

Bajaj Placement Papers

BAJAJ PAPER ON 8th AUGUST 2008

1. Three friends divided some bullets equally. After all of them shot 4 bullets the total number of bullets remaining is equal to the bullets each had after division. Find the original number divided.

18

2. Find sum of digits of D. Let $A = 19991999$ $B =$ sum of digits of A, $C =$ sum of digits of B, $D =$ sum of digits of C. (HINT: $A = B = C = D \pmod{9}$)

3. There is a 50m long army platoon marching ahead. The last person in the platoon wants to give a letter to the first person leading the platoon. So while the platoon is marching he runs ahead, reaches the first person and hands over the letter to him and without stopping he runs and comes back to his original position. In the mean time the whole platoon has moved ahead by 50m. The question is how much distance did the last person cover in that time. Assuming that he ran the whole distance with uniform speed.

4. If you take a marker & start from a corner on a cube, what is the maximum number of edges you can trace across if you never trace across the same edge twice, never remove the marker from the cube, & never trace anywhere on the cube, except for the corners & edges?

9

5. One of Mr. Bajaj, his wife, their son and Mr. Bajaj's mother is an Engineer and another is a Doctor. If the Doctor is a male, then the Engineer is a male. If the Engineer is younger than the Doctor, then the Engineer and the Doctor are not blood relatives. If the Engineer is a female, then she and the Doctor are blood relatives. Can you tell who is the Doctor and the Engineer?

6. Three men - Sam, Cam and Laurie - are married to Carrie, Billy and Tina, but not necessarily in the same order. Sam's wife and Billy's Husband play Carrie and Tina's husband at bridge. No wife partners her husband and Cam does not play bridge. Who is married to Cam?

7. There are 3 persons X, Y and Z. On some day, X lent tractors to Y and Z as many as they had. After a month Y gave as many tractors to X and Z as many as they have. After a month Z did the same thing. At the end of this transaction each one of them had 24. Find the tractors each originally had?

8. A certain street has 1000 buildings. A sign-maker is contracted to number the houses from 1 to 1000. How many zeroes will he need?

9. There are 9 coins. Out of which one is odd one i.e weight is less or more. How many iterations of weighing are required to find odd coin?

10. In a sports contest there were m medals awarded on n successive days ($n > 1$). On the first day 1 medal and $\frac{1}{7}$ of the remaining $m - 1$ medals were awarded. On the second day 2 medals and $\frac{1}{7}$ of the now remaining medals was awarded; and so on. On the nth and last day, the remaining

n medals were awarded. How many days did the contest last, and how many medals were awarded altogether?

11. A number of 9 digits has the following properties: The number comprising the leftmost two digits is divisible by 2, that comprising the leftmost three digits is divisible by 3, the leftmost four by 4, the leftmost five by 5, and so on for the nine digits of the number i.e. the number formed from the first n digits is divisible by n, $2 \leq n \leq 9$. Each digit in the number is different i.e. no digits are repeated. The digit 0 does not occur in the number i.e. it is comprised only of the digits 1-9 in some order. Find the number.

12. $\frac{1}{3}$ rd of the contents of a container evaporated on the 1st day. $\frac{3}{4}$ th of the remaining contents of the container evaporated on the second day.

What part of the contents of the container is left at the end of the second day?

$$(x - \frac{1}{3}x) - ((x - \frac{1}{3}x) \frac{3}{4}) = \frac{2}{3}x - \frac{1}{2}x = \frac{1}{6}x$$

13. Vipul was studying for his examinations and the lights went off. It was around 1:00 AM. He lighted two uniform candles of equal length but one thicker than the other. The thick candle is supposed to last six hours and the thin one two hours less. When he finally went to sleep, the thick candle was twice as long as the thin one. For how long did Vipul study in candle light? 3 hrs

14. If you started a business in which you earned Rs.1 on the first day, Rs.3 on the second day, Rs.5 on the third day, Rs.7 on the fourth day, & so on. How much would you have earned with this business after 50 years (assuming there are exactly 365 days in every year)?

15. A worker earns a 5% raise. A year later, the worker receives a 2.5% cut in pay, & now his salary is Rs. 22702.68 What was his salary to begin with?

16. At 6'o a clock ticks 6 times. The time between first and last ticks is 30 seconds. How long does it tick at 12'o.

17. In Mr. Mehta's family, there are one grandfather, one grandmother, two fathers, two mothers, one father-in-law, one mother-in-law, four children, three grandchildren, one brother, two sisters, two sons, two daughters and one daughter-in-law. How many members are there in Mr. Mehta's family? Give minimal possible answer.

18. When Alexander the Great attacked the forces of Porus, an Indian soldier was captured by the Greeks. He had displayed such bravery in battle, however, that the enemy offered to let him choose how he wanted to be killed. They told him, "If you tell a lie, you will put to the sword, and if you tell the truth you will be hanged." The soldier could make only one statement. He made that statement and went free. What did he say?

20. A person wanted to withdraw X rupees and Y paise from the bank. But cashier made a mistake and gave him Y rupees and X paise. Neither the person nor the cashier noticed that. After spending 20 paise, the person counts the money. And to his surprise, he has double the amount he wanted to withdraw. Find X and Y. (1 Rupee = 100 Paise)

