Dos and Don'ts for Generaral Science & Ability Paper

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. :)

تاریخ: ______

c. What will be the volume of a football with a radius of 12 cm?

Solution: Volume of a sphere (football) $= \frac{4}{3}\pi r^3$

Volume of football $= \frac{4}{3}\pi(12)^3$

Since, given radius = 12 cm

Volume of football $= \frac{4}{3}\pi(1728)$ (576)

Volume of football $= 4\pi(576)$

Volume of football $= (3.14)(4)(576)$

Volume of football $= (3.14)(2304)$

Volume of football $= 7234.56\ cm^3$

Thus,

Volume of football is found to be $7234.56\ cm^3$ Answer.

R. Work.

$12 \times 12 = 144$

$144 \times 12 = 1728$

$1728 \div 3 = 576$

$576 \times 4 = 2304$

$2304 \times 3.14 = 7234.56$

Q.NO.7

a. If 20% of $x = y$, what is the value of y% of 20 in terms of x?

Solution:-

20% of $x = y$

y% of 20 interms of x=?

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

means:- $y = \frac{20x}{100} = \frac{1}{5}x$

$$\boxed{y = \frac{1}{5}x}$$

Value of y% of 20 in terms of x:-

$= \frac{y}{100}(20) \rightarrow (1)$

Put $y = \frac{1}{5}x$ in eq. (1)

$= \frac{\frac{1}{5}x}{\cancel{100}\,5} \times \cancel{20} = \frac{1}{5}x \div 5 = \frac{1}{5} \times \frac{1}{5}$

$= \frac{1}{25}x \Rightarrow$ Answer.

So, Value of y% of 20 in terms of $x = \frac{1}{25}x$

b. P and Q have an average monthly income salary of Rs. 5050. Q and R have monthly average income of Rs. 6250, while P and R have an average monthly income of 5200. Find monthly salary of P.

Solution:

Average monthly salaries:-

P and Q = 5050

Q and R = 6250

P and R = 5200

Monthly salary of P = ?

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

$P+Q = 10100$ → eq(i)

ii) Q and R = 6250

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

$Q+R = 12500$ → eq(ii)

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

$P+R = 10400$ → eq(iii)

Subtracting eq. (ii) from (i):-

$$P + Q = 10100$$
$$\pm Q \pm R = +12,500$$
$$P - R = -02400 \quad \rightarrow (iv)$$

Adding (iii) and (iv):-

$$P + R = 10400$$
$$P - R = -2400$$
$$P = 8000$$

So, monthly salary of P = 8000 Rs.

$P + Q = 5050$
$+Q + 8000 = 5050$
$8000 - 5050 = -Q$.
$-2950 = +Q$

To check:

P and Q = 5050

$$\frac{8000 + (-2950)}{2} = 5050$$

$$\frac{8000 - 2950}{2} = 5050$$

$$5050 = 5050$$

L.H.S = R.H.S

P = 8000 Correct Answer.

8000
2950
5050

تاريخ: _____

c. Two coins are tossed 500 times, and we get:-

Two heads : 105 times

One head : 275 times.

No head : 120 times

Find probability of each event to occur.

Solution:

$$\text{Probability (Event)} = \frac{\text{Number of ways of occurence of event}}{\text{Total outcomes.}}$$

1) Two Heads:-

$$\text{Probability (Two Heads)} = \frac{105^{21}}{500_{100}} = \frac{21}{100}$$

2) One Head:

$$\text{Probability (one head)} = \frac{275^{55}}{500_{100}} = \frac{55_{11}}{100_{20}} = \frac{11}{20}$$

3) No head:

$$\text{Probability (No head)} = \frac{120^{24\times6}}{500_{100\times5}} = \frac{6}{25}$$

So, probability of occurence of two heads is $\frac{21}{100}$, of one head is $\frac{11}{20}$, and of no head is $\frac{6}{25}$.

d. Jamie's dad is 4 times older than Jamie. In 14 yrs time, Jamie's dad will be twice the age of Jamie. What is the sum of Jamie's age now and Jamie's dad's age now?

Jamie's dad = 4 x Jamie.

In next 14 years:-

Jamie's dad age = 2 (Jamie's age)

let Jamie's age be (current) = x

Jamie's dad's age (current) = 4x.

In next 14 yrs:-

Jamies age = x + 14

Jamies dad's age = 4x + 14

(8)

we know, in next 14 yrs, Jamie's dad age will be twice age of Jamie, so:-

$$4x+14 = 2(x+14)$$

$$4x+14 = 2x + 28$$

$$4x-2x = 28-14$$

$$2x = 14$$

$$x = \frac{14}{2}$$

$$\boxed{x=7} \rightarrow \text{Jamie's Age.}$$

Summing ages of both's-

~~$4(7)+14 = 2(7+14)$~~

$4x$ = Jamie's dad

$4(7) = 28$ yrs. → Jamie's dad.

$x+4x = 7+28 = 35$ yrs.

Answer: 35 yrs.