Day: Date:

SECTION-I

QNO. 2

(b)

Describe the functions of arteries, veins and capillaries.

ARTERIES: These are the blood vessels that carry blood away from the heart. Arteries carry oxygenated blood with the exception of pulmonary artery.

VEINS: Veins are blood vessels that carry blood towards the heart. They carry de-oxygenated blood with the exception of pulmonary vein.

CAPILLARIES: These are the smallest blood vessels that provide site for the exchange between blood and tissues. They allow the delivery of oxygen, nutrients and hormones to cells and the removal of waste products like CO_2 and urea.

Day: Date:

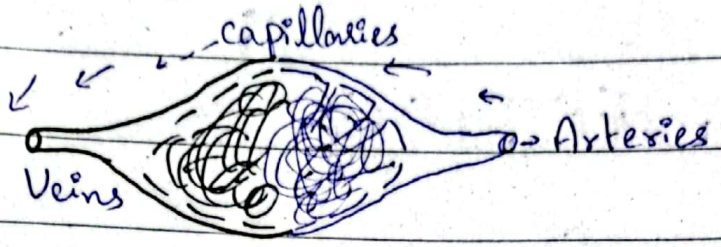


Fig: Structure of Blood Vessels

(c)

Why do atoms form chemical bonds? Explain the structure of water.

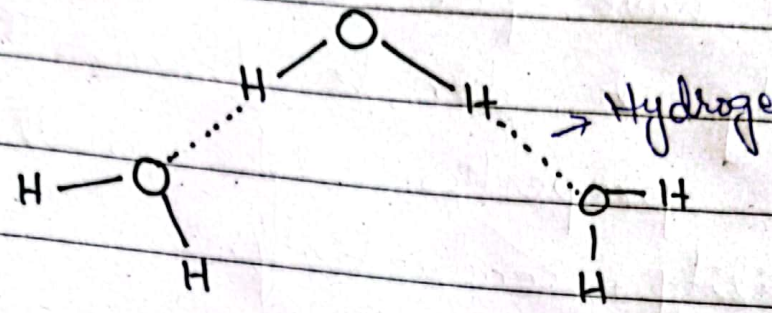
ATOMS FORM CHEMICAL BONDS

Atoms form chemical bonds in order to make their outermost shells more stable. The type of chemical bond maximizes the stability of atoms. An ionic bond is formed when one atoms loses electron to make it staple and the other atom accepts it to completes its outer shell and become stable. Covalent bond is formed when sharing of electrons between atoms resultes in their highest stability

Day:

Date:

STRUCTURE OF WATER



One water molecule consists of two hydrogen atoms and one oxygen atoms. These molecules are interconnect with each other through hydrogen bonds.

CONDUCTORS: A material that permits the flow of electric charge through the movement of electrons. e.g. metals like iron.

SEMICONDUCTOR: A material that partially conducts electricity is termed as semi-conductor. e.g. Selenium.

Day: _____ Date: _____

METALS : Metals are the substance that have free electrons and ability to donate them. They have properties like malleability, ductility, conductivity.
e.g. Mercury, Sodium.

PLASTICS : Plastics are organic compounds that are made up of long chain of carbon atoms called polymers.
e.g. Polyethylene, a plastic used to make plastic bags.

CERAMICS : Ceramics are inorganic substance made up of clay that can be converit into any shape and then hardened by heating at high temperature.
e.g. Brick, Glass.

Day: _____ Date: _____

SECTION - II

Q NO. 8

(a)

If BROTHER = QDGSNQA
then SISTER = QDSRHR
It's decoding is start from right to left and each alphabet is decoded as one step backward.

(b)

1, 2, 6, 21, ____

$1 \times 1 + 1 = 2$

$2 \times 2 + 2 = 6$

$3 \times 6 + 3 = 21$

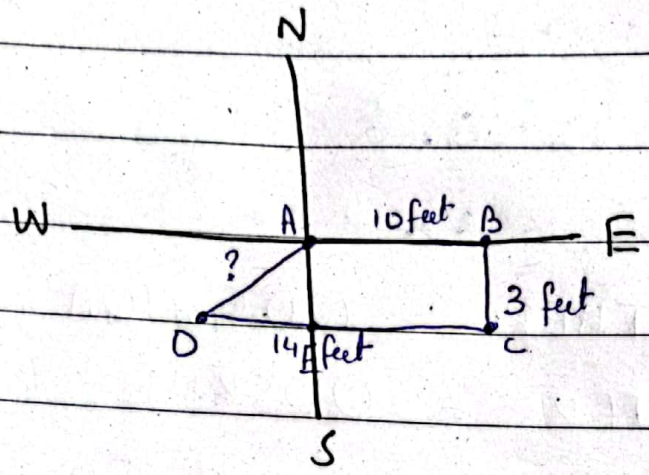
$4 \times 21 + 4 = 88$

So, 1, 2, 6, 21, 88

The answer will be 88 as each digit is multiplied and added by increasing natural number.

Day: Date:

Q(C) Box



By using Pythagoras theorem,

$(\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$

$(DA)^2 = (DE)^2 + (BC)^2$

$(DA)^2 = (4)^2 + (3)^2$

$(DA)^2 = 16 + 9$

$(DA)^2 = 25$

By taking '$\sqrt{\ }$' on both sides.

$\sqrt{(DA)^2} = \sqrt{25}$

$DA = 5$

∴ Naseer is 5 feet far from point A.

Day: Date:

(d)

Average temperature = 33°C

Temperature = T_1 = 30°C

Temperature = T_2 = 35°C

Temperature = T_3 = ?

By applying formula;

$$\text{Average} = \frac{T_1 + T_2 + T_3}{3}$$

$$33 = \frac{30 + 35 + T_3}{3}$$

$$3 \times 33 = 65 + T_3$$

$$99 = 65 + T_3$$

$$99 - 65 = T_3$$

$$\Rightarrow \boxed{T_3 = 34°C}$$

Q NO. 7

(a)

I.Q.

IQ stands for Intelligence Quotient and in short it is a measure of person's reading ability. An IQ is supposed to

Day: _____ Date: _____

to tell how well someone can use information and logic to answer questions or make predictions.

FACTORS AFFECTION I.Q

① Nutrition ② Environment factors

③ Genetics ④ ~~Enviro~~ Age factor

~~(b)~~

Radius = r = 4cm

Circumference of circle = $C = 2\pi r$

$C = 2 \times 3.14 \times 4$

$= 25.12$ cm

~~(c)~~

Age of 5 students in ascending order = 20, 21, 21, 22, 23

$$\text{Mean} = \frac{20 + 21 + 21 + 22 + 23}{5}$$

$$= \frac{107}{5} \quad \boxed{= 21.4}$$

$$\text{Median} = \frac{23 - 20}{2} = \frac{3}{2}$$

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Mode = 21

Range = 23 - 20 = 3

Q(d)

Profit = Rs 406,000

Share of each = ?

Ratio of Investment:

Tahir		Umar		Usman
15000	:	30,000	:	45,000
3	:	6	:	9
1	:	2	:	3

$5 \overline{)406,000}$ (81200)
40
06
1

Share of Tahir = Rs 67,666

Share of Umar = Rs 135,333

Share of Usman = Rs 203,000