PYQs of Various MNCs

1. A completes a work in 2 days, B in 4 days, C in 9 and D in 18 days. They form group of two such that difference is maximum between them to complete the work. What is difference in the number of days they complete that work?

2. How many 4 digit numbers contain number 2.

3. How many three digit numbers abc are formed where at least two of the three digits are same.

4. How many numbers are divisible by 4 between 1 to 100

5. There are 1000 junior and 800 senior students in a class.And there are 60 sibling pairs where each pair has 1 junior and 1 senior. One student is chosen from senior and 1 from junior randomly.What is the probability that the two selected students are from a sibling pair?

6. 161 ?85 ? 65 ? 89 = 100, then use + or - in place of ? and take + as m,- as n then find value of m-n.

7. In a cycle race there are 5 persons named as J,K,L,M,N participated for 5 positions so that in how many number of ways can M finishes always before N?

8. Rahul took a part in cycling game where 1/5 ahead of him and 5/6 behind him excluding him. Then total number of participants are

9. If a refrigerator contains 12 cans such that 7 blue cans and 5 red cans. In how many ways can we remove 8 cans so that atleast 1 blue can and 1 red can remains in the refrigerator.

10. There are 16 people, they divide into four groups, now from those four groups select a team of three members, such that no two members in the team should belong to same group.

Aptitude Routine

1. Let total work = 2, 4, 9, 18 => LCM = 36

A: $36 \div 2 = 18$ units/day
B: $36 \div 4 = 9$ units/day
C: $36 \div 9 = 4$ units/day
D: $36 \div 18 = 2$ units/day

A(18) + D(2) = 20 units/day
B(9) + C(4) = 13 units/day.

$36 \div 20 = 1.8$ days
$36 \div 13 = 2.77$ days

$2.77 - 1.8 = 0.97$ days

2. Total 4-digit numbers.

1000 to 9999

$9999 - 1000 + 1 = 9000$

Total 4-digit no = 9000

no with no 2 = 5832 => $8 \times 9 \times 9 \times 9 = 5832$.

With at least one 2 = $9000 - 5832 = 3168$

3. 100 to 999

$999 - 100 + 1 = 900$

$9 \times 9 \times 8 = 648$

$900 - 648 = 252$

4.

$$n = \frac{(l-a)}{d} + 1$$

$$= \frac{(100-4)}{4} + 1 = \frac{96}{4} + 1 = 24 + 1 = 25.$$

5. Total possible pairs = $1000 \times 800 = 800{,}000$

Favorable outcomes = 60

$$P = \frac{60}{800{,}000} = \frac{3}{40{,}000}$$

6. $161 . ? . 85 . ? 65 ? 89 = 100$

$161 - 85 - 65 + 89$

$161 - 85 = 76$

$76 - 65 = 11$

$11 + 89 = 100$

- appears 2 times $\rightarrow n = 2$

+ appears 1 time $\rightarrow m = 1$

$m - n = 1 - 2 = \boxed{-1}$

7. J, K, L, M, N

$= 5! = 120$

$\frac{120}{2} = 60$

9. total cans = 12

7 blue, 5 red

- remove 8 cans
- 4 can remain

$\binom{12}{8} = \binom{12}{4} = 495$ $\binom{7}{4} = 35$

$495 - (35 + 5) = 455$ $\binom{5}{4} = 5$

10. $\binom{4}{3}$

$4 \times$

$\binom{4}{}$

10.

$\binom{4}{3} = 4$

$4 \times 4 \times 4 = 4^3 = 64$

$\binom{4}{3} \times 4^3 = 4 \times 64 = \underline{256}$