

MOCK-2 NOA
CSS-2023
June-2024
GK-I
General Science & Ability

PART-II
SECTION-I

Q. no. 2

(a)
Food production & Tech Advance-
-ment

Technological advancement has increased the food production in following ways.

Modern seeds and hybrid seeds have been developed which increase the production of food crops.

Pesticides have been developed which kill the pests and reduce the chances of pests affecting crops.

Fertilizers have been developed which leads to compensate the nutrient requirements of crops and

and ultimately crops have their nutrients requirements fulfilled which leads to better growth.

Decrease in Quality of Food

The quality of food is decreased due to artificial ways to increase the production.

Excessive use of fertilizers reduces the quality of food crops.

Excessive use of pesticides leads to chemicals being staying on the crops which reduces quality and taste of crops and is harmful as well.

Excessive farming practices reduce the nutrient value of the land.

Qno3 (b)

Solid Waste Management

Problems:

Solid waste management has following problems,

- In Solid waste management the solid waste cannot be easily decomposed.
- Solid waste needs to be heated at high temperature in order to decompose.
- It requires a heavy setup without that it cannot be decomposed.
- There are substances in solid waste which are explosive and dangerous and need to be filtered out. Solid waste contains such compounds and substances which cannot be decomposed easily they need to be treated separately.

Q no. 3 (c)

Dengue Fever

Dengue fever is a fever which is happened due to mosquito bite, of a certain type which has white spots on its skin.

Symptoms

- Higher body temperature leading to fever
- The count of Platelets is reduced drastically.
- Shivering and feeling cold.
- WBCs are also reduced.

3)

2)

Qno. 3
(d)

Plate Tectonics

In Tsunami, Plate tectonics move from their original place causing high tides pull towards the moon.

This ultimately leads to higher tides in the sea leading towards a tsunami.

Richter Magnitude Scale

This is a scale to measure the magnitude of earthquake.

Volcanic Explosivity Index

This is an index to measure the explosivity of volcanic eruption.

Q no. 5.

(a)

Artificial Intelligence

Artificial Intelligence is the intelligence of a computer system to perform and execute tasks efficiently and effectively which a human brain can perform with more speed and efficiency and quality.

Outsmart humans

Yes, artificial intelligence has the ability to outsmart humans.

As it can perform tasks with higher speed and greater knowledge database which can outsmart humans.

It can perform simple tasks like answering a question, creating a resume and several other tasks to creating pictures, videos and a lot of other tasks like AI robots which can perform any task they are ordered.

But still AI needs humans to create them as well as give them commands so AI can outsmart humans.

but will need human directions to perform them.

Q no. 5 (c)

Carbohydrates

Carbohydrates are the richest source of energy for human body.

Carbohydrates are found in food such as bread, rice etc. They are the most common source of getting human nutrition.

Types

Carbohydrates are of two different types.

Forexample Glucose and fructose are two different types of carbohydrates.

Q no 5
(d)

Benefits of Balanced diet

A balanced diet is the one in which all the nutrients required for a healthy human body are taken and requirements are fulfilled.

Benefits

- A person remains healthy
- He does not become ~~obese~~ obese
- He is not having malnutrition.
- He is not subject to any kind of diseases.
- He has strength in his body.
He has good immune system.

3)

SECTION-II

Qno.6

Given

(a)

Original population = 18000
Increased " = 22500
Increase in " = 4500
Duration = 10 years.

Find

Percentage increase per year = ?

Solution

$$\frac{4500}{10} \times \frac{\text{Increase in Population}}{\text{Duration}}$$

$$\text{Inc. per year} = 450$$

$$\text{Percentage inc. per year} = \frac{450}{18000} \times 100$$
$$= 2.5\%$$

Q no 6
(b)

Given

$$\text{Soap Units} = 600$$

$$\text{Days} = 9$$

$$\text{Machines} = 20$$

Find

How many units in 12 days with 18 machines = ?

Solution

$$\text{Soap Units per day with 20 Machines} = \frac{\text{Units}}{\text{Days}}$$

$$= \frac{600}{9} = 66.67 \text{ units/day}$$

$$\text{Soap Units per day per machine} = \frac{\text{Units/day}}{\text{Machines}}$$

$$= \frac{66.67}{20} = 3.33$$

$$\text{Units by 18 machines in 12 days} = \text{Per day/Machine} \times \text{Machines} \times \text{Days}$$

$$\text{Units in 12 days with 18 Machines} = 3.33 \times 18 \times 12$$

$$= \boxed{719.28} \text{ Soaps}$$

$$\begin{array}{r} 66.67 \\ 9 \overline{) 600} \\ \underline{54} \\ 60 \\ \underline{54} \\ 6 \end{array}$$

$$\begin{array}{r} 3.3 \\ 20 \overline{) 66.67} \\ \underline{60} \\ 6.67 \end{array}$$

$$\begin{array}{r} 216 \\ 3.33 \\ \hline 6648 \\ 1648 \times \\ 648 \times \\ \hline 719.28 \end{array}$$

(C)

$$\begin{array}{r}
 3.4 \\
 7 \overline{) 28.5} \\
 \underline{22.5} \\
 25.5
 \end{array}$$

Working

$$\begin{array}{r}
 27 \overline{) 690} \\
 \underline{54} \\
 150 \\
 \underline{135} \\
 15
 \end{array}$$

$$\begin{array}{r}
 3 \\
 45 \\
 \underline{60} \\
 00 \\
 270 \times \\
 \underline{2700}
 \end{array}$$

Given

Car's distance = 450m

" time = 1min = 60s

Train's distance = 69km = 69000m.

" time = 45min = 45 x 60 = 2700

Find

Ratio of their speeds.

Solution

Cars Speed = $\frac{\text{distance}}{\text{time}} = \frac{450}{60} = 7.5 \text{ m/s}$

Trains Speed = $\frac{\text{distance}}{\text{time}} = \frac{69000}{2700} = 25.5 \text{ m/s}$

Ratio of Speeds $\frac{\text{Cars Speed}}{\text{Trains Speed}} = \frac{7.5}{25.5} = \frac{1}{3.4}$

Ratio = 1 : 3.4

Q no 6
(d)

Perimeter of Pentatagon

Given

length of one side = 15cm = 0.15m

sides of Pentagon = 5

To Find

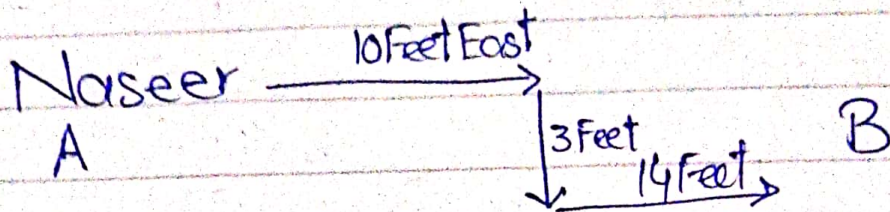
Perimeter of Pentagon = ?

Solution

$$\begin{aligned}\text{Perimeter of Pentagon} &= \text{length of one side} \times 5 \\ &= 0.15 \times 5 \\ &= 0.75\text{m or } 75\text{cm.}\end{aligned}$$

4)

Qno 8

(c)
Naseer Distance from A

Naseer is $10 \text{ Feet} + 14 \text{ Feet} = 24 \text{ Feet}$ far from point A.

Moreover if we include diverged movement of 3 feet by Naseer then it would be $= 27 \text{ Feet}$ from A.

(d)

Given

Avg. temperature of a week = 33°C

Average of first 3 days = $30^{\circ}\text{C} = 30 \times 3 = 90^{\circ}$

" last 3 days = $35^{\circ}\text{C} = 35 \times 3 = 105^{\circ}$

Find

temperature of fourth day = ?

Solution

$$\text{Total temperature of 7 days} = 33 \times 7 = 231^\circ$$

$$\text{Sum of first 3 days \& last 3 days} = 90 + 105 = 195^\circ$$

$$\text{Temperature of 4}^{\text{th}} \text{ day} = \text{Sum of 7 days avg.} - \text{Sum of first 3 \& last 3 days average}$$

$$= 231 - 195$$

$$\text{Temperature of 4}^{\text{th}} \text{ day} = 36^\circ$$

(b) Missing term

$$1, 2, 6, 21, \underline{\quad}, 88$$

The missing term is 88.

$$1 \times 1 + 1 = 2$$

$$2 \times 2 + 2 = 6$$

$$6 \times 3 + 3 = 21$$

$$21 \times 4 + 4 = 88$$

Working

$$\frac{2}{33}$$

$$\frac{7}{231}$$

$$\frac{21}{231}$$

$$\frac{195}{36}$$

$$\frac{36}{36}$$

(a)

BROTHER = O D G S N O A

SISTER =