

Dos and Don'ts for General Science &

Ability Paper

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Hi there, you've done well. Know that acquiring knowledge is one thing and reproducing it in paper according to what's asked is another. There are a few things I would like to highlight.

1. A 5 marks part requires at least 2 and at max 3 sides of a paper. Know that there can be two or three parts of a question and their marks are divided accordingly. So, address all of them in a just manner.

2. Focus on time management. You get 35 minutes to solve one question and about 8 minutes per 5 mark part. Manage your time accordingly.

3. You need to understand that your paper is supposed to look more scientific than theoretical. So, add flowcharts and diagrams where required.

4. Your handwriting and neatness can be really impactful. Avoid cutting and overwriting.

5. Focus on your spellings and your grammar. Here, in GSA there's no deduction in marks but your expression will definitely create an impact.

6. In ability portion, give explanation for analytical ability question in words. You need to understand that a 5 mark part requires all steps written and explained.

Good luck for CSS 2025. You're gonna rock in sha Allah. :)

20 - (A) Microwaves.

Part-II

Section-II :

Question no #07 : part (b) .

Solution:

The average monthly salary of
P and Q is = 5050

$$\frac{P+Q}{2} = 5050$$

$$P+Q = ~~10100~~ 10,100 \rightarrow (i)$$

The average monthly salary of
Q and R is = 6250

$$\frac{Q+R}{2} = 6250$$

$$Q+R = 12500 \rightarrow (ii)$$

The average salary of P and R
is = 5200

$$\frac{P+R}{2} = 5200$$

$$P+R = 10400 \rightarrow (iii)$$

To find P ?

$$P + Q = 10,100 \rightarrow (i)$$

$$Q + R = 12500 \rightarrow (ii)$$

$$P + R = 10,400 \rightarrow (iii)$$

from eq (ii)

$$Q = 12500 - R$$

from eq (iii)

$$P = 10,400 - R$$

Put the value of Q and P in eq (i)

$$(10,400 - R) + (12500) = 10,100$$

$$22,900 - 2R = 10,100$$

$$-2R = 10,100 - 22,900$$

$$-2R = -12,800$$

$$R = \frac{12800}{2} = 6400$$

$$\boxed{R = 6400}$$

Put the value of R in eq (iii)

$$P + 6400 = 10,400$$

$$P = 10,400 - 6400$$

$$\boxed{P = 4000}$$

So, the monthly salary of P is 4000 Rs.

part (1)

Solution: we need to use the binomial distribution to find out the probabilities.

$$P(n) = \binom{n}{r} p^r q^{n-r}$$

where n = no of ~~the~~ tossing coin.

p = probability of success

q = probability of failure.

$$\binom{n}{r} = \frac{n!}{(n-r)! r!}$$

$$p + q = 1$$

we know the probability of a coin is $1/2$, so $p = 1/2$

~~$p = 1/2$~~ $q = 1 - p$

~~$q = 1 - 1/2 = 1/2$~~

~~$p = 1/2$~~

~~$q = 1/2$~~

$n = 500$ times.

page # 04.

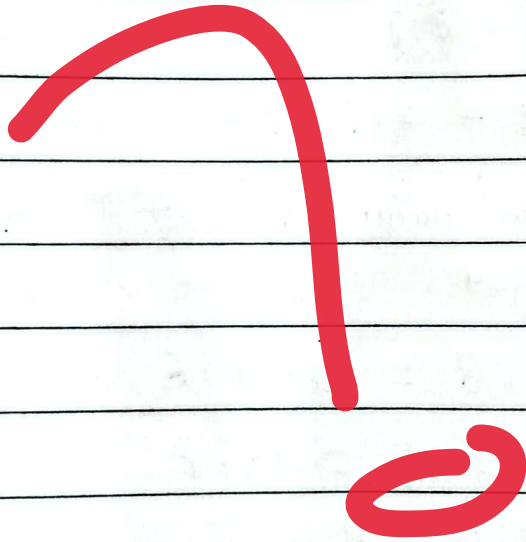
Now the probability of two heads
is given as.

$$P(H=2) = {}^{500}C_2 \left(\frac{1}{2}\right)^2 \left(\frac{1}{2}\right)$$

$$P(H=2) = 24,750 \times (0.25)(0.5)$$

$$= 24,750 \times 0.125$$

=



part (d)

Solution:

	Jamie's	Father	Equation
present	J	F	$F = 2J$
Future	$J+8$	$F+8$	$F+8 = 2(J+8)$

The equations are

$$F = 2J \rightarrow (1)$$

$$F+8 = 2(J+8) \rightarrow (2)$$

put the value of eq (1) into eq (2)
we get.

$$8J + 8 = 2J + 16$$

$$8J - 2J = 16 - 8$$

$$6J = 8$$

$$J = \frac{8}{6} = \frac{4}{3}$$

$$J = \frac{4}{3}$$

put the value of J in eq (1).

$$F = 8 \frac{4}{3}$$

So, now Jamie's father age

$$F = 10.6 \text{ or } 8 \frac{4}{3}$$

per hour.

Now, the sum of Jamie's age is given by.

$$\text{Jamie's age} = J + J + 8$$

$$\begin{aligned}\text{Sum} &= \frac{4}{3} + \frac{4}{3} + 8 \\ &= \frac{8}{3} + \frac{8}{1} \\ &= \frac{8 + 24}{3} = \frac{32}{3}\end{aligned}$$

Sum of Jamie's age now is

$$J = \frac{32}{3}$$

Attach pages properly No # of.

part (a).

Solution:

part (a) :

Solution:

$$20\% \text{ of } x = y$$

$$\frac{20}{100}(x) = y$$

$$\boxed{0.2(x) = y}$$

Now, the second condition.

$$z = y\% \text{ of } (20) \text{ in terms of } x.$$

$$z = \frac{0.2}{100}(x) \times (20)$$

$$z = 0.002 \times (20) \times x$$

$$z = 0.04x$$

So, the value of $y\%$ in terms of x has ~~been~~ been found which is $0.04x$

$$= \frac{0}{3} + \frac{0}{1}$$

$$= \frac{8 + 24}{3} = 32/3$$

sum of Jamie's age now is

$$J = 32/3$$

Question No #06.
part (a).

Solution:

Find the value of k.

We know that the average is 15 denoted by.

$$\bar{x} = 15$$

Now, Arithmetic mean's formula

$$\text{is } \bar{x} = \frac{\sum x}{n} \quad \text{--- (1)}$$

so, by putting the value in (1)
#09.

$$15 = \frac{9 + 8 + 10 + k + 12}{5}$$

$$15 = \frac{39 + k}{5}$$

$$75 = 39 + k$$

$$k = 75 - 39$$

$$\boxed{k = 36}$$

So, the value of k is 36.

part (c).

Solution:

$$r = 12 \text{ cm}$$

The volume of a football is given as $\frac{4}{3} \pi r^3$.

$$\pi = 3.14$$

$$\text{So Volume (V)} = \frac{4}{3} (3.14) (12)^3$$

$$V = \frac{4}{3} (3.14 \times 1728)$$

$$\boxed{V = \frac{4}{3} (5425.92)}$$

$$V = 7216.47.$$

part (b)

Solution:

Find the initial solution of sugar mixture ?

The ratio of sugar solution
of colored water is given as.

$$4:3$$

So $\frac{4}{3} (7) = \text{mix solution.}$

$$[9.331] = \text{mix solution}$$

Now, 10 Litres ~~are~~ of colored
mixture is added to it.

So

$$\begin{aligned}\text{Colored mixture 'n'} &= 10 + 9.331 \\ &= 19.331\end{aligned}$$

Now, the ratio is $4:5$

$$\frac{4}{5} (9) = \text{Colored mixture}$$

$$\text{Colored mixture} = 7.2$$

So, in order to find initial
quantity of sugar solution, it is
necessary to subtract it from
mix solution,

$$\text{mix solution} = 9.331$$

$$\text{Colored mixture} = 7.2$$

$$\text{Water remained} = 9.331 - 7.2$$

the quantity of water is 2.13 Litre
part (d).

