

Name: Ihsan Ullah

Batch: 57

LSSIP: 35104-Ihsan Ullah -057

## Section - I

Q. No: 2

a) Malnutrition, causes and consequences

Malnutrition:

Malnutrition refers to the deficiencies and excesses of nutrition, needed for a balance diet. Malnutrition affect people in every country. Around 37 million children under age of 5 ~~are~~ have deficiency of nutrition. However, in Pakistan, the situation is quite dire. According to a report of Pakistan Nutrition Cluster (PNC), four out of 10 children under five years

of age are stunted, while 17.7% suffer from wasting in Pakistan. Therefore, malnutrition is a major health problem that needs to be addressed in order to control different types of diseases.

## Major Causes of Malnutrition

### i). Insufficient Food Intake

There are several causes of malnutrition. One of the leading causes is the insufficient food intake. When someone does not have enough to eat, he or she faces the problem of malnutrition. This condition is severe among poor or vulnerable populations, such as children, pregnant women, <sup>and</sup> elders who need more nutrients for proper growth, development and health. For instance, ~~for~~ the 2022 floods plunged an

additional 2.5 million people in Pakistan into extreme hunger, food shortage or insufficient food intake conditions.

ii) Poverty:-

likewise, poverty is also a major cause of excess malnutrition. When families don't have enough income to purchase sufficient ~~food~~ and nutritional food, ~~they~~ resultantly, face problem of malnutrition. For instance, poverty-stricken sub-Saharan Africans, do not have access to nutritional food. They heavily rely upon ~~starchy~~ foods like maize or cassava, which are calorie dense but lack essential nutrients. In short, poverty also lead to malnutrition.

iii) Medical Conditions and Digestive Disorders:-

Similarly, Malnutrition also occurs due to medical conditions and digestive disorders. Medical

Such as ~~D~~ diarrhoea or cancer can cause wasting of nutrition, leading to malnutrition. In the same way, digestive disorders such as Irritable Bowel Syndromes (IBS) or ulcerative problem can also cause loss of sufficient nutrition from the body.

iv). Lack of Education

= Finally, lack of education and awareness about a balance diet, can also cause malnutrition. For example, in rural areas, people do not know about nutritional foods needed for a balance diet.

## Consequences of Malnutrition

i). Stunted Growth :-

First of all, malnutrition can lead toward stunted growth. This type of disease are often uncurable, which results to weaker bones and muscles. One of the glaring example ~~can~~ is the stunting of growth of children under age of five years.

5

ii

### Weak Immune System:

Another major consequence of malnutrition is weak immune system. Weak immune system makes the body vulnerable to infections and severe diseases. For instance, a lack of essential vitamins and minerals often results in malnutrition.

iii

### Increased Mortality:

Similarly, Malnutrition also lead to an increase in mortality rates. Severe malnutrition conditions such as marasmus often lead to life-threatening condition.

### Impairment of Brain:

Finally, impairment of brain can also result from malnutrition. Whenever, children in the early ages face problem of malnutrition, it often leads to learning difficulties, poor performance and cognitive delays.

(b):

Differentiate b/w Food Contamination  
and Adulteration

Food Contamination

Food Contamination refers to the unintended ~~presence~~ presence of contaminated or harmful materials in the food. These harmful substances or material can be bacteria, viruses, heavy metals etc. However, presence of such pathogenic things can often lead to different types of disease. For instance, diarrhea, sickness, food poison etc.

Food Adulteration

However, Food adulteration is an intentional act of reducing the quality of food by adding inferior or harmful substance. Food is adulterated

When there is increase in demand or  
the greed of increased profit. For instance  
adding water in milk.

Difference b/w these two:

i) ~~Contamination~~ Contamination is unintentional  
and often unintended, while food  
adulteration is a deliberate, with the  
aim of making profit.

ii) Contamination occurs due to  
improper handling or environmental factors,  
but food adulteration occurs by  
adding harmful or inferior substance

iii) Contamination can cause short-  
term illnesses and infections, while  
food adulteration can often lead  
to chronic diseases.

iv) Contamination can be handled by taking  
proper measures, while food adulteration  
requires strict vigilance by the food  
authorities.

(c)

## What are Computer Buses?

Computer buses are communication tools used to transfer data between different components of the same ~~computer~~ device, such as the CPU, memory and peripheral devices.

### Types of Computer Buses

#### i) Data Bus

Data bus used to transfer binary data between ~~the~~ Central Processing Unit (CPU), memory and other hardware components.

#### ii) Address Bus

Address bus tells the system where to find or store the data. However, it also carries addresses or information from the memory to other locations of computers.



(9)

(iii) Control Bus

Control bus carries controlled signals that connect the actions of various components of the computer.

Difference b/w RAM and ROM

ROM: (Read Only Memory)

It is a type of non-volatile memory that is used to store data permanently. As the name suggests it is designed for reading data only.

Read Access Memory (RAM)

It is a type of volatile memory used to store data temporarily. RAM directly access any memory cell.

## Difference b/w these two

i) ROM is a non-volatile memory while RAM is a volatile memory.

ii) ROM stores data permanently, while RAM stores it for a temporary time period.

iii) ROM is designed to read data only, but RAM can read and write the data.

iv) RAM is the fastest type of memory, while ROM is ~~a~~ not a ~~that~~ fast type of memory.

v) ~~RAM~~ Data in ROM cannot be modified, while it can be modified in RAM.

(d)

## Geostationary Satellites

Geostationary satellites are high earth orbit satellites, which are useful for communications. These satellites can only be achieved at an altitude of 35786 km from the surface of earth.

## Distinguish Between Artificial and Natural Satellites

### Artificial Satellites

Artificial Satellites are man-made satellites, which are ~~revolving~~ orbiting around the Earth. For example, GPS satellites, International Space Station (ISS) etc, are artificial satellites.

### Natural Satellites

Natural Satellites are man-made satellite which orbit around the Earth.

For instance, Earth is the natural satellite of Sun, while moon is the natural satellite of Earth.

## Artificial Satellites of Jupiters

Jupiters have no artificial satellites. However, Jupiters have natural satellites. According to NASA, there are ~~more than~~ around 95 moons of the Jupiters.

No. 5 (a)

## Radioactivity and its Types:

Radioactivity is the process by which unstable atomic nuclei lose energy by emitting radiations. ~~It is an~~ ~~it is an~~ It was discovered by French physicist Henri Becquerel in 1896. However, it also should be noted that radioactivity can occur in artificial as well as in natural ways.

i) A. Differentiate b/w Natural and Artificial Radioactivity:

i) Artificial Radioactivity:

Artificial radioactivity occurs by bombarding

the nuclei of a stable element by ~~a~~ with a neutron. An example of an artificially induced radioactivity is neutron activation. A neutron fixed into a nucleus can cause nuclear fission.

~~i) Artificial Radioactivity~~

ii) Natural Radioactivity

Natural Radioactivity is the spontaneous emission of radiation by naturally occurring isotopes found in nature. For example, radioactivity - found in Uranium, Thorium ores and natural fields.

which  
The  
are  
14  
detected  
~~from~~  
~~ores~~  
ca  
case  
so  
high  
and  
later  
for

(b)

What is Polio?

Polio, also known as Poliomyelitis, is a kind of a infectious disease, which usually occurs in children.

The countries with most of polio cases are Pakistan and Afghanistan. Around 14 cases of polio have been ~~found~~ detected in Pakistan in the year 2024, ~~and~~ according to Pakistan Polio Eradication program. However, 9 polio cases have been found in Afghanistan so far in 2024.

Symptoms of Polio

Initial symptoms of polio are high fever, fatigue, headache, vomiting, and stiffness in ~~the~~ neck. ~~and~~ However, later symptoms are severe, which often leads to incessant paralysis.

## Causes of Spread of Polio

Polio used to spread by coming in contact with a person who is infected by the virus. However, mainly it spread from contaminated water and unhygienic food. Polio virus enters in the body through mouth, and ~~more~~ reaches intestine by passing through the digestive tract.

## Prevention and Vaccine of Polio

The only ~~one~~ cure to polio is the immunization with vaccine. Vaccine works best to prevent the spread of Polio virus. The most important and effective polio vaccines are Inactivated Polio Vaccine (IPV) and Oral Polio Vaccine (OPV). IPV is injected in the body, while OPV is taken by mouth or orally.



(c)

## Steps involved in Solid Waste Management:

The following steps are involved in SWM:

i) Generation of Waste: The 1st step is the generation of waste when materials are considered of no value.

ii) Waste Handling: The 2nd step involves the handling, sorting, storing, and process of waste.

iii) Collection: Collection includes the gathering ~~and transportation~~ of the waste handled.

iv) Transfer and Transport: After collecting

of the waste, now the concerned party has to transfer the waste to a secondary collection point, and after that transportation of the waste occurs over a long distance to a disposal site.

v) Disposal of Waste :- The last step is the disposal of waste.

(d) :-

Population Planning :-

Population planning is a method of improving the lives of people, including children, families and communities. Population of the world is increasing day-by-day. According to the United Nations, world population has reached 8 billion in 2022.

However, the population of Pakistan is 241.49 million with an annual growth rate of 2.55%.

## Benefits of Population Planning

There are several benefits of population planning.

1.) Reduce Infant Mortality & firstly,

Population planning can help to reduce infant child mortality.

Infant mortalities contribute to the highest ~~mortalities~~ mortalities occur in the world. Around 550 deaths per 1000 live births occurred in Pakistan in the year 2023. Therefore effective family planning can reduce child mortality rate.

(ii). Prevent HIV/AIDS &

Secondly, ~~Family~~ Population planning effectively reduce the cases of HIV and AIDS.

~~For~~ ~~it~~ (4) reduces the chances of sexually emitted diseases. For instance, condoms provide dual protection <sup>against</sup> ~~from~~ pregnancies and ~~trans~~ transmission of sexually transmitted diseases.

(iii). Educational Enhancement &

thirdly, Population planning can provide a chance to the families to enhance their education. For instance, women can pursue their education even after marriage.

(iv). Stagnant Population Growth &

lastly, Family planning can lead to a lower population growth. As unproductive growth in population have threatening consequences for the economic stability of a country.

Q. No: 6

(a)

∴ initial enrollment = 850

∴ later enrollment = 1120

∴ Change = ~~initial~~<sup>later</sup> enr - initial enrollment

$$\text{Change} = 1120 - 850$$

$$\text{Change} = 270$$

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

$$\text{Percentage increase} = \frac{\text{change}}{\text{Initial enrollment}}$$

$$= \frac{270}{850} = 31.76\%$$

$$\text{Percentage increase} = 31.76\%$$

Ans

(b)

Sol:

$$x = \text{son's age}$$

$$5x = \text{father or man age}$$

$$x-2 \Rightarrow \text{son's age 2 years ago}$$

$$5x-2 \Rightarrow \text{father age 2 years ago}$$

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

$$\begin{aligned} & \left[ x^2 + 2^2 - 2(x)(2) \right] + (5x)^2 + (2)^2 - (2)(5x) \\ & = 114 \end{aligned}$$

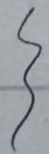
$$\left[ x^2 - 4x + 4 \right] + \left[ 25x^2 - 20x + 4 \right] = 114$$

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

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

$$26x^2 - 24x - 106 = 0$$

solve it by factorization.



(c)

Solo

Suppose

$$x = \text{hens}$$

$$y = \text{cows}$$

→ as we know that a hen has 2 legs, while a cow has 4 legs  
→ However, each has a single head.  
So

$$\therefore 1x + 1y = 48 \rightarrow \textcircled{1}$$

$$\therefore 2x + 4y = 140 \rightarrow \textcircled{2}$$

~~multiply~~ Multiplying 1st eqn by "2"  
and eqn 2 by "1"

$$2x + 2y = 96$$

$$\underline{- 2x + 4y = 140}$$

$$+2y = +92$$

$$y = \frac{92}{2} = 46$$

$y = 46$  Cow ~~are~~ <sup>are</sup> 46 ~~are~~.

~~wide p~~

Put  $y=46$  in eqn (1)

$$5x + 46 = 48$$

$$x = 48 - 46$$

$$\boxed{x=2} \text{ AS}$$

→ So, hens are "2" ✓

---

~~No: 8~~

(C) ✓

Sol/g

→ A is the brother of B,

→ While B is the ~~is~~ sister of C

→ While C is the father of D

→ So, D is the nephew of A