



### **MATHS**

#### 1. Factorize

- $x^3 - 2x^2 - x + 2$
- $4x^2 + 12xy - zx - 3yz$
- $x^3 + x^2 + x + 1$
- $4a^4 + 10a^3 - 8a - 20a$
- $3u^3 - 4u^2 - 12u + 16$
- $x^2 + 2ax + 5a^2x + 10a^3$
- $7x^2z + 6x^2y + 35y^2z + 30xy^2$
- $9z^3 - 27z^2 - 100z + 300$
- $ap^2 + bp^2 + aq^2 + bq^2$

#### 2. Factorize

- $27x^2 + 54xy + 9$
- $7mn - 21m^2n^2$
- $3p^2q^2 + 2p^3q + 9pq^2$
- $a^3b^3 + 2a^2b^2 + a^2b^4$
- $x^4y^8 + x^6y^6 + 7x^2y^{10}$
- $5x^3 + 4x^2 + 7x$
- $4t^4 + 16t^3 - 8t^2 + 24$
- $42z^3x^3 + 35z^2x^4 + 63z^4x^2$
- $121x^2y^2 + 33xy$

#### 3. Find the volume of right triangular prisms of which

- Area of the base =  $242 \text{ cm}^2$ , height = 30 cm
- Area of the base =  $350 \text{ cm}^2$ , height = 24 cm

(Use Volume = Area of base X height)

#### 4. Find the height of the following right prisms of which

- Volume =  $1500 \text{ cm}^3$ , area of the base =  $150 \text{ cm}^2$
- Volume =  $6090 \text{ cm}^3$ , area of the base =  $725 \text{ cm}^2$

5. A cup is in a shape of a cylinder whose radius is 3.5 cm and height is 7 cm. How much milk can the cup hold?
6. A room has a length of 6m, breadth of 5m and height of 250 cm. What is the area of
- The floor
  - The ceiling and four walls
  - Also find the volume of room.
7. Sushil measures the thickness of a notebook containing 100 sheets as 0.008m. What is the thickness of each sheet of paper?
8. Find the Amount and Simple Interest on
- Rs 24,000 for 1.5 years at the rate of 10% pa
  - Rs 20,000 for 2 years at the rate of 8% pa
9. Find the Principal if Simple Interest for two years at the rate of 10% is Rs 6615.
10. In what time will Rs 2400 amount to Rs 2646 at 10% pa Simple Interest?
11. What is the volume of a cube with side 0.2 m ? Express it in  $\text{cm}^3$ .
12. Find the volume of a cuboid of which
- Length = 0.8 m, breadth = 70 cm, height = 400 mm
  - Length = 2.5 m, breadth = 1.5 m, height = 1.25 m
13. Find the rate of interest per annum if
- P = Rs.6000, I = Rs.1986, T = 1 year, 6 months
  - P = Rs.16000, I = Rs.2500, T = 5 years
14. Find the volume of right circular cylinder of which
- Radius = 2.5 cm, height = 7 cm
  - Radius = 3.5 cm, height = 20 cm

# SCIENCE

1. Read the chapter of the Periodic Table and answer the following questions:

I. 1) Draw a diagram of an atom with a nucleus containing two protons and two neutrons and with two electrons in the same orbit.

2) Label the parts of the atom which are negatively charged.

3) Label the parts of the atom which are positively charged.

4) What is the atomic number of this atom?

II. 1) Which two elements are needed to help nerve cells send electrical signals?

2) Which two elements are needed for the growth of healthy bones and teeth?

3) Which element do green plants need to help them make chlorophyll?

4) What is a property that all noble gases shares?

5) Which noble gas is

a) Used to make advertising displays.

b) Used to make meteorological balloons.

c) Used in a photographer's flashgun,

d) Used in light bulbs,

Used in airport landing lights. ?

# **ENGLISH**

**READ THE TWO PASSAGES GIVEN BELOW AND ANSWER THE QUESTIONS.**

## **PASSAGE 1**

Researches suggest that there are creatures that do not know what light means at the bottom of the sea. They don't have either eyes or ears; they can only feel. There is no day or night for them. There are no winters, no summers, no sun, no moon, and no stars. It is as if a child spent its life in darkness in bed, with nothing to see or hear. How different our own life is! Sight shows us the ground beneath our feet and the heavens above us - the sun, moon, and stars, shooting stars, lightning, and the sunset. It shows us day and night. We are able to hear voices, the sound of the sea, and music. We feel, we taste, we smell. How fortunate we are!

1. Judging from the passage, we can say that this story is mainly about .....
2. What all we learn about the sea creatures in the story ?
3. In the passage a child in darkness is likened to .....
4. Give a suitable title to the passage.

## **PASSAGE 2**

Official records state that the Pueblo Indians lived in New Mexico and Arizona . The word "Pueblo" comes from the Spanish word "pueblo," meaning town or village. The Spaniards found these Indians living in apartment houses, some of them on the side of a cliff in order that they could be reached only by ladders. Whenever they were attacked by Apaches, the Pueblos would pull up the ladders. They grew corn, which they watered with water flowing down in ditches. They wove cloth, made wonderful baskets, and created jars and pots out of clay proving how skilful they were at hand-craft.

1. What were Pueblo Indians afraid of ?
2. Why the Spaniards called these Indians "Pueblos" ?
3. Why did Pueblo Indians lived on the side of a cliff ?
- 4 Summarize the passage in about 30 words.