

GSA- PART-II

SECTION-II - Q: NO: 6

(a)

If sum of the 3-digit is 15. Sum of 10^{th} and unit digit is 12. The difference of the unit digit from 10^{th} digit is equal to 2. What is the three digit number?

Solution:

Let's three digit number is $x \rightarrow 100$, $y, 10^{\text{th}}$, z unit

Given condition:

$$\text{Sum of three digit} = x + y + z = 15 \rightarrow (1)$$

$$\text{Sum of } 10^{\text{th}} \text{ and unit digit} = y + z = 12 \rightarrow (2)$$

$$\text{Difference b/w Unit digit and } 10^{\text{th}} = y - z = 2 \rightarrow (3)$$

\Rightarrow To find the value of y (10^{th}) add eq (2) and (3)

$$y + z = 12$$

$$y - z = 2$$

$$2y = 14$$

$$y = \frac{14}{2} = 7$$

$$\boxed{y = 7} \rightarrow (4)$$

now put the value of y from eq (4) in eq (2)
to find the value of z

$$y + z = 12$$

$$7 + z = 12$$

$$z = 12 - 7$$

$$\boxed{z = 5} \rightarrow (5)$$

Don't only rely on flowchart. Try to explain those points as well.
Rest of the paper is good.

So from eq (4) and (5) we can find out that

$$y = 7 \text{ and } z = 5$$

Now, To find the value of "x" we can add the value of $y=7$ and $z=5$ into eq (2)

$$x + y + z = 15$$

$$x + 7 + 5 = 15$$

$$x + 12 = 15$$

$$x = 15 - 12 = 3$$

$$\boxed{x = 3}$$

Final answer

The three digit number xyz is 375

(b)

Given data:-

- Total no. of slices ordered = 18
- Each slice weighs = 40g
- The ratio of slices for small, medium and large pizzas is = 2:3:4
- The price of small pizza = 320 Rs.

Find out:-

- Need to find out price and weight of total pizza.
- Determine the number of slices for each pizza size
Common number = x

$$\text{No. of slices in small pizza} = 2x$$

$$\text{No. of slices in medium pizza} = 3x$$

no. of slices in large pizza = $4x$

Total no. of slices is

$$2x + 3x + 4x = 18$$

$$9x = 18$$

$$x = 18/9 = 2$$

$$x = 2$$

So, the no. of slices are

$$\text{Small} = 2x = 2 \times 2 = 4 \text{ slices}$$

$$\text{Medium} = 3x = 3 \times 2 = 6 \text{ slices}$$

$$\text{Large} = 4x = 4 \times 2 = 8 \text{ slices}$$

⇒ Find weight of slices

Each slice weighs = 40 gm

Therefore

$$18 \text{ slices weight} = 40 \times 18$$

$$\boxed{\text{Total weight} = 720 \text{ gm}}$$

⇒ Determine the price of each pizza.

$$\text{Price of small pizza (4 slice)} = 320 \text{ Rs}$$

$$\text{Price of 1 slice} = \frac{320}{4} = 80 \text{ Rs}$$

Medium Pizza :-

$$\text{Price} = 6 \times 80 = 480 \text{ Rs}$$

Large Pizza :-

$$\text{Price} = 8 \times 80 = 640 \text{ Rs}$$

Total price of Pizza's

$$\text{Total Price} = \text{Small} + \text{Medium} + \text{Large}$$

$$\text{Total Price} = 320 + 480 + 640 = 1440 \text{ Rs}$$

Answer

Total weight = 720 gm

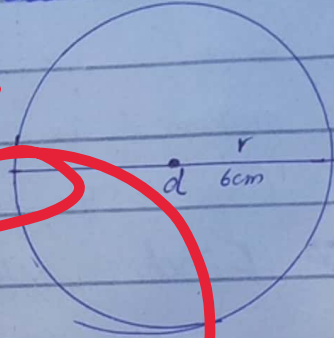
Total price = 1440 RS

(C)

Diameter of a circle is 6cm. Find circumference and area of circle.

Given data:-

The diameter of circle = $d = 6\text{cm}$



Find out:-

circumference = $C = ?$

Area = $A = ?$

Formula :-

$$C = \pi d$$

$$A = \pi r^2$$

$$\therefore d = 2r$$

$$6 = 2r$$

$$r = \frac{6}{2} = 3$$

Solution:-

$$\rightarrow C = \pi d$$

$$C = 3.1416 \times 6$$

$$C = 18.85\text{cm}$$

$$\text{Area} \Rightarrow A = \pi r^2$$

$$A = 3.1416 \times (3)^2$$

$$= 3.1416 \times 9$$

$$A = 28.27\text{cm}^2$$

So, Final Answer = $C = 18.85\text{cm}$, $A = 28.27\text{cm}^2$

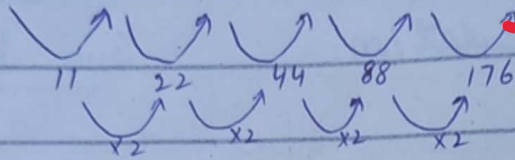
(d)

Identify the missing:-

(i) 13, 24, 46, 90, 178, —

Solution:-

13, 24, 46, 90, 178, —



→ The pattern followed in this series is $11 \times 2 = 22 \times 2 = 44 \times 2 = 88 \times 2 = 176$, so the missing number is

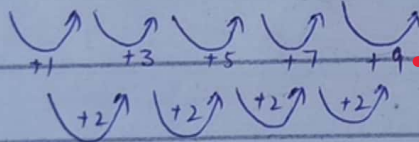
$$176 + 178 = 354$$

13, 24, 46, 90, 178, 354 → Ans

(ii) 5, 6, 9, 14, 21, —

Solution:-

5, 6, 9, 14, 21, 30



The pattern followed in this series is the difference increase by +2 each time

So, the missing series no. is 30

5, 6, 9, 14, 21, 30 → Ans

Q# 7

(d)

A person multiplied a number by $\frac{3}{5}$ instead of $\frac{5}{3}$. what is the %age error in the calculation:-

Given data :-

A

A number multiplied by $= \frac{3}{5} \rightarrow (1)$

The actual multiplication fraction is $= \frac{5}{3} \rightarrow (2)$

So, To find out the %age error, take common multiple digit of both factor

$$\left(\frac{3}{5}\right) \left(\frac{5}{3}\right) = 15$$

multiply 15 to both fractions

$$\begin{aligned} &= \frac{3}{5} \times 15 \\ &= 9 \end{aligned}$$

$$\begin{aligned} &= \frac{5}{3} \times 15 \\ &= 25 \end{aligned}$$

Difference b/w both factor is

$$25 - 9 = 16$$

Real term = 25

So,

$$\frac{16}{25} = 16 \times \frac{1}{25} = 16 \times 4\%$$

$$\text{Error} = 64\%$$

(c)

Given data:-

Peter can mow the lawn in = 40 mins

John can mow the lawn in = 60 mins

Find out:-

How much time when they work together = ?

→ To calculate the time, we can use work rate concept.

Peter work rate = 40 mins = $\frac{1}{40}$ lawn per mint

John work rate = 60 mins = $\frac{1}{60}$ lawn per mint

Combined work rate:-

$$\frac{1}{40} + \frac{1}{60} = \frac{3+2}{120} = \frac{5}{120} = \frac{1}{24}$$

So, Time to mow together,

$$T = \frac{1}{\text{Combined work Rate}} = \frac{1}{\frac{1}{24}} = 24 \text{ mins}$$

So, we find that it will take ~~24 mins~~ for Peter and John to mow lawn together.

(b)

Given data:-

Age of Aman = x

After 20 years, Aman age will be = $x+20$

10 year ago Aman age was = $x-10$

So, it is given that

$$x+20 = 10(x-10)$$

Find out :-

Aman present age ?

Solution :-

To take eq (3)

$$x + 20 = 10(x - 10)$$

$$x + 20 = 10x - 100$$

$$10x - x = 100 + 20$$

$$9x = 120$$

$$x = \frac{120}{9} = 13.33 \text{ years}$$

So,

Aman's present age is 13 years 4 months

approximately

(a)

I.Q (Intelligence Quotient)

E.Q (Emotional Quotient)

Def →

A measure of cognitive abilities such as reasoning, problem solving and logical thinking.

→ A measure of emotional intelligence, including understanding, managing and regulating emotions.

Focus Area →

Intellectual and analytical skills

→ Emotional awareness, empathy and interpersonal skills.

Nature →

Cognitive and technical

→ Emotional and social in nature

Example →

Solving a complex

→ Handling conflict,

of use

math problem or analyzing data.

→ Showing empathy, or motivating a team.

Section - I

Q #

(a)

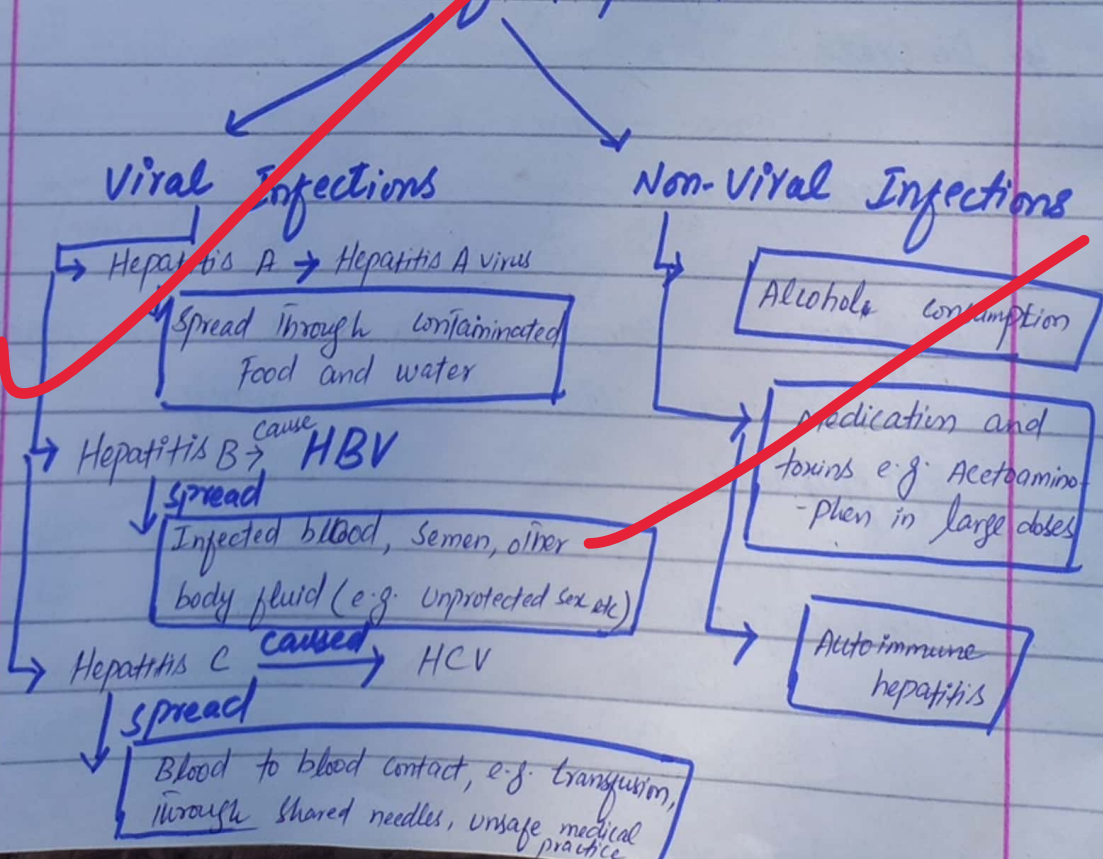
Hepatitis :-

Hepatitis is an inflammation of liver which can be caused by various factors, including viral infection, excessive alcohol consumption, certain medications and autoimmune diseases.

- ⇒ Hepatitis can be
- acute (short term)
- chronic (long term)

and it can lead to liver damage, cirrhosis and even liver cancer if not properly managed.

Causes of Hepatitis



→ Hepatitis D caused HDV

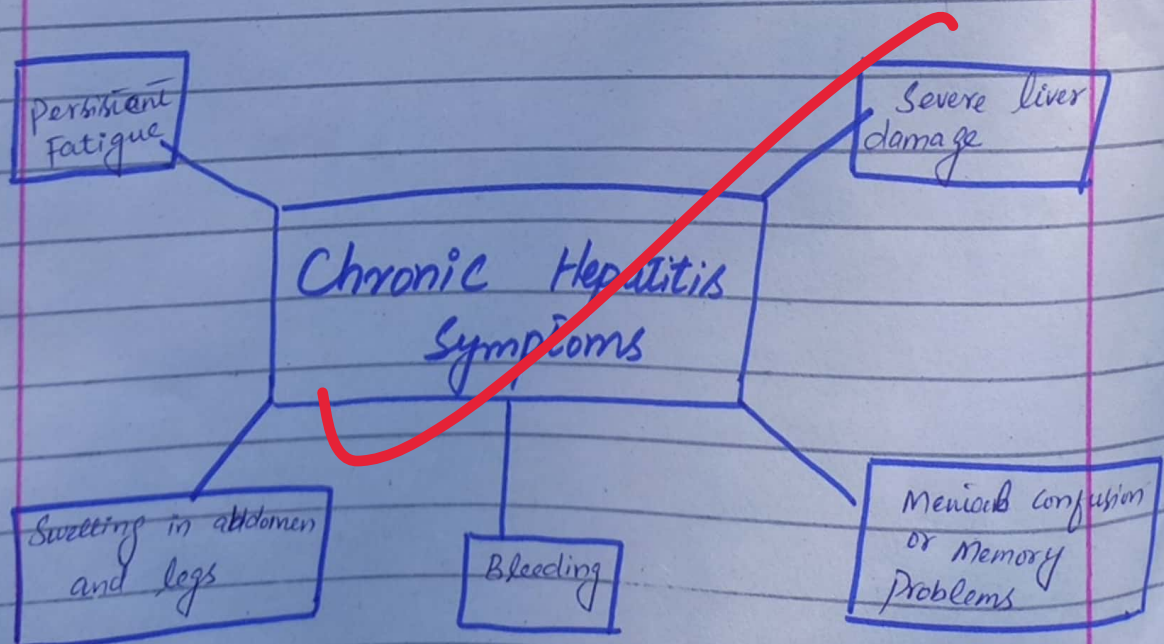
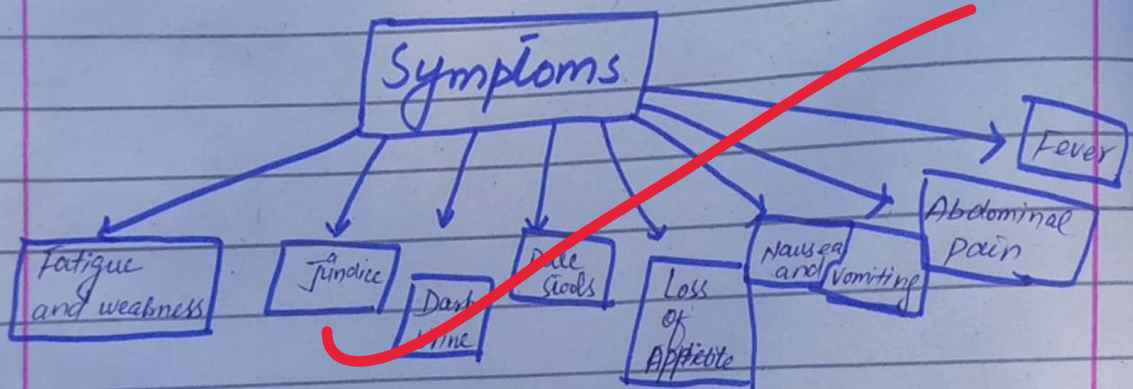
↓ Spread

People already infected with Hepatitis B

→ Hepatitis E caused HEV

↓ spread

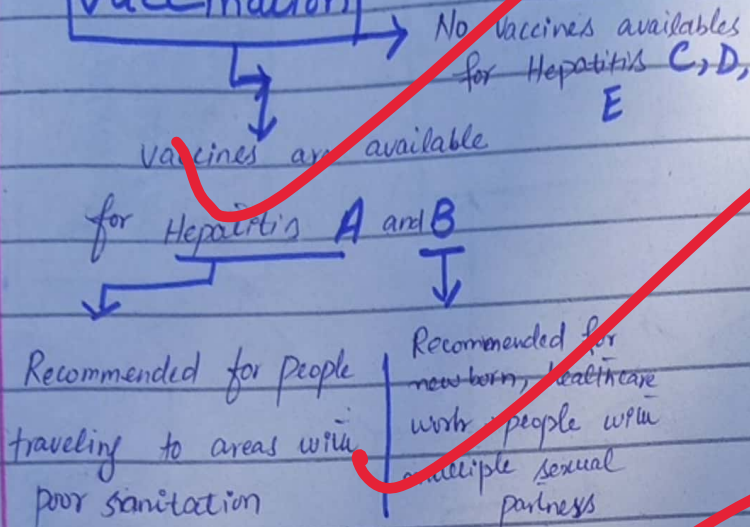
Through contaminated water (Fecal-oral transmission)



Preventions of Hepatitis

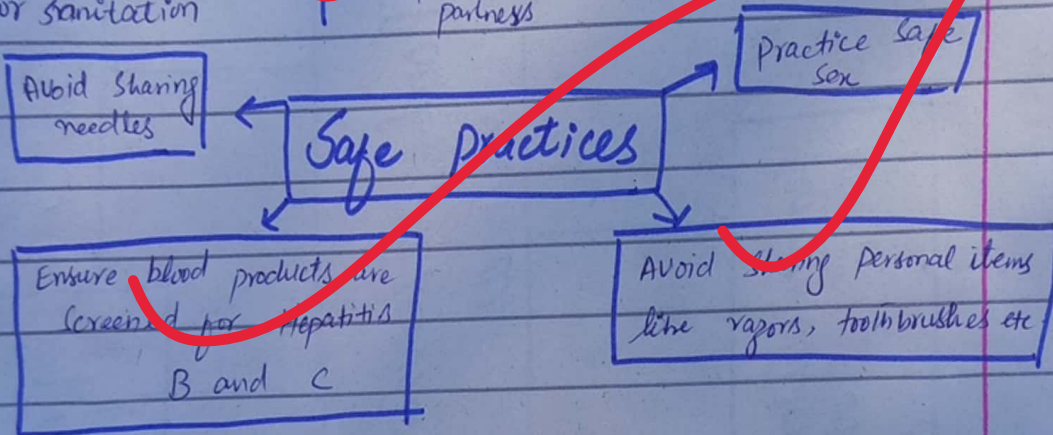
①

Vaccination



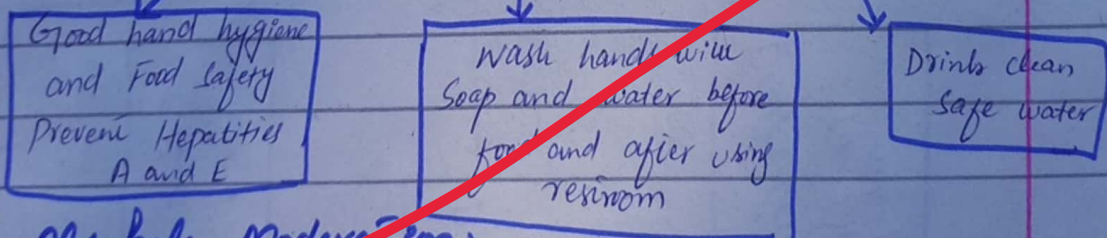
②

Safe Practices



③

Hygiene and Sanitation



④

Alcohol Moderation:-

Limiting alcohol consumption.

⑤

Avoiding Toxins and certain Medications:-

Follow prescribed medication dosages carefully.

②

