

### BMTSC Exam Objective Problems (AM)

1.  $A$ ,  $B$  and  $C$  can finish a job in 12, 15 and 20 days respectively. They all worked together for 2 days and then  $C$  left. How much time will  $A$  and  $B$  require to complete the remaining work?
2. Mr. Mahesh lent Rs. 25400/- into two parts to two friends. One at 12% another at  $12\frac{1}{2}\%$ . If the total annual simple interest received is Rs.3116, then find the amount lent at  $12\frac{1}{2}\%$ .
3. The salaries of Kiran, Laxman and Raman are in the ratio of 2 : 5 : 9. The salary of Laxman and Raman together is Rs.28000. By what percent is the salary of Raman more than that of Kiran?
4. Ram and Bharat can do a piece of work in 50 days and 45 days respectively. They began to do work together but Ram left after some days and then Bharat completed the remaining work in 26 days. Find the number of days after which Ram left the work.
5. The average weight of 20 people in a lift is decreased by 3.0 kg when one of them. Whose weight is 158kg. is replaced by anew lady. Find the weight of the new lady.
6. The traffic signals at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively. If they all change simultaneously at 8 : 20;00 hours, then find the time at which they will again change simultaneously.
7. If two-fifth sum is invested at 7% p.a. for two years and six months and remaining sum is invested at 7.5% p.a. for three years and six months, the total interest received is Rs. 2730. Find the total sum invested.
8. The population of town increase by 20% every year, on 1st January 2004 it was 550000. What it would have been on 1st January 2009?
9. A saree was sold at a profit of 10%. If it would have been sold for Rs.368 less, there would have been a loss of 10%. Find the cost price of the saree.
10. Due to an increase at 30% in the price of marbles, 3 marbles less are available for Rs. 7.80. Find the present rate of marbles per dozen.
11. If the side of the square is increased by 10% then the percentage increase in its area is  
(a) 10%            (b) 21%            (c) 25%            (d) 121%

12. Which of the following sets of fractions is in descending order?  
 (a)  $\frac{3}{5}, \frac{7}{9}, \frac{6}{7}$       (b)  $\frac{7}{9}, \frac{3}{5}, \frac{6}{7}$       (c)  $\frac{7}{9}, \frac{6}{7}, \frac{3}{5}$       (d)  $\frac{6}{7}, \frac{7}{9}, \frac{3}{5}$
13.  $5 \times 0.5 \times 0.05 \times 0.005 \times 50 = ?$   
 (a) 0.3125      (b) 0.03125      (c) 0.003125      (d) 3.125
14. Evaluate:  $\frac{\sqrt{343}}{\sqrt{567}}$   
 (a)  $\frac{11}{13}$       (b)  $\frac{9}{11}$       (c)  $\frac{7}{9}$       (d)  $\frac{11}{17}$ .
15. If  $(\frac{6}{5})^5 \times (\frac{5}{12})^4 = ?$   
 (a)  $\frac{6}{40}$       (b)  $\frac{6}{5}$       (c)  $\frac{6}{20}$       (d)  $\frac{3}{40}$ .
16. If the weight of 3 feathers is 0.64204 gms, 0.64202 gms. and 0.64206 gms, then find their average weight.  
 (a) 0.64203 gms.      (b) 0.64205 gms.      (c) 0.64204 gms.      (d) 0.64206 gms.
17. If  $\frac{2}{5}(x - 2) - \frac{1}{2}(x - 3) = \frac{7}{3}$ , then  $x = ?$   
 (a)  $-\frac{49}{3}$       (b)  $\frac{49}{3}$       (c)  $\frac{27}{7}$       (d)  $\frac{27}{11}$
18. If 1 is divided by  $\frac{1}{0.04}$  the answer is  
 (a)  $\frac{5}{125}$       (b)  $\frac{1}{0.04}$       (c) 4      (d) 25
19. The perimeter of the rectangle is 24 cm. One of its side is thrice its adjacent side. Find the area of the rectangle.  
 (a)  $24 \text{ cm}^2$       (b)  $27 \text{ cm}^2$       (c)  $30 \text{ cm}^2$       (d)  $36 \text{ cm}^2$ .
20. The sum of three consecutive odd numbers is 435. Find the greatest of them.  
 (a) 145      (b) 147      (c) 151      (d) 157
21. Shambhavi covers two-third of a certain distance at 4 km/hr and the remaining at 5 km/hr. If she requires 0.7 hours in all then find the distance.  
 (a) 3 km.      (b) 30 km.      (c) 300 km.      (d) 300 cm.
22. 6 times the smaller number is same as 5 times the larger number. If the difference between the two numbers is 5, then find the larger number.  
 (a) 5      (b) 6      (c) 30      (d) 25
23. What must be added to each term of the ratio 5 : 8 so that the ratio becomes 4 : 5?  
 (a) -1      (b) -3      (c) 7      (d) None of these.
24. What is the LCM of  $\frac{2}{3}, \frac{8}{9}, \frac{10}{27}, \frac{32}{81}$ ?  
 (a)  $\frac{2}{81}$       (b)  $\frac{160}{3}$       (c)  $\frac{32}{3}$       (d)  $\frac{80}{3}$

25. Find the value of  $(35.164)^2 - (25.164)^2$   
 (a) 60.328      (b) 6032.8      (c) 60328      (d) 603.28
26.  $\sqrt{121} + \sqrt{0.0121} = 20.011 - x$ . Find the value of  $x$ .  
 (a) 9.89      (b) 9.801      (c) 8.801      (d) 8.901
27. Simplify :  $\left(\frac{2}{7}\right)^{-3} \times \left(\frac{3}{4}\right)^{-2}$   
 (a)  $\frac{3^{-2}}{4^3 \times 7}$       (b)  $\frac{16}{28}$       (c)  $\frac{686}{9}$       (d)  $\frac{2^{-3}}{7}$
28. The average of first set of 24 observations is 36 and the average of second set of 36 observations is 24. Find the average of all the observations of both the sets.  
 (a) 30      (b) 32      (c) 29      (d) 28.8
29. If  $a = \frac{2}{3}$ ,  $b = \frac{3}{5}$  then find the product of  $5a^2b$  and  $-3ab^2$ .  
 (a)  $-\frac{8}{5}$       (b)  $-\frac{24}{25}$       (c)  $-\frac{6}{25}$       (d)  $-\frac{25}{24}$
30. A car covers a distance of 200 km. with a speed of 60 km/hr. If the speed of the car is reduced by 20 km/hr., how much distance will it travel in the same time?  
 (a)  $133\frac{1}{3}$  km.      (b) 5 km.      (c) 500 km.      (d) 250 km.
31. Nikita and Rucha together have Rs. 64. The amount they both have individually are whole numbers, then those amounts cannot be in the ratio of  
 (a) 5 : 3      (b) 7 : 10      (c) 3 : 4      (d) 9 : 7
32. Find the largest number which can exactly divide 1026, 1566 and 2214.  
 (a) 27      (b) 54      (c) 81      (d) 162
33.  $218\%$  of  $1674 = x \times 3^2 \times 2 \times 10^2$ . Find the value of  $x$ .  
 (a) 2.0274      (b) 0.218      (c) 2.18      (d) N.O.T.
34. A vendor got marbles at 6 for a rupee. How many for a rupee must he sell to gain 20%.  
 (a) 10      (b) 8      (c) 4      (d) 5
35. A sum of money at simple interest amounts to Rs.2318 in two years and to Rs. 2945 in five years. Find the sum.  
 (a) Data inadequate      (b) Rs. 1691      (c) Rs. 1900      (d) Rs. 2109
36. Niddhi completes a project in 9 days. Shalu can complete it in 14 days. If they both work together then find the number of days required by them.  
 (a) 12 days      (b)  $5\frac{11}{23}$  days      (c) 11 days      (d)  $5\frac{9}{23}$  days

37. The solution set of  $x^2 - 31x + 108 = 0$  is  
 (a)  $\{-18, -13\}$       (b)  $\{18, 13\}$       (c)  $\{27, 4\}$       (d)  $\{-27, -4\}$
38. The exterior angle of a regular polygon is one third of the right angle. Find the number of sides of that polygon.  
 (a) 12      (b) 10      (c) 14      (d) 15
39. If 8% of  $x = 4\%$  of  $y$ , then 20% of  $x = ?$   
 (a) 2% of  $y$       (b) 5% of  $y$       (c) 40% of  $y$       (d) 10% of  $y$
40. Prerna purchased 22 books for Rs.20 and sold all the books at the rate of 20 books for Rs. 22. Find the profit percent.  
 (a) 10.5%      (b) 15%      (c) 10%      (d) 21%
41. If the simple interest on Rs.1600 be less than the simple interest on Rs.1900 by Rs.72 in 3 years. Find the rate of interest.  
 (a) 24%      (b) 8%      (c)  $\frac{8}{3}\%$       (d) N.O.T.
42. Purva requires 12 days to complete the whole work. Prachi can do it in 15 days Rewa requires 18 days so complete it. Purva started the work and left it after 2 days. Then Prachi and Rewa worked together to complete it. In how many days will the two complete the remaining work.  
 (a) 17 days      (b) 7 days      (c)  $6\frac{9}{11}$  days      (d)  $5\frac{9}{11}$  days
43. A sphere has a volume of  $905\frac{1}{7}$  cm<sup>3</sup>. What is its diameter?  
 (a) 6 cm.      (b) 12 cm.      (c) 15 cm.      (d) N.O.T.
44. Which percent of  $\frac{3}{16}$  is  $\frac{1}{8}$ .  
 (a)  $\frac{1}{2}$       (b)  $\frac{8}{48}$       (c)  $\frac{100}{3}$       (d)  $\frac{200}{3}$
45. Find the product of  $\frac{2}{3}x + \frac{3}{8}y$  and  $\frac{3}{4}x + \frac{4}{9}y$   
 (a)  $\frac{x^2}{2} + \frac{499}{864}xy + \frac{y^2}{6}$       (b)  $\frac{8x^2}{2} + \frac{12y^2}{8}$       (c) 4      (d) N.O.T.
46. Which of the following numbers is exactly divisible by 99?  
 (a) 111447      (b) 148009      (c) 498984      (d) 102663
47. The G.C.D. of two numbers is 14 and their difference is 14. Find the two numbers.  
 (a) 66, 80      (b) 70, 84      (c) 108, 122      (d) N.O.T.
48.  $\frac{1890}{\sqrt{x}} = 105$ . Find the value of  $x$ .  
 (a) 324      (b) 64      (c) 784      (d) 18.

49. The average of three numbers is 55. Second number is twice the first and is also thrice the third number. Find the smallest number of them.  
 (a) 50            (b) 30            (c) 45            (d) 60
50. Find the compound interest on Rs.2800 for  $1\frac{1}{2}$  years at 10% per annum compounded annually.  
 (a) Rs.434            (b) Rs. 544            (c) Rs. 534            (d) Rs. 435.50
61.  $17^{1/3} \times 17^{3/2} = ?$   
 (a)  $17^{1/2}$             (b)  $17^{11/6}$             (c)  $17^{7/6}$             (d) N.O.T.
62.  $\left(\frac{7}{11}\right)^2 \times \sqrt{\frac{121}{343}} = ?$   
 (a)  $\frac{7}{\sqrt{11}}$             (b)  $\sqrt{\frac{7}{11}}$             (c)  $\frac{\sqrt{7}}{11}$             (d)  $\frac{7}{11}$
63. 0.70% of  $A$  is Rs.1 and 25 paise. Find  $A$ .  
 (a) Rs. 17.25            (b) Rs. 12.50            (c) Rs.  $\frac{1250}{7}$             (d) Rs.  $\frac{100}{7}$
64. Find the sum of the angles of a regular heptagon.  
 (a)  $1260^\circ$             (b)  $1080^\circ$             (c)  $900^\circ$             (d)  $1620^\circ$
65. If 15% of  $y$  is same as 20% of  $x$ , then  $x : y = ?$   
 (a) 3 : 4            (b) 4 : 3            (c) 17 : 14            (d) 16 : 17
66. Neha covers the distance from Pune to Mumbai by bus driving at 55 km. per hour and returns using the same route by car driving at 70 km. per hour. Find her average speed.  
 (a) 61.6 km/hr.            (b) 62.5 km/hr.            (c) 63 km/hr.            (d) N.O.T.
67. A can complete a project in 80 days. He worked on it for 20 days and then  $B$  finished the remaining work in 51 days. Then find the number of days required by both of them if they work together.  
 (a)  $35\frac{28}{37}$             (b) 60            (c) 36            (d)  $36\frac{28}{37}$
68.  $\left(9\frac{1}{7} + \frac{6}{7}\right)^3 = ?$   
 (a)  $250 \times 2$             (b)  $250 \times 4$             (c)  $150 \times 6$             (d)  $2000 \div 4$
69.  $101 \times 91 = ?$   
 (a) 8919            (b) 9819            (c) 9191            (d) 9829
70. 120 is divided into 2 parts such that  $\frac{1}{9}$  th of the first part is equal to  $\frac{1}{3}$  rd. of the second part. Find the second part.  
 (a) 40            (b) 30            (c) 70            (d) 90