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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 acccording 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. :)

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Name: Urooba Shafique

Roll no: 31825 (Batch 59)

Subject: GSA

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MOCK EXAM

SECTION II: ABILITY PORTION

QUESTION NO 8

PART A)

A primary school had an enrollment of 850 pupils in January 2023. In February 2023, the enrollment was 1120. What was the increase percentage for the enrollment?

~~ANSWE~~ SOLUTION

Original value = 850

Increase in value = New value − Original value

$= 1120 - 850$

Increase in value $= 270$

$$\begin{array}{r} 1120 \\ -\ 850 \\ \hline 270 \end{array}$$

To find the percentage increase:

$$\text{Percentage Increase} = \frac{\text{Increase in Value}}{\text{Original value}} \times 100$$

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$\frac{54}{270} \times 100$

$\frac{54 \times 100}{17}$

$\frac{5400}{17}$

= 31.76 answer

R.W

17 | 5400 | 31.76
51
30
17
130
119
110

Hence, the increase in percentage = 31.76

PART B)

A man is five times as old as his son two years ago, the sum of squares of their ages was 114. Find the present age of his son

ANSWER

Let the age of son = x
Age of father = $5x$
} present age

2 years ago = $x - 2$
$5x - 2$

The sum of squares of ages = $(x-2)^2$ and $(5x-2)^2$

$(x-2)^2 + (5x-2)^2 = 114$

$x^2 - 4x + 4 + 25x^2 - 20x + 4 = 114$

$26x^2 - 24x + 8 = 114$

247
3
51

119
17
6
102

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$26x^2 - 24x = 114 - 8$

$26x^2 - 24x = 106$

$26x^2 - 24x - 106 = 0$ (Quadratic equation)

$a = 26$

$b = -24$

$c = -106$

Quadratic formula $\boxed{\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}$

$= \frac{-(-24) \pm \sqrt{(-24)^2 - 4(26)(-106)}}{2(26)}$

$= \frac{24 \pm \sqrt{576 + 11024}}{52}$

$= \frac{24 \pm \sqrt{11600}}{52}$

$= \frac{24 \pm 108}{52}$

$= \frac{24 + 108}{52}$ and $\frac{24 - 108}{52}$

$\frac{132}{52}$

$\frac{-132}{52}$

$\frac{33}{13}$

$\boxed{x = 2.5}$ $\boxed{x = -2.5}$

Hence age of son is 2.5 years

108
24
132
108

13 | 33 | 2.5
26
70
65
5

$\frac{113}{5}$
65

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PART C)

A man has some hens and cows if the number of heads be 48 and the number of feet is equal to 140, find the number of hens

SOLUTION

Hens = x

Cows = y

Number of heads = $x + y = 48$
(Both hens & cows)

Number of feet = $2x + 4y = 140$ (Both)
(Hen has 2 legs)
(Cow has 4)

$x + y = 48 \rightarrow$ Eq(i)

$2x + 4y = 140 \rightarrow$ Eq(ii)

To solve x, multiply eq(i) by 2

$2x + 2y = 96 \rightarrow$ Eq(iii)

Minus Eq(iii) from Eq(ii)

$$\begin{array}{r} 2x + 4y = 140 \\ -\ 2x + 2y = 96 \\ \hline 2y = 44 \end{array}$$

$y = 44/2$

$\boxed{y = 22}$ → Number of cows

R.W

148
2
96
3
146
96
44

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To find number of Hens

$x + y = 48$

$x + 22 = 48$

$x = 48 - 22$

$48 - 22 = 26$

$x = 26$ → Number of hens

Hence, the number of hens are 26

PART D)

A car runs at a speed of 40km/h during first half of the journey and at the speed of 60km/h in the 2ND half of journey. What is the average speed of a car

SOLUTION

Speed during th first half of journey = $V_1 = 40 km/h$

Speed during Second half = $V_2 = 60 km/h$

$$\text{Average Speed} = \frac{2V_2V_1}{V_1 + V_2}$$

$$V = \frac{2(40)(60)}{40+60}$$

$$V = \frac{80 \times 60}{100}$$

$$V = \frac{4800}{100}$$

$$V = 48 km/h$$

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Hence, the average speed is 48km/h

QUESTION 8
PART B)

In a mixture of 60 litres, the ratio of milk and water is 2:1. If this ratio is to be 1:2, then what is the quantity of water to be further added?

SOLUTION

~~Quantity of milk~~ =

Total mixture = 60 litres

Milk : Water = 2:1

Sum of ratio = 2+1 = 3

Quantity of milk = $\frac{20}{60} \times \frac{2}{\cancel{3}_{1}}$

$= 20 \times 2$

$= 40$ litres

While, quantity of water = Total mixture - Quantity of milk

$60 - 40$

$= 20$ litres

Lets suppose quantity of water to be added is x when new ratio is 1:2

~~The~~ Then quantity of Water will be found through new ratio

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Milk : Water = $\frac{40}{20+x} = \frac{1}{2}$

$40 \times 2 = 20 + x$

$80 = 20 + x$

$80 - 20 = x$

$60 = x$

$x = 60$ litres

Hence, the ~~new~~ quantity of water to be further added is 60 litres.

PART C)

If A is the brother of B and B is the sister of C, C is the father of D. How D is related to A, D being a male member

SOLUTION

Solving the blood relation through reading the statement in a reverse order:

C is the father of D

B is the sister of C means

B and C are siblings.

A is the brother of B implies that A is brother of both B and C, hence A, B and C are siblings. If D, the son of C is a male then D is nephew to A

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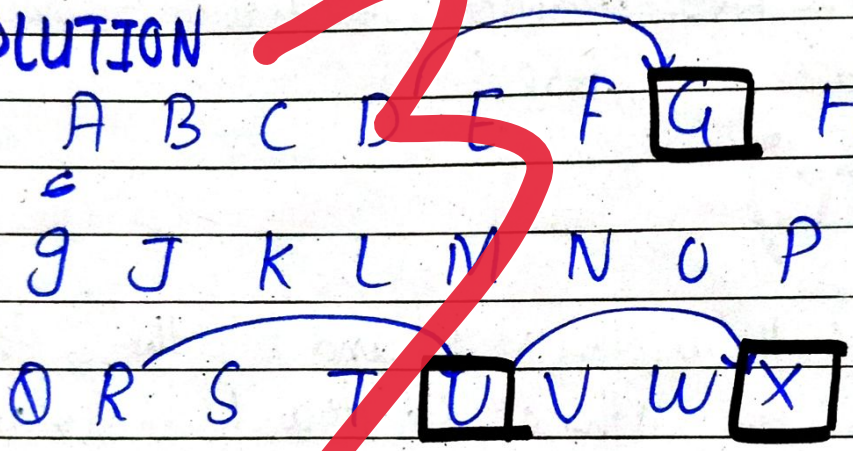
Therefore A and D are related as Uncle and nephew.
Hence, D is the nephew of A

PART D)

If a certain code ROAR is written as URDU, How URDU will be written in that code?

SOLUTION



ROAR as URDU is three steps forward method.
URDU will be written by finding the three steps forwards ~~etc~~ alphabets to the given code which is

U R D U
as X U G X answer

Hence, URDU will be written as XUGX