GSA- PART-II

SECTION-II – Q.NO:6

(a)

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

Solution:-

Let's three digit number is x→100, y, 10th, z unit

Given condition:-

Sum of three digit = $x+y+z = 15 \rightarrow ①$

Sum of 10th and unit digit = $y+z = 12 \rightarrow ②$

Difference b/w Unit digit and 10th = $y-z = 2 \rightarrow ③$

⇒ To find the value of y (10th) add eq ② into ③

$$y + z = 12$$
$$y - z = 2$$
$$2y = 14$$
$$y = 12/2 = 7$$

$$\boxed{y = 7} \rightarrow ④$$

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

$$y + z = 12$$
$$7 + z = 12$$
$$z = 12 - 7$$
$$\boxed{z = 5} \rightarrow ⑤$$

So from eq (4) and (5) we can find out that $y = 7$ and $z = 5$

Now, To find the value of "x" we can add the value of $y = 7$ and $z = 5$ into eq (1)

$$x + y + z = 15$$

$$x + 7 + 5 = 15$$

$$x + 12 = 15$$

$$x = 15 - 12 = 3$$

$$\boxed{x = 3}$$

Final answer

The three digit number **xyz** is **375**

(b)

Given data :-

→ Total no. of slices ordered = 18

→ Each slice weighs = 40 gm

→ 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

No. of slices in small pizza = 2x

No of slices in medium pizza = 3x

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

Total no. of slices is

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

$9x = 18$

$x = 18/9 = 2$

$x = 2$

So, the no. of slices are

Small $= 2x = 2 \times 2 = 4$ slices

Medium $= 3x = 3 \times 2 = 6$ slices

Large $= 4x = 4 \times 2 = 8$ slices

⇒ Find weight of slices

Each slice weighs = 40 gm

Therefore

18 slices weight = 40×18

Total weight = 720 gm

⇒ Determine the price of each pizza.

Price of Small Piza (4 slice) = 320 Rs

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

Medium Piza :-

Price $= 6 \times 80 = 480$ Rs

Large Pizza :-

Price $= 8 \times 80 = 640$ Rs

Total price of Pizza's

Total Price = Small + Medium + Large

Total price = $320 + 480 + 640 = 1440$ Rs

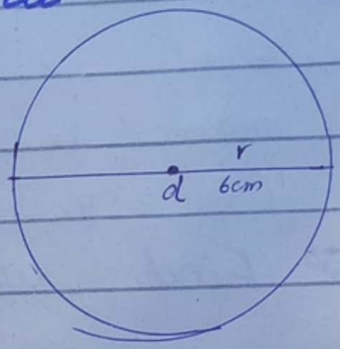
Answer

Total weight = 720 gm

Total price = 1440 Rs

(C)

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



Given data:-

The diameter of circle = $d = 6\,cm$

Find out:-

Circumference = $C = ?$

Area = $A = ?$

Formula:-

$C = \pi d$

$A = \pi r^2$

$\because d = 2r$

$6 = 2r$

$r = 6/2 = 3$

Solution:-

→ $C = \pi d$

$C = 3.1416 \times 6$

$\boxed{C = 18.85\,cm}$

Area ⇒ $A = \pi r^2$

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

$= 3.1416 \times 9$

$\boxed{A = 28.27\,cm^2}$

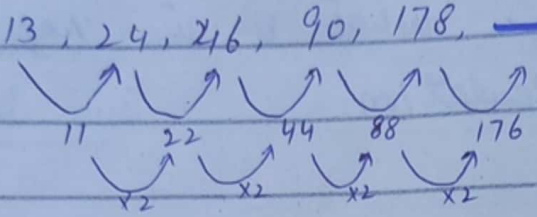
So, Final Answer = $C = 18.85\,cm$, $A = 28.27\,cm^2$

(d)

Identify the missing:-

(i) 13, 24, 46, 90, 178, ——

Solution:-



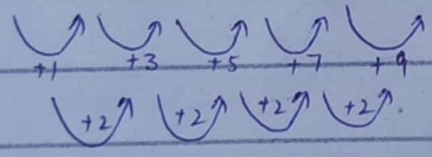
→ The pattern followed in this series is $11 \times 2 = 22 \times 2 \Rightarrow 44 \times 2 \Rightarrow 88 \times 2 \Rightarrow 176$. So the missing number is

$176 + 178 = 354$

13, 24, 46, 90, 178, **354** → Ans

(ii) 5, 6, 9, 14, 21, ——

Solution:-



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 3/5 instead of 5/3. what is the %age error in the calculation:-

Given data :-

a number multiplied by = 3/5 → ①

The actual multiplication Fraction is = 5/3 → ②

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

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

multiply 15 to both Fractions

$\frac{3}{5} \times 15^{3} = 9$

$\frac{5}{3} \times 15^{5} = 25$

Difference b/w both factor is

$25 - 9 = 16$

Real term = 25

So,

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

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 = T = ?

→ 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:-

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

$$24$$

So, Time to mow together,

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

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's age was = x − 10

So, it is given that

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

Find out :-

Aman present age ?

Solution :-

To take eq (3)

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

$x + 20 = 10x - 100$

$10x - x = 100 + 20$

$9x = 120$

$x = 120/9 = 13.33$ 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 of use →	Solving a complex math problem or analyzing data.	→ Handling conflict, showing empathy, or motivating a team.

Section – I

Q #

(a)

Hepatitis :-

Hepatitis is an inflamation of liver which can caused by various factors, including viral infection, excessive alcohol consumption, certain medications and auto immune diseases.

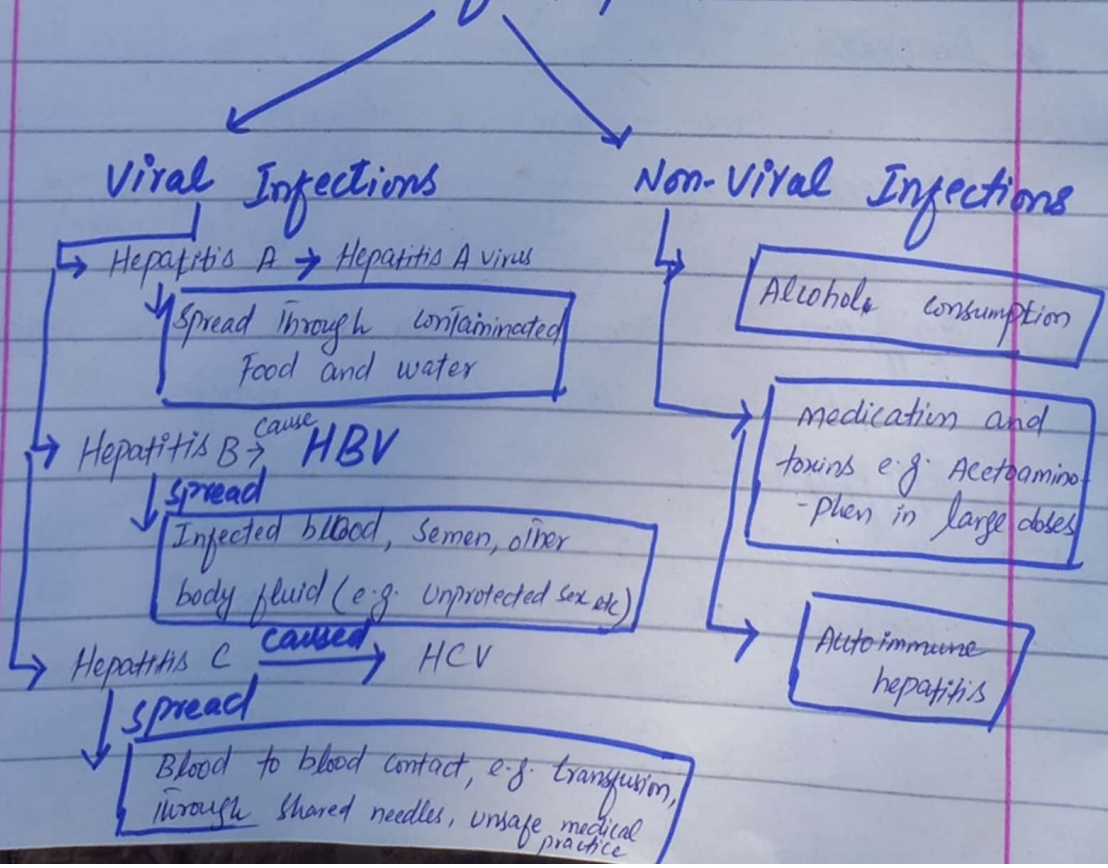
⇒ Hepatitis can be

→ acute (Short term)

→ Chronic (long term)

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

Causes of Hepatitis



→ Hepatitis D → Caused → HDV

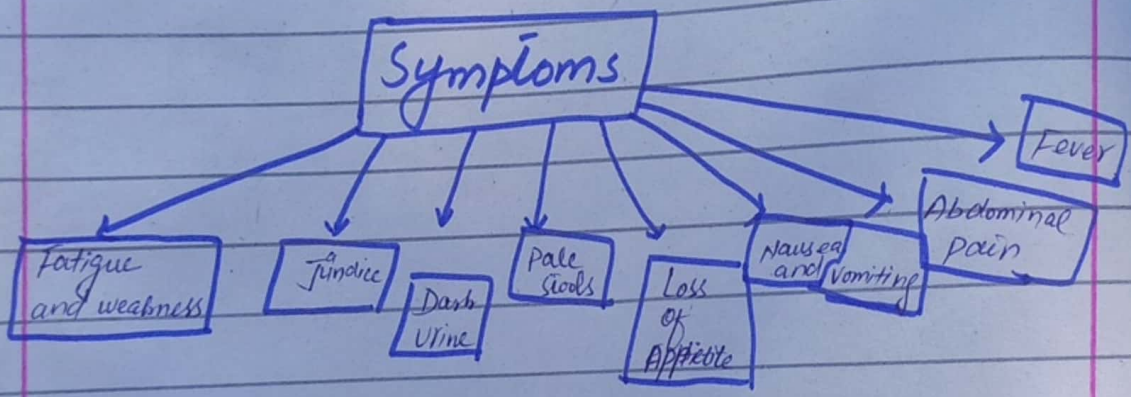
↓ Spread

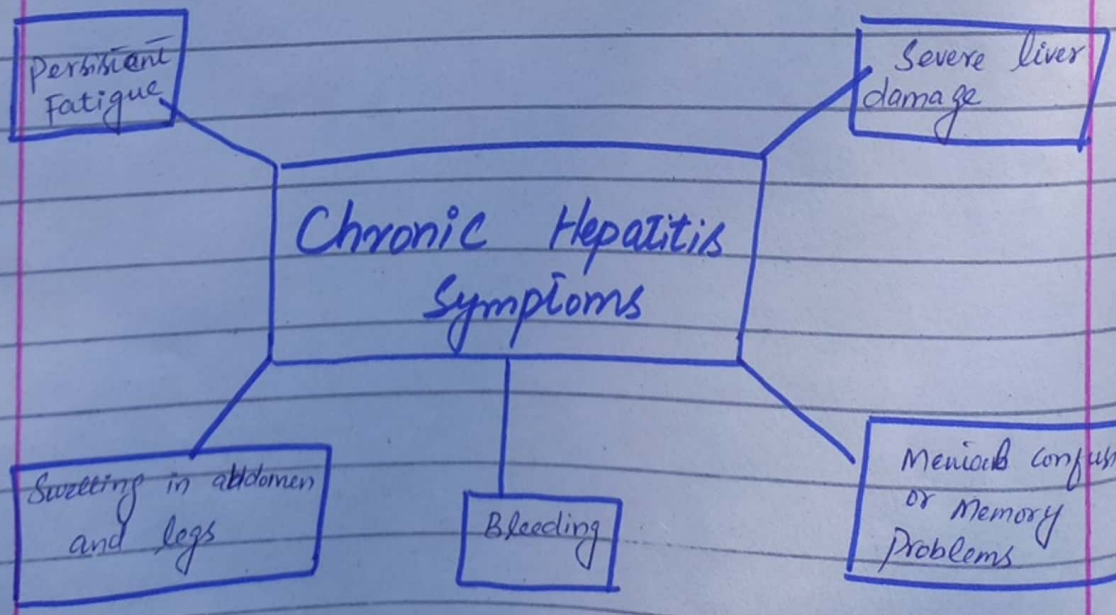
People already infected with Hepatitis B

→ Hepatitis E → Caused → HEV

↓ Spread

Through contaminated water (Fecal – oral Transmission)





Preventions Of Hepatitis

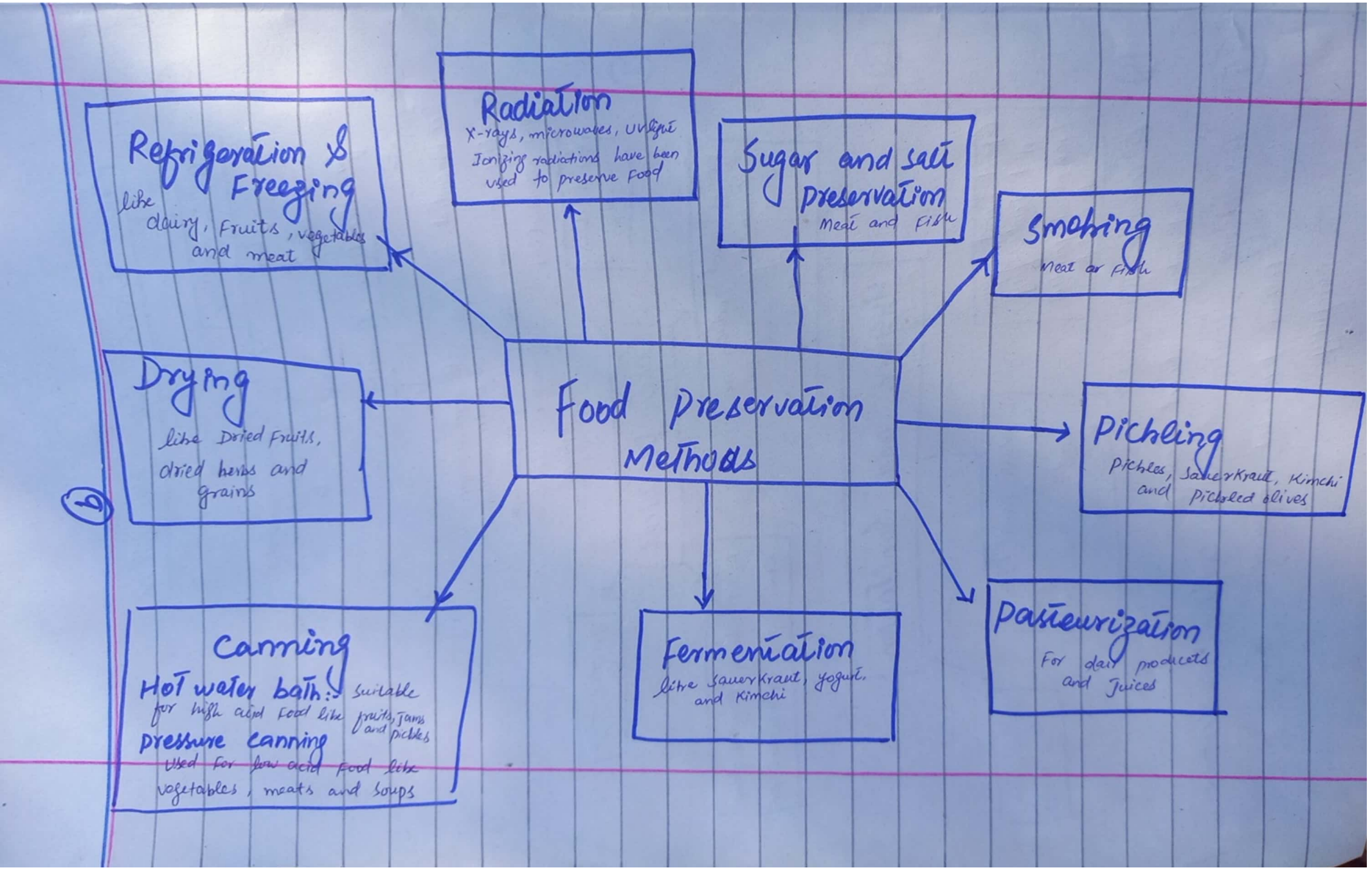
1. **Vaccination**
   - No vaccines availables for Hepatitis C, D, E
   - Vaccines are available for Hepatitis A and B
     - Recommended for people traveling to areas with poor sanitation
     - Recommended for ~~new born~~, healthcare work, people with multiple sexual partnerss

2. **Safe practices**
   - Avoid Sharing needles
   - Practice Safe Sex
   - Ensure blood products are screened for Hepatitis B and C
   - Avoid Sharing Personal items like razors, toothbrushes etc

3. **Hygiene and Sanitation**
   - Good hand hygiene and Food safety Prevent Hepatitis A and E
   - Wash hands with Soap and water before food and after using restroom
   - Drink clean Safe water

4. **Alcohole Moderation:-**
   Limiting alcohal consumption.

5. **Avoiding Toxins and certain Medications:-**
   Follow prescribed medication dosages carefully.


Food Preservation Methods
Refrigeration & Freezing
like dairy, Fruits, vegetables and meat
Radiation
X-rays, microwaves, UV light
Ionizing radiations have been used to preserve Food
Sugar and salt preservation
Meat and Fish
Smoking
Meat or Fish
Drying
like Dried Fruits, dried herbs and grains
Pickling
Pickles, SauerKraut, Kimchi and Pickled olives
Canning
Hot water bath: Suitable for high acid Food like fruits, Jams and pickles
Pressure canning
Used for low acid Food like vegetables, meats and Soups
Fermentation
like SauerKraut, yogurt, and Kimchi
Pasteurization
For dairy products and Juices