rs. 12,000   (b) Rs. 13,500   (c) Rs. 15,000   (d) None of these

9. A sum of money invested at compound interest amounts to Rs. 4624 in 2 years and to Rs. 4913 in 3 years. The sum of money is:
    (a) Rs. 4096   (b) Rs. 4260   (c) Rs. 4335   (d) Rs. 4360

10. A sum of money becomes Rs. 13,380 after 3 years and Rs. 20,070 after 6 years on compound interest. The sum is :
    (a) Rs. 8800   (b) Rs. 8890   (c) Rs. 8920   (d) Rs. 9040

11. A sum of Rs. 12,000 deposited at compound interest becomes double after 5 years. After 20 years, it will become :
    (a) Rs. 96,000   (b) Rs. 1,20,000   (c) Rs.1,24,000   (d) Rs.1,92,000

12. If a sum on compound interest becomes three times in 4 years, then with the same interest rate, the sum will become 27 times in :
    (a) 8 years   (b) 12 years   (c) 24 years   (d) 36 years

13. The least number of complete years in which a sum of money put out at 20% compound interest will be more than doubled is:
    (a) 3   (b) 4   (c) 5   (d) 6

14. A man borrows Rs. 22550 to be paid back with compound interest at the rate of 4% per annum by the end of 2 years in two equal yearly installments. How much will each installment be?
    (a) Rs. 1275   (b) Rs. 1283   (c) Rs. 1352   (d) Rs. 1377

15. A man borrows Rs. 12,500 at 20% compound interest. At the end of every year he pays Rs. 2000 as part repayment. How much does he still owe after three such installments?

(a) Rs. 12,000   (b) Rs. 12,864   (c) Rs. 15,600   (d) None of these

16. A sum of money is borrowed and paid back in two annual installments of Rs. 882 each allowing 5% compound interest. The sum borrowed was:
(a) Rs. 1620   (b) Rs. 1640   (c) Rs. 1680   (d) Rs. 1700

17. A sum of money invested at compound interest becomes Rs. 1020 after 3 years and Rs. 1088 after 4 years. The rate of interest is
(a) 5.60%   (b) 6.66%   (c) 7.66%   (d) 8.66%

18. The difference between S.I. and C.I. on a sum for 2 years at 8% per annum is Rs. 160. If the interest were compounded half yearly, the difference in interest in two years will be nearly
(a) Rs. 246.46   (b) Rs. 240   (c) Rs. 168   (d) Rs. 160

19. In how many years at compound interest, will a sum of money become 27 times when it tribles itself in 2 years at compound interest?
(a) 9 years   (b) 6 years   (c) 12 years   (d) $13\frac{1}{2}$ years

20. If the compound interest on a certain sum of money for 2 years is Rs. 2700 and the simple interest on the same sum for the same period and for same interest is 1250, then rate %.
(a) 232 percent   (b) 250 percent   (c) 220 percent   (d) 450 percent

21. A sum of money becomes Rs.6500 after 3 years and Rs. 10562.50 after 6 years on compound interest. The sum is
(a) Rs. 4000   (b) Rs. 4500   (c) Rs. 4800   (d) None of these

22. The difference between compound interest and simple interest on a sum for 3 years at 5% per annum is Rs. 133. The sum is:
(a) Rs. 15000   (b) Rs. 16000   (c) Rs. 12000   (d) Rs. 18000

23. The difference between simple interest and compound interest on a certain sum of money at the end of 2 years is Rs. 117 at 15% per annum, the interest being credited annually. The principal is
(a) Rs. 5200   (b) Rs. 5980   (c) Rs. 6760   (d) None these

24. A man saves Rs. 200 at the end of each year and lends the money at 5% compound interest. How much will it become at the end of 3 years?
(a) Rs. 565.25   (b) Rs. 635   (c) Rs. 662.02   (d) Rs. 666.50

25. The simple interest on a sum of money is $\frac{4}{9}$ times the principal and the rate of interest per annum is numerically equal to the number of years. Find the rate of interest per annum.
(a) $\frac{10}{3}$%   (b) $\frac{15}{3}$%   (c) $\frac{20}{3}$%   (d) $\frac{15}{2}$%

26. A certain sum becomes 3 times itself in 6 years at simple interest. In how many years will it become 9 times itself?
(a) 18   (b) 20   (c) 24   (d) 22

27. A person lent a certain sum of money at 12% p.a. simple interest. In 5 years, the interest received was Rs. 250 less than sum lent. Find the sum lent. (in Rs)
(a) 500   (b) 750   (c) 625   (d) 1000

28. The population of a village increases at a rate of 5% every year. If the present population of village is 5620, find the population after 1 year.
(a) 5805   (b) 6121   (c) 5901   (d) 6000

29. Kalyan purchased an old bike of Rs. 12000. If its cost after 2 years is Rs. 11524.80, the rate of depreciation is _____.
(a) 1% p.a   (b) 4% p.a.   (c) 3% p.a.   (d) 2% p.a.

30. Ram borrowed Rs. 8000 at $3\frac{1}{2}$ % p.a. compound interest for his family needs. How much amount does he have to pay to clear the debt at the end of one year and three months?
(a) Rs. 8352.45   (b) Rs. 8532.45   (c) Rs. 8253.54   (d) Rs. 8352.54

31. Ravi borrowed Rs. 1000 from Sridhar at 3% C.I. for the years, 5% C.I. for second year. What amount does Sridhar get at the end of the second year?
    (a) Rs. 1081   (b) Rs. 1081.50   (c) Rs. 1082.50   (d) Rs. 1083

32. Ramakrishana borrowed Rs. 160000 from Anirudh at 10% p.a. simple interest. After 2 years, when Ramakrishana wants to clear the debt, Anirudh insisted Ramakrishana to pay him at compound interest. How much more must Ramakrishna pay?
    (a) Rs. 800   (b) Rs. 1620   (c) Rs. 1600   (d) Rs. 810

33. A sum of Rs. 5120 amounts to Rs. 7290 in 3 years at compound interest. Find the rate of interest per annum?
    (a) $33\frac{1}{3}$ %   (b) $12\frac{1}{2}$%   (c) $8\frac{1}{3}$%   (d) $17\frac{1}{2}$%

34. A sum of Rs. 3000 is partly lent at 3% p.a. simple interest for $\frac{7}{2}$ years and partly at 2% p.a. simple interest for 4 years. If total interest earned is Rs. 280, then the sum lent at 3% p.a. is :-
    (a) Rs. 1600   (b) Rs. 1400   (c) Rs. 1800   (d) Rs. 2000

35. Raju invested a sum of Rs. 5832 at a rate of interest n% per annum, compounded annually. Find the value of n, if he received a sum of Rs. 13824 after 3 years.
    (a) $33\frac{1}{3}$ (b) $33\frac{2}{3}$ (c) $33\frac{4}{3}$ (d) $33\frac{5}{3}$

36. Alok borrowed a certain sum on 9 july 2006 and paid an amount of Rs. 438 which included an interest of Rs. 6 on 8 November 2006. Find the rate of interest, charged to Alok, per annum.
    (a) $6\frac{1}{4}$%   (b) $4\frac{1}{6}$%   (c) $1\frac{4}{6}$%   (d) $13\frac{1}{3}$%

37. The simple interest on Rs. 3000 at R% in 2 years equals to the simple interest on Rs. 2000 at 10% p.a. in 3 years. Find the simple interest (in Rs) on Rs. 5000 at R% p.a. for 4 years.
    (a) 1500   (b) 2000   (c) 5000   (d) 2400

38. The cost of a scooter is Rs. 10000. Its value depreciates at the rate of 8% p.a. calculate the total depreciation in its value at the end of 2 years.
    (a) Rs. 1536   (b) Rs. 1356   (c) Rs. 1653   (d) Rs. 1356

39. A person borrowed Rs. 8000 at $2\frac{1}{2}$% p.a. under S.I. The sum borrowed is immediately given to another person at the same rate on the condition that the interest is compounded semi-annually. Find the amount gained by the first person in one year.
    (a) Rs. 3.25   (b) Rs. 2.25   (c) Rs. 1.25   (d) Rs. 0.25

40. A boy's height is increasing at the rate of 2% over that the previous year. If his present height is 156.06 cm, what was his height two year ago?
    (a) 148 cm   (b) 150 cm   (c) 152 cm   (d) 151 cm

41. Ramu invested a sum of Rs. 12500 at 12% per annum compound interest. He received an amount of Rs. 15680 after x years. Then, the value of x is
    (a) 1   (b) 4   (c) 3   (d) 2

42. The rate of interest for a sum that becomes $\frac{729}{576}$ times itself in 2 years, when compound annually is
    (a) $\frac{32}{5}$%   (b) $\frac{12}{5}$%   (c) $\frac{25}{2}$%   (d) $\frac{12}{7}$%

43. A person deposited Rs. 6000 in a bank for 2 years. At the end of the year, he withdrew Rs. 500. How much does he get from the bank at the end of the second year interest paid at rate of $8\frac{1}{3}$% p.a. compounded annually?
    (a) Rs.6500   (b) Rs. 7000   (c) Rs. 6725   (d) Rs. 6025

44. Find the compound interest on Rs. 50000 for 3 years, compounded annually and the rate of interest being 10%, 12% and 15% for the three successive years respectively.
    (a) Rs. 20840   (b) Rs. 70840   (c) Rs. 60720   (d) Rs. 67560

45. Q and R borrowed Rs. 26000 and Rs. 25000 respectively, for a period of 2 years. Q paid simple interest at the rate 2% p.a., while R paid compound interest at the same rate, compounded annually. Who paid more interest and by how much?
    (a) R paid more than Q by Rs. 40   (b) R paid more than Q by Rs. 30
    (c) Q paid more than R by Rs. 40   (d) Q paid more than R by Rs. 30

46. A person invested one-fifth of the capital at 5% p.a., one-sixth of the capital at 6% p.a. and the rest at 10% p.a. simple interest. If the annual interest received on his investment is Rs. 150, then find the capital. (in Rs.)
    (a) 1000   (b) 1500   (c) 2000   (d) 1800

47. Kailash set up a factory by investing Rs. 1000000. During the first two years, his profits were 10% and 15% respectively. if he reinvested the profit of each year at the beginning of the next year, his total profit (in Rs) is:-
    (a) 265000   (b) 25000   (c) 275000   (d) 27060

48. Find the simple interest on Rs. 1098 at 5% per annum from 5 May 1996 to 25 May 1996.
    (a) Rs. 5   (b) Rs. 7   (c) Rs. 3   (d) Rs. 4

49. Varun started a business with an initial investment of Rs. 300000. In the first year, he incurred a loss of 3%. So he invested remaining amount in the bank at 4% p.a. for the second year and at 5% p.a. for third year under compound interest compounded annually. Find the amount.
    (a) Rs. 317772   (b) Rs. 315522   (c) Rs. 316622   (d) Rs. 314422

50. Suresh and Naresh borrowed Rs. 62500 and Rs. 60000 respectively for a period of 2 years. Suresh paid simple interest at the rate of 4% per annum, while Naresh paid compound interest at the same rate compounded annually. Who paid more interest and by how much?
    (a) Naresh paid more by Rs. 104   (b) Suresh paid more by Rs. 104
    (c) Naresh paid more by Rs. 94   (d) Both paid the same interest

51. The simple interest and compound interest on a certain sum for 2 years are Rs. 2400 and Rs. 2640 respectively. the rates of interests (in % p.a.) for both are the same. The interest on the sum lent at compound interest is compounded annually. Find the rate of interest (in % p.a.).
    (a) 30   (b) 20   (c) 25   (d) 10

52. A sum was split into three parts. The first part was lent at 10% p.a. for 4 years. The second part was lent at 20% p.a. for 6 years. The third part was lent at 30% p.a. for 5 years. Each part was lent at simple interest and the same amount of simple interest was realized from each. Find the ratio of the first, second and third parts.
    (a) 15 : 5 : 2   (b) 20 : 7 : 2   (c) 15 : 5 : 4   (d) 20 : 9 : 4

53. 1 gain 70 paise on Rs, 70. My gain percent is
    (a) 0. 1%   (b) 1 %   (c) 7 %   (d) 10%

54. Jacob bought a scooter for a certain sum of money. He spent 10% of the cost on repairs and sold the scooter for a profit of Rs. 1100. How much did he spend on repairs if he made a profit of 20%.
    (a) Rs 400   (b) Rs 440   (c) Rs 500   (d) Rs 550

55. A property dealer sells a house for Rs. 6,30,000 and in the bargain makes a profit of 5%. Had he sold it for Rs. 5,00,000, then what percentage of loss or gain he would have made?
    (a) $2\frac{1}{4}$ % gain   (b) 10% loss   (c) $12\frac{1}{2}$ % loss   (d) $16\frac{1}{3}$ % loss

56. A dealer purchases 22 pencils for Rs. 20 and sells them at the rate of 10 pencils for Rs. 11. His profit percent is :
    (a) 10%   (b) 20%   (c) 21%   (d) 22%

57. A cycle is sold at 20% gain. If it had been sold at 20% loss, the selling price would have been Rs. 120 less. The cost price of the cycle is
    (a) Rs. 500   (b) Rs. 300   (c) Rs. 250   (d) Rs. 200

58. A dishonest shopkeeper uses false balance and cheats a customer by giving 20% less quantity of food. His profit is
    (a) 80%   (b) 75%   (c) 25%   (d) 20%

59. Ram sold a watch to Shyam at a gain of 5% and Shyam sold it to Hari at a gain of 4%. If Hari paid Rs. 1092 for it, the price paid by Ram is

(a) Rs. 993.72   (b) Rs. 996   (c) Rs. 1000   (d) Rs. 995.90

60. The cost of 10 copies of a book equals the selling price of 8 copies. What is the percentage of gain or loss incurred?

(a) 30% gain   (b) 25% loss   (c) 25% gain   (d) 30% loss

61. A man buys an old car for Rs. 33000 and sells it at a gain of 2%. If his overhead expenses are 1% he sold the care for nearly

(a) Rs. 33990.00   (b) Rs. 33993.80   (c) Rs. 33995.10   (d) Rs. 33996.60

62. If a commission of 10%. Is given on the marked price, the gain is 50%. If the commission is increased to 25% the gain will be.

(a) 25%   (b) 35%   (c) 40%   (d) 25%

63. A man sold a watch for Rs. 600 at a loss. Had he sold for Rs.750, his gain would have been double of the former loss. The cost price of the watch is

(a) Rs. 800   (b) Rs. 700   (c) Rs. 670   (d) Rs. 650

64. The marked price of a watch was Rs. 720. A man bought the same for Rs. 550.80 after getting two successive discounts, the first being 10%. What was the second discount rate?

(a) 12%   (b) 14%   (c) 15%   (d) 18%

65. A retailer buys 30 articles from a wholesaler at the price of 27. If he sells them at their marked price, the gain percent in the transaction is

(a) $9\frac{1}{11}$%   (b) 10%   (c) $11\frac{1}{9}$%   (d) $16\frac{2}{3}$%

66. By selling an umbrella for Rs, 800, a shopkeeper gains 20%. During a clearance sale, the shopkeeper allows a discount of 10% on the marked price. His gain percent during the sale is:

(a) 7   (b) 7.5   (c) 8   (d) 9

67. The cost price of an article is 64% of the marked price. Calculate the gain percent after allowing a discount of 12%.

(a) 37.5%   (b) 48%   (c) 50.5%   (d) 52%

68. A shopkeeper allows a discount of 10% on the marked price of an item but charges a sales tax of 8% on the discounted price. If the customer pays Rs. 680.40 as the price including the sales tax, then what is the marked price of the item?

(a) Rs. 630   (b) Rs. 700   (c) Rs. 780   (d) None of these

69. At what percent above the cost price must a shopkeeper mark his goods so that he gains 20% even after giving a discount of 10% on the marked price?

(a) 25%   (b) 30%   (c) $33\frac{1}{3}$%   (d) $37\frac{1}{2}$%

70. By selling an article at $\frac{2}{5}$ of the marked price, there is a loss of 25%. The ratio of the marked price and the cost price of the article is:

(a) 2 : 5   (b) 5 : 2   (c) 8 : 15   (d) 15 : 8

71. A trader marked the selling price of a article at 10% above the cost price. At the time of selling, he allows certain discount and suffers a loss of 1%. He allowed a discount of :

(a) 9%   (b) 10%   (c) 10.5%   (d) 11%

72. A shopkeeper fixes the marked price of an item 35% above its cost price. The percentage of discount allowed to gain 8% is :

(a) 20%   (b) 27%   (c) 31%   (d) 43%

73. The labelled price of a cupboard is Rs. 6500. The shopkeeper sold it by giving 5% discount on the labelled price and earned a profit of 15%. What approximately is the cost price of the cupboard?

(a) Rs. 5000   (b) Rs. 5370   (c) Rs.5600   (d) Rs. 5800

74. Kunal bought a suitcase with 15% discount on the labelled price. He sold the suitcase of Rs. 2880 with 20% profit on the labelled price. At what price did he buy the suitcase.
(a) Rs. 2040   (b) Rs. 2400   (c) Rs. 2604   (d) Rs. 2640

75. A shopkeeper sells a badminton racket, whose marked price is Rs. 30, at a discount of 15% and gives a shuttle cock costing Rs. 1.50 free with each racket. Even then he makes a profit of 20%. His cost price per racket is
(a) 19.75   (b) Rs. 20   (c) Rs. 21   (d) Rs. 21.25

76. A shopkeeper sold a T.V. set for Rs. 17,940 with a discount of 8% and earned a profit of 19.6%. What would have been the percentage of profit earned if no discount was offered?
(a) 24.8%   (b) 25%   (c) 26.4%   (d) None of these

77. A shopkeeper sells 25 articles at Rs. 45 per article after giving 10% discount and earns 50% profit. If the discount is not given, the profit gained is :
(a) 60%   (b) $60\frac{2}{3}$ %   (c) 66%   (d) $66\frac{2}{3}$%

78. A shopkeeper sold sarees at Rs. 266 each after giving 5% discount on labelled price. Had he not given the discount, he would have earned a profit of 12% on the cost price. What was the cost price of each sarees?
(a) Rs. 240   (b) Rs. 260   (c) Rs. 280   (d) None of these

79. A shopkeeper sold an article offering a discount of 5% and earned a profit of 23.5%. What would have been the percentage of profit earned if no discount was offered?
(a) 24.5   (b) 28.5   (c) 30   (d) None of these

80. Komal buys an article at discount of 25%. At what percentage above the cost price should he sell it to make a profit of 25% over the cost price
(a) 25   (b) 30   (c) 40   (d) 66.67

81. The price of a commodity is increased by 40%. By what percent should a consumer reduce his consumption so that his expenditure on the commodity remains constant?
(a) $25\frac{4}{7}$ %'   (b) $26\frac{4}{7}$ %   (c) $27\frac{4}{7}$ %   (d) $28\frac{4}{7}$ %

82. If Ram's salary went up by 25%, then by what percent should it be brought down to bring it to its initial value?
(a) 25%   (b) 20%   (c) 33.33%   (d) 37.5%

83. In an examination, Ramesh secured 574 marks and Rekha secured 76% of the total marks. If Ramesh secured 82% of total marks, the difference in their marks, is _____.
(a) 40   (b) 41   (c) 42   (d) 43

84. A man donated 6% of his income to a charity and deposited 20% of the rest in a bank. If he is left with Rs. 14, 00, then his income is _____.
(a) Rs 18000   (b) Rs. 18250   (c) Rs. 18500   (d) Rs. 18750

85. The price of an article increase by 10%, 15% and 20% in 3 consecutive weeks. What is the approximate overall percentage increase for the 3 weeks.
(a) 45%   (b) 62%   (c) 35%   (d) 52%

86. A reduction of 10% in the price of an article enables a dealer to purchase 25 articles more for Rs 45000. What is the original price of the article?
(a) Rs. 100   (b) Rs. 150   (c) Rs. 200   (d) Rs. 250

87. A solution of 165 litres contains 80% of acid and the rest water. How much water must be added to the above solution such that the resulting mixture contains 25% water?
(a) 11 litres   (b) 8 litres   (c) 9 litres   (d) 10 litres

88. Laxman saves 10% more than his expenditure and Bhuwan spends 10% more than his savings. If Laxman's savings is 10% more than Bhuwan's expenditure, What is the ratio of incomes of Laxman and Bhuwan?
(a) 9 : 10   (b) 100 : 99   (c) 10 : 11   (d) 11 : 10

89. Madan spends 50% of his income on household expenditure and 60% of the remaining on personal expenditure. Of the remaining, he pays 50% towards income tax and saves the remaining Rs. 1200. What is the personal expenditure of Madan?

(a) Rs. 1800   (b) Rs. 2400   (c) Rs. 3600   (d) Rs. 4800

90. In the year 2001, the price of article A is 20% more than the price of article B. in the year 2002, the price of article A is 50% more than the prices of article B. from 2001 to 2002, if the price of A has increased by 50%, by what percent has the price of B increased?

    (a) 0   (b) 10   (c) 20   (d) 25

91. When the price of an article is increased by 15%, the number of articles sold decreases by 20%. What is the percentage change in the sales revenue?

    (Sales revenue = price of each article x number of articles sold).

    (a) 5% increase   (b) 3% decrease   (c) 8% increase   (d) 8% decrease

92. The population of a town increases by 25% annually. If the present population is one crore, then what was the difference between the population 3 years ago and that 2 years ago?

    (a) 2500000   (b) 1280000   (c) 1560000   (d) 2000000

93. The ratio of boys and girls in a class is 5 : 3. 20% of the boys and 60% of the boys and 60% of the girls have passed in first class. What percentage of the class has passed in first class?

    (a) 35%   (b) 32%   (c) 34%   (d) 33%

94. There are three quantities A, B and C is $16\frac{2}{3}$ % less than A and C is $14\frac{2}{7}$ % more than B. By what present is A more than C?

    (a) 5   (b) 6   (c) 7   (d) 8

95. A's savings is 30% less than B's savings is 20% less than C's savings. By what percentage is C's savings more than A's savings?

    (a) $63\frac{2}{7}$%   (b) $52\frac{1}{3}$ %   (c) $64\frac{3}{5}$ %   (d) $78\frac{4}{7}$ %

96. A solution of 150 litres contains 60% of milk and the rest water. How much water must be added to the above solutions such that the resulting mixture contains 50% of water (in its)?

    (a) 60   (b) 80   (c) 20   (d) 30

97. In an election there are three contestants A, B and C. A secured 30% of the votes and B secured 60% of the remaining votes. If C secured 14000 votes, then by how many votes did the winner win the election?

    (a) 5000   (b) 6000   (c) 7000   (d) 8000

98. Kiran's salary was first increased by 30% and then decreased by 30%. If the latest salary is Rs. 2275, then what was the original salary of Kiran?

    (a) Rs. 2275   (b) Rs. 2425   (c) Rs. 2600   (d) Rs. 2500

99. When the price of an article is increased by P%, then quantity of sales decrease by 10% but sales revenue increases by 10%. Find p

    (a) 20   (b) $22\frac{2}{9}$ (c) $18\frac{2}{11}$ (d) 30

100. The total expenditure of a school on certain consumable items was found to be Rs 50650 in the year 1972. If the cost of living index for the years 1975, taking 1972 as the base year, is 162.8, then the expenditure of the school is 1975 is

    (a) Rs 82458   (b) Rs 82458.20   (c) Rs 82458.40   (d) None of these

101. In March Rohan's mothly expenditure was 90% of his monthly income. His monthly income increased by 30% and his monthly expenditure increased by 20% when compared to the previous month. Find the percentage increase in his monthly savings.

    (a) 130%   (b) 120%   (c) 110%   (d) 125%

102. In the year 2000, rice formed 20% of total foodgrain production in a country. In the next year, total foodgrain production increased by 20% and rice production was 25% of total foodgrain production. What is the increase in the production of rice from 2000 to 2011?

    (a) 25%   (b) 50%   (c) 40%   (d) 30%

103. In school X, the number of boys is more than that of the girls by 40%. In school Y, the number of girls is more than that of boys by 50%. If 50% boys in school X are equal to 70% of girls is school Y, what is the ratio between number of students of school X and school Y?
(a) 24 : 25   (b) 16 : 17   (c) 3 : 4   (d) 36 : 25

104. A manufacturer purchase a second hand machine for Rs 60000 and spends some amount towards repairs then its value goes upto Rs 90000. If depreciation is 10% p.a, what will be the value of the machine after two years?
(a) Rs 48600   (b) Rs 81000   (c) Rs 67200   (d) Rs 72900

105. Two numbers x and y, are in the ratio $\frac{5}{6} : \frac{3}{4}$. By what percent is x more than y?
(a) 10%   (b) $9.\overline{09}$%   (c) 12.5%   (d) $11.\overline{11}$%

106. Ramu saves 14% of his salary while Ramesh saves 24%. If both get equal salaries and Ramesh saves Rs 1440, then Ramu's expenditure is _____.
(a) Rs 5000   (b) Rs 5160   (c) Rs 6000   (d) Rs 7440

107. The side of square ABCD is 20% longer than the side of square PQRS. By what percentage is the area of ABCD more than the area of PQRS?
(a) 20%   (b) 24%   (c) 40%   (d) 44%

108. Only two candidates, A and B, contested in an election. In the total of 20000 votes 10% were invalid. A won the election by 3600 votes. What percentage of valid votes are secured by B?
(a) 45%   (b) 40%   (c) 30%   (d) 35%

109. Jacob and Mohan save 20% and 40% of their respective incomes. If their expenditures are equal, then what is the ratio of the incomes of Mohan and Jacob?
(a) 1 : 2   (b) 3 : 4   (c) 2 : 1   (d) 4 : 3

110. There are 3 numbers. The first and second numbers are 20% and 40% more than the third number. What percentage is the first number of the sum of the second and the third numbers?
(a) 25%   (b) 50%   (c) 30%   (d) 40%

ANSWER KEY

EXERCISE – 1

1. (i) $\dfrac{7}{20}$ (ii) 412.5%   (iii) 0.175   (iv) 950%

2. (i) 500 mL   (ii) 19.375 kg   (iii) 60 cm   (iv) Rs. 9

3. (i) 200   (ii) 1800

4. 68%

5. Rs. 33050

6. 300

7. 80%

8. 25%

9. (i) 100000   (ii) 22000

10. 2250

11. 325000

12. (i) 9 : 16,   (ii) 2 : 15   (iii) 6 : 15   (iv) 1 : 16

13. 3 : 1

14. (i) 40%   (ii) 60%   (iii) 65%

15. 500

16. 32

17. 7 students

18. 308

19. Rs. 6468

20. Rs. 6875

21. Rs. 5080

22. 1200

23. (a) Rs 5177.50   (b) Rs 1280.50

24. (a) Rs 500   (b) Rs 10,000

25. (a) 10%   (b) 3%

26. 330

27. 200

28. 308

29. 500

30. 40%

31. 2%

32. 10%

33. Rs 380

34. Loss = 0.25%

35. 40%

36. Rs. 864

37. 10%

38. 12.5%

39. $16\dfrac{2}{3}$ %

40. $6\dfrac{2}{3}$ %

41. 10%

42. $4\dfrac{1}{6}$ %

43. Rs. 1350
44. Rs. 23375
45. Rs. 840
46. Rs. 1650
47. Rs. 500
48. 40%
49. $11\frac{1}{9}$ %
50. Rs. 279.50
51. Rs. 699.20
52. 36
53. Rs. 1000
54. Rs. 308
55. Rs. 500
56. 2%
57. 12%
58. Rs. 937.50
59. Rs. 630.50
60. Rs. 600
61. Rs. 180
62. (i) Rs. 9864   (ii) Rs. 10810.94
63. Rs. 1261
64. 81.6
65. 2155.06
66. 2553.13
67. 5569.20
68. Rs. 124.86
69. Rs. 34481
70. Rs. 10088
71. Rs. 4921
72. Rs. 2553.13
73. Rs. 8195.45
74. Rs. 4830
75. Rs. 22781.25
76. Rs. 500
77. Rs. 69089.06
78. Rs. 9466.54
79. 2 years
80. $1\frac{1}{2}$ years
81. 20% per annum
82. Rs. 1600
83. Rs. 4096
84. 3 years
85. 3 years
86. 20% per annum
87. 10% per annum
88. 10% per annum
89. 5% per annum
90. 132651
91. 56238
92. 8000
93. 20000

EXERCISE – 2

1. 280 grams
2. 1220 km
3. a = 200
4. Rs. 2400
5. Rs. 700
6. Rs. 800
7. 91.43%
8. 37.52 kg
9. 4.431 gram
10. He is finding what per cent is 5 of 32.
11. 840
12. 29.67 kg, 23.73 kg, 10.79 kg or 10.8 kg (approx.)
13. y = 9600, z = 40000
14. 240 days
15. 87.5%
16. Rs. 240 grams
17. Rs. 80
18. Rs 40500
19. $33\frac{1}{3}$%
20. 36%
21. 44.4%
22. 1 : 2
23. Rs. 600
24. Rs. 90
25. $14\frac{2}{7}$ %
26. Rs. 300
27. 35.3%
28. 16704 years
29. Rs. 233280
30. Gain 27.08%
31. Rs 630 88.
32. Rs 7,840
33. 480
34. 37.5%
35. 600
36. 937.5
37. 157.63
38. Rs. 2332280
39. 5% per annum
40. Rs. 81000, Rs. 19000
41. Rs. 12656.25
42. Rs. 12500
43. 123.75
44. Rs. 36659.7
45. Rs. 67416
46. Rs. 210
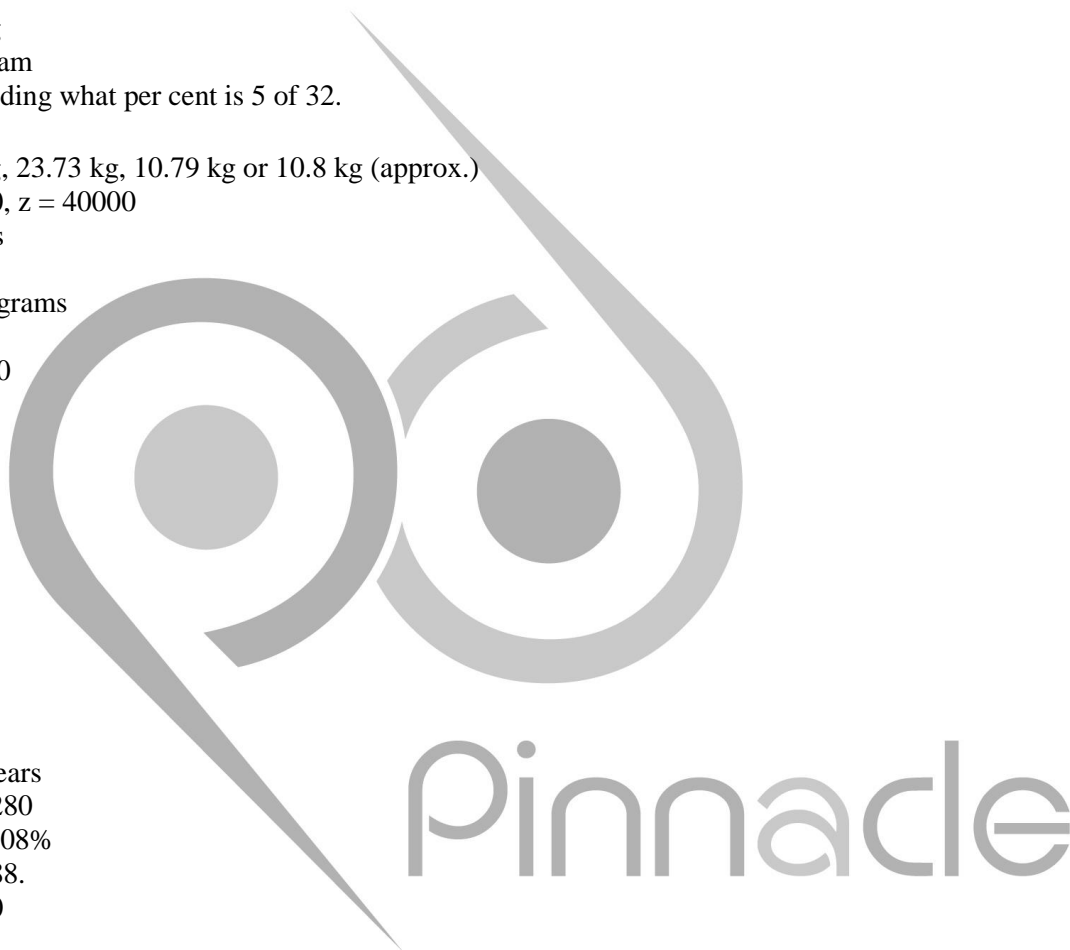
EXERCISE – 3

Ques.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Ans.	d	d	a	d	a	b	d	c	a	b
Ques.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Ans.	b	a	c	c	a	a	b	b	c	b
Ques.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
Ans.	a	a	a	c	a	a	a	a	d	a
Ques.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.
Ans.	b	c	b	d	d	c	c	c	d	d
Ques.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.
Ans.	d	d	d	d	d	d	a	a	c	d
Ques.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
Ans.	d	c	d	a	d	a	a	d	c	b
Ques.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.
Ans.	d	c	c	c	a	b	b	b	c	b
Ques.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.
Ans.	a	a	c	d	a	c	d	c	a	b
Ques.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.
Ans.	b	b	c	c	b	c	c	d	b	b
Ques.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.
Ans.	c	c	c	a	d	a	b	a	d	a

EXERCISE – 4

Ques.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Ans.	a	d	d	b	d	b	a	a	a	c
Ques.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Ans.	d	b	b	c	d	b	b	a	b	a
Ques.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
Ans.	a	b	a	c	c	c	c	c	d	a
Ques.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.
Ans.	b	c	b	a	a	b	b	a	c	b
Ques.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.
Ans.	d	c	a	a	d	d	a	c	a	b
Ques.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.
Ans.	b	c	b	c	d	c	b	c	c	c
Ques.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.
Ans.	d	a	d	c	c	c	a	b	c	d
Ques.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.
Ans.	b	a	b	a	b	d	d	d	c	d
Ques.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.
Ans.	d	b	c	d	d	c	a	d	c	c
Ques.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.
Ans.	d	b	a	a	d	d	b	d	b	b
Ques.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.
Ans.	b	b	d	d	d	b	d	b	d	b