

Answer of Question No-2 (a)

Difference between Star and Planet:

Star	Planet
(1) Produce own light via nuclear fusion.	Does not produce light. Reflect light from star.
(2) Greatest Heat & Energy	Cold Than star
(3) Larger, enough fusion	Smaller, not enough fusion
(4) Mainly Hydrogen and Helium	Rocks, gaseous

Life cycle of star

I Small star
↓
White dwarf
↓
Black dwarf

II Massive star
↓
Super-nova
↓
Black Hole

Earth emits infrared radiation.

Greenhouse gases absorb and radiate heat

Major Green House Gases

Carbon dioxide

Methane

Nitrous oxide

Answer Q. 2 (d)

A series of large ocean waves caused by sudden displacement of water.

Natural Triggers:

Earth Quack

Volcano

Landslides

Impact on Coastal Areas:

- Massive flooding

Loss of human life and livestock

Soil erosion

4) Earth emits infrared radiation.

1) Green ~~house~~ Greenhouse gasses absorb and radiate heat

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Answer Q. No 5(a)

Balance Diet:

A diet That provide all essential nutrient for maintaining health and Energy. Carbohydrat, proteins, Fats are example.

Carbohydrat

- Main source of Energy
- Stored glycogen in liver
- Helps in proper brain and nervous system

proteins:

- Build and repair tissues
- Form enzymes and hormones
- Support immune function

Answer Q. 5(b)

Food Preservation:

Process of treating and handling food for maintaining Quality.

Methods:

- Pasteurization:

Heating food to a specific temperature for a short time to Kill pathogens.

- Principle: Thermal destruction without effecting taste.

- Canning:

- Sealing food in ~~airtight~~ airtight containers and heating to destroy microbes.

- Principle: Sterilization and prevention of microbial growth in sealed environment.

Answer Q. 5 (c)

- Internet of Things:

IoT is a network of physical devices connected to the ~~earth~~ internet.

Capable of exchanging and processing the data.

Impact on daily life.

- Enhances Convenience and efficiency

- Enable real time monitoring

Example:

(1) Health Care

(2) Smart Homes.

Answer Q. 5(d)

Ram vs Rom

RAM	ROM
Volatile	Non-volatile
Temporary Storage	Permanent storage
Read and write	Read-only
System Memory	Bios

- Basic Computer Architecture

- CPU (Central processing unit): Brain of Computer
- ALU (Arithmetic Logic Unit):
Perform arithmetic (add, sub) and logical operations (AND, OR)
- CU (Control Unit):
Direct data flows between memory, ALU, and input/output unit

Answer Q. 7 (a)

Total People = 100

People watch Cricket = 65

People watch Hockey = 40

People watch neither = 20

People either watch = $100 - 20$

" " = 80

People Both watch = (Cricket + Hockey) - Either watch
 $= (65 + 40) - 80$

People Both watch = 25 Ans

Answer Q. 7 (b)

Length (L) = 4 meters + width (w)

Perimeter (P) = 72 meters

Volume = ?

Depth (h) = 2.5 meters

Perimeter = $2(L + w) = 72$

$L + w = 36$

$(w + 4) + w = 36$

$2w = 36 - 4$

$w = 16$

$$L = w + 4$$

$$L = 16 + 4$$

$$L = 20$$

$$\begin{aligned} \text{Volume} &= L \times w \times h \\ &= 20 \times 16 \times 2.5 \end{aligned}$$

$$\text{Volume} = 800 \text{ m}^3$$

Answer Q. 7(c)

Speed of train A = 60 km/h

Speed of train B = 40 km/h

Distance = 400 km

Relative Speed = 60 + 40 = 100 km

Time =

Time = $\frac{\text{Distance}}{\text{Relative Speed}}$

$$= \frac{400}{100} = 4 \text{ hours}$$

Train leave at 08:00 am

will meet both at 12 pm.

Q. 7 (d)

$$\text{Father} + \text{Son} = 75 \text{ years}$$

10 year ago = 4 x Father age Then Son.

$$F - 10 = 4(S - 10)$$

$$F - 10 = 4S - 40 \quad \text{--- (1)}$$

$$F = 4S - 40 + 10$$

$$F = 4S - 30 \quad \text{--- (2)}$$

putting the value of F in eq (1)

$$F + S = 75$$

$$4S - 30 + S = 75$$

$$5S - 30 = 75$$

$$5S = 75 + 30$$

$$5S = 105$$

$$F + S = 75$$

$$F + 21 = 75$$

$$F = 75 - 21$$

$$F = 54$$

Q. No. 8(a)

ROAD $\rightarrow$ URDG

. R $\rightarrow$ U (+3)

. O $\rightarrow$ Q (+2)

. A $\rightarrow$ D (+3)

. D $\rightarrow$ G (+3)

step - 2

. L $\rightarrow$ O (+3)

. A $\rightarrow$ C (+2)

. K $\rightarrow$ N (+3)

. E $\rightarrow$ H (+3)

LAKE $\rightarrow$ ODNH

Q. No 8(b)

Daughter in law

Q. No 8(c)

(i) $4 \times 3 = 12$

$12 \div 2 = 6$

$6 \times 3 = 18$

$18 \div 2 = 9$

$9 \times 3 = 27$

$$27 \div 2 = 13.5$$

(ii) 1, 2, 6, 24, 120, 720

multiplying by 2, 3, 4, 5, 6

Q. No 8 (d)

$$P < Q$$

$$S < T$$

$$Q > R$$

$$T > Q$$

$$\text{Range} : 180 - 150 = 30 \text{ cm}$$