

1. A and B can separately do a piece of work in 20 and 15 days, respectively. They worked together for 6 days, after which B was replaced by C. If the work was finished in the next 4 days, then the number of days in which C alone could do the work will be—  
 (A) 60 days (B) 40 days  
 (C) 35 days (D) 30 days
2. B can do a piece of work in 6 hour, B and C together can do it in 4 hour and A, B and C together in  $2\frac{2}{3}$  hour. In how many hours can A and B together do the same piece of work ?  
 (A) 11 hour (B)  $6\frac{1}{7}$  hour  
 (C)  $2\frac{3}{7}$  hour (D)  $3\frac{3}{7}$  hour
3. X can do  $\frac{1}{4}$  of a work in 10 days. Y can do 40% of the work in 40 days and Z can do  $\frac{1}{3}$  of the work in 13 days. Who will complete the work first ?  
 (A) X (B) Y  
 (C) Z (D) Both X and Z
4. A can do a piece of work in 7 days of 9 hours each whereas B can do the same work in 6 days of 7 hours each. How long will they take to do the work together, working  $8\frac{2}{5}$  hours a day ?  
 (A) 2 days (B) 3 days  
 (C)  $3\frac{1}{7}$  days (D)  $4\frac{2}{5}$  days
5. When 5 per cent is lost in grinding wheat, a country has to import 20 million bags to make up for the loss. But when only 2 per cent is lost, it has to import 15 million bags. What is the quantity of wheat which grows in the country in million bags ?  
 (A)  $133\frac{1}{3}$  (B) 150  
 (C)  $106\frac{2}{3}$  (D)  $166\frac{2}{3}$
6. In a consumer preferences survey, 20% respondents opted for product A whereas 60% opted for product B. The remaining individuals were undecided. If the difference between those who opted for product B and those who were undecided is 720, how many individuals had been interviewed for the survey ?  
 (A) 1440  
 (B) 1800  
 (C) 3600  
 (D) Data inadequate
7. Gauri went to the stationers and bought items worth ₹ 25, out of which 30 paise went on sales tax on taxable purchases. If the tax rate was 6%, then what was the cost of the tax-free items ?  
 (A) ₹ 15 (B) ₹ 15.70  
 (C) ₹ 19.70 (D) ₹ 20
8. Shyam had three notebooks X, Y and Z. Of these, X had 120 pages, Y had 10% more and Z had 10% less. If he tore out 5%, 10% and 15% of pages in X, Y and Z respectively, then what per cent of total pages did he tear out ?  
 (A) 8%  
 (B) 15%  
 (C) 7%  
 (D) None of the above
9. A bag contains 4 five rupee coins, 3 two rupee coins and 3 one rupee coins. If 6 coins are drawn from the bag at random, what are the odds in favour of the draw yielding maximum amount ?  
 (A) 1 : 70 (B) 1 : 69  
 (C) 69 : 70 (D) 70 : 1
10. Varun throws two unbiased dice together and gets a sum of 7. If his friend Tarun then throws the same two dice, what is the probability that the sum is less than 7 ?  
 (A)  $\frac{1}{6}$  (B)  $\frac{7}{12}$   
 (C)  $\frac{1}{2}$  (D)  $\frac{5}{12}$
11. In a factory where toys are manufactured, machines A, B and C produce 25%, 35% and 40% of the total toys, respectively. Of their output, 5%, 4% and 2% respectively, are defective toys. If a toy drawn at random is found to be defective, what is the probability that it is manufactured on machine B ?  
 (A)  $\frac{17}{69}$   
 (B)  $\frac{28}{69}$   
 (C)  $\frac{35}{69}$   
 (D) None of the above
12. A and B alternately throw a pair of dice. A wins if he throws 6 before B throws 7 and B wins if he throws 7 before A throws 6. What are their respective chances of winning, if A throws the dice first ?  
 (A)  $\frac{13}{16}, \frac{31}{16}$  (B)  $\frac{30}{61}, \frac{31}{61}$   
 (C)  $\frac{31}{61}, \frac{41}{61}$  (D)  $\frac{38}{61}, \frac{23}{61}$
13. What will be the ratio of simple interest earned by a certain amount at the same rate of interest for 6 years and 9 years ?  
 (A) 1 : 3  
 (B) 1 : 4  
 (C) 2 : 3  
 (D) Data inadequate
14. An automobile financier claims to be lending money at simple interest but he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes.  
 (A) 10%  
 (B) 10.25%  
 (C) 10.5%  
 (D) None of the above

15. A sum of money lent at compound interest for 2 years at 20% per annum would fetch ₹ 482 more if the interest was payable half yearly than if it was payable annually. The sum is—  
 (A) ₹ 10,000 (B) ₹ 20,000  
 (C) ₹ 40,000 (D) ₹ 50,000
16. Sultan took a loan from the bank at 8% per annum and was supposed to pay a sum of ₹ 2240 at the end of 4 years. If the same sum is cleared off in four equal annual instalments at the same rate, the amount of annual instalment will be—  
 (A) ₹ 500 (B) ₹ 550  
 (C) ₹ 600 (D) ₹ 1000
17. A circus tent is cylindrical to a height of 3 m and conical above it. If the diameter of the base is 140 m and the slant height of the conical portion is 80 m, the length of canvas 2 m wide required to make the tent is—  
 (A) 8960 m (B) 9660 m  
 (C) 9460 m (D) 9860 m
18. The ratio between the length and breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/h completes one round in 8 minute, then the area of the park in sq m is—  
 (A) 15360 (B) 153600  
 (C) 30720 (D) 307200
19. If the numbers representing volume and surface area of a cube are equal, then the length of the edge of the cube in terms of the unit of measurement will be—  
 (A) 3 (B) 4  
 (C) 5 (D) 6
20. A metal sheet 27 cm long, 8 cm broad and 1 cm thick is melted into a cube. The difference between the surface area of the two solids, is—  
 (A)  $284 \text{ cm}^2$  (B)  $296 \text{ cm}^2$   
 (C)  $286 \text{ cm}^2$  (D)  $300 \text{ cm}^2$
21. A, B and C have 40,  $x$  and  $y$  balls, respectively. If B gives 20 balls to A, he is left with half as many balls as C. If together they had 60 more balls, each of them would have had 100 balls on an average. What is the ratio of  $x$  to  $y$  ?  
 (A) 3 : 2 (B) 2 : 3  
 (C) 2 : 1 (D) 3 : 4
22. There are a total of 43800 students in 4 schools of a city. Half the number of students of the first school, two-third of the second, three-fourth of the third and four-fifth of the fourth are all equal. What is the ratio of the number of students of A to D, if A, B, C and D be the first, second, third and fourth schools, respectively ?  
 (A) 8 : 5 (B) 1 : 3  
 (C) 2 : 3 (D) 7 : 9
23. Four numbers are in proportion. The sum of the squares of the four numbers is 50 and the sum of the mean is 5. The ratio of first two terms is 1 : 3. What is the average of the four numbers ?  
 (A) 1 (B) 3  
 (C) 5 (D) 6
24. The concentration of petrol in three different mixtures (of petrol and kerosene) is  $\frac{1}{2}$ ,  $\frac{3}{5}$  and  $\frac{4}{5}$ , respectively. If 2 litres, 3 litres and 1 litre are taken from these three different vessels and mixed, what is the ratio of petrol and kerosene in the new mixture ?  
 (A) 4 : 5 (B) 3 : 2  
 (C) 3 : 5 (D) 2 : 3
25. A company CEO invited nine persons for a business meeting, where the host will be seated at a circular table. How many different arrangements are possible if two invitees X and Y be seated on either side of the host CEO ?  
 (A) 10080 (B) 10800  
 (C) 9200 (D) 4600
26. Find the number of ways in which ten different flowers can be strung together to make a garland in such a way that three particular flowers are always together ?  
 (A) 30240 (B) 30420  
 (C) 23400 (D) None of the above
27. A committee of 3 experts is to be selected out of a panel of 7 persons. Three of them are engineers, three are managers and one is both engineer and manager. In how many ways can the committee be selected if it must have at least one engineer and one manager ?  
 (A) 33 (B) 22  
 (C) 11 (D) 66
28. A cricket team of 11 players is to be formed from a pool of 16 players that includes 4 bowlers and 2 wicket-keepers. In how many different ways can a team be formed so that the team has atleast 3 bowlers and one wicket-keeper ?  
 (A) 2472 (B) 2274  
 (C) 2427 (D) 1236
29. Vijay purchased two different kinds of alcohol. In the first mixture the ratio of alcohol to water is 3 : 4 and in the second mixture it is 5 : 6. If he mixes the two given mixtures and makes a third mixture of 18 litres in which the ratio of alcohol to water is 4 : 5, the quantity of the first mixture (whose ratio is 3 : 4) that is required to make 18 litres of the third kind of mixture is—  
 (A) 6 (B) 7  
 (C) 8 (D) 9
30. The average marks of the students in four sections A, B, C and D of a school is 60%. The average marks of the students of A, B, C and D individually are 45%, 50%, 72% and 80%, respectively. If the average marks of the students of sections A and B together is 48% and that of the students of B and C together is 60%, what is the ratio of the number of students in sections A and D ?  
 (A) 2 : 3 (B) 4 : 3  
 (C) 5 : 3 (D) 3 : 5
31. Two casks of 48 litres and 42 litres are filled with mixtures of milk and water; the proportions in the two casks being respectively, 13 : 7 and 18 : 17. If the contents of the two casks be mixed and 20 litres of water be added to the whole, what will be the proportion of milk and water in the resulting mixture ?  
 (A) 5 : 12 (B) 7 : 13  
 (C) 12 : 13 (D) 8 : 15
32. Two companies A and B quote for a tender. On the tender opening day, A realizes that the two

- quotes are in the ratio 7 : 4 and hence decreases its price during negotiations to make it ₹ 1 lakh lower than B's quoted price. B then realizes that the final quotes of the two were in the ratio 3 : 4. By how much did A decrease its price in order to win the bid ?
- (A) ₹ 7 lakh  
(B) ₹ 4 lakh  
(C) ₹ 9 lakh  
(D) None of the above
33. To fill a certain tank, pipes A, B and C take 20 minute, 15 minute and 12 minute respectively. If the three pipes are opened every alternate minute, how long will it take to fill the tank ?
- (A) 5 minute (B) 10 minute  
(C) 12 minute (D) 15 minute
34. A bath can be filled by the cold water and hot water pipes in 10 minute and 15 minute respectively. A person leaves the bathroom after turning on both pipes simultaneously and returns at the moment when the bath should be full. Finding, however, that the waste pipe has been open, he then closes it. In exactly four minute more the bath is full. In how much time would the waste pipe empty the full bath, if it alone is opened ?
- (A) 9 minute  
(B) 10 minute  
(C) 12 minute  
(D) None of the above
35. A, B and C are three pipes attached to a cistern. A and B can fill it in 20 minute and 30 minute respectively, while C can empty it in 15 minute. If A, B and C be kept open successively for 1 minute each, how soon will the cistern be filled ?
- (A) 180 minute  
(B) 60 minute  
(C) 157 minute  
(D) 155 minute
36. Two taps can separately fill a cistern in 10 minute and 15 minute respectively. If these two pipes and a waste pipe are kept open simultaneously, the cistern gets filled in 18 minute. The waste pipe can empty the full cistern in—
- (A) 7 minute (B) 13 minute  
(C) 23 minute (D) 9 minute
37. Raghu travelled 1200 km by air which formed  $\frac{2}{5}$ th of his trip. One-third of the whole trip he travelled by car and the rest of the journey he did by train. The distance travelled by train is—
- (A) 1600 km (B) 800 km  
(C) 1800 km (D) 480 km
38. A man has to cover a distance of 6 km in 45 minute. If he covers one-half of the distance in  $\frac{2}{3}$ rd time, what should be his speed to cover the remaining distance in the remaining time ?
- (A) 12 km/h (B) 16 km/h  
(C) 3 km/h (D) 8 km/h
39. A man starts cycling from A to B and at the same time, another man starts cycling from B to A along the same path. They completed their journeys in  $1\frac{2}{3}$  and  $2\frac{2}{5}$  hours, respectively. At what speed has the second man cycled if the first cycles at 16 km/h ?
- (A)  $16\frac{1}{2}$  km/h (B)  $18\frac{1}{2}$  km/h  
(C)  $11\frac{1}{9}$  km/h (D)  $13\frac{1}{3}$  km/h
40. Two men A and B start walking from a place 'X' at  $4\frac{1}{2}$  km/h and  $5\frac{3}{4}$  km/h, respectively. How many km apart will they be at the end of  $3\frac{1}{2}$  hours if they are walking in the same direction ?
- (A)  $4\frac{1}{2}$  km (B)  $5\frac{3}{4}$  km  
(C)  $4\frac{3}{8}$  km (D)  $35\frac{7}{8}$  km