Q.53)

Ans) d

## Exp) Option d is correct

Exp) Let the present ages of Rajeev and Anand be 7x and 10x years respectively.
Then, $\frac{7 x+5}{10 x+5}=\frac{8}{11}$
$\Rightarrow 77 x+55=80 x+40$
$\Rightarrow 3 x=15$
$\Rightarrow x=5$
So, the present ages of Rajeev and Anand are $(7 \times 5)$ and $(10 \times 5)$ respectively.
The sum of their ages $=(35+50)=85$
Hence, $a=8$ and $b=5$
Then, $a^{b}=8^{5}$
We know unit digit of 8 repeated after 4 powers. So, unit digit of $8^{5}=$ unit digit of $8^{1}=>8$
Q.54)

Ans) a

## Exp) Option a is correct.

Work done by $(\mathrm{A}+\mathrm{C})$ in 5 days $=5\left(\frac{1}{20}+\frac{1}{45}\right)=\frac{13}{36}$
Remaining work $=\left(1-\frac{13}{36}\right)=\frac{23}{36}$
Work done by $(\mathrm{A}+\mathrm{B})$ in one day $=\left(\frac{1}{20}+\frac{7}{90}\right)=\frac{23}{180}$
Let the number of days be $x$
Then, $\frac{23}{36}$ work done in x days,
$x=\frac{23}{36} \div \frac{23}{180}=\frac{23}{36} \times \frac{180}{23}=5$
Q.55)

Ans) c
Exp) Option c is correct.
From the statements the series will be,
Rajesh > Pawan > Ram > Raja
So, Raja scored lowest.
Q.56)

Ans) c
Exp) Option c is correct
Exp) We may have ( 1 black and 2 non-black) or ( 2 black and 1 non-black) or (3 black).
Required number of ways $=\left({ }^{3} \mathrm{C}_{1} \times{ }^{6} \mathrm{C}_{2}\right)+\left({ }^{3} \mathrm{C}_{2} \mathrm{x}{ }^{6} \mathrm{C}_{1}\right)+\left({ }^{3} \mathrm{C}_{3}\right)$
$=\left[3 \times \frac{6 \times 5}{2 \times 1}\right]+[3 \times 6]+1$
$=(45+18+1)$
$=64$
Q.57)

Ans) b

## Exp) Option $\mathbf{b}$ is correct.

Here, we have to calculate: How many years ago the ratio of their ages was 3:2. Let us assume x years ago
At present: Shubham is 30 years and Nikhil is 25 years
x years ago: Shubham's age $=(30-\mathrm{x})$ and Nikhil's age $=(25-\mathrm{x})$

[^0]
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