SECTION - A

1. Convert the following temperature to Celsius scale:
    a. 300 k
    b. 573 k
2. Convert the following temperature to Kelvin scale.

    a. 25∘c25∘c
    b. 3730c3730c
3. How is our atmosphere different from the atmosphere on Venus and Mars?
4. What are macro-nutrients and why are they called macro-nutrients?
5. A tube light consumes 2000 J of electrical energy in 20 seconds. What is its power?
6. Calculate the wavelength of sound wave whose frequency is 360 HZ and speed is 60 m/s in a given medium?
7. What is the criterion for classification of organisms as belonging to kingdom monera or protista?
8. What are the advantages of composite fish culture?
9. What is pasturage and how is it related to honey production?
10. What produces more severe burns, boiling water or steam?
11. Find the molecular mass or formula mass of:

    a. C_2H_6
    b. SO_2
    c. CL_2
    d. CH_4
12. What are the limitations of JJ Thomson's model of atom and Rutherford's model of atom?
13. Why is the cell called the structural and functional unit of life?
14. What are the functions of stomata? Draw a well labelled diagram of stomata?
15. Explain why the ceilings of the concert halls curved?
16.

    a. What is reverberation? How can it be reduced?
    b. Derive graphically:
        i. $v^2 - u^2 = 2as$,
        ii. $S=ut+12at2S=ut+12at2$
17. Draw a neat labelled and explain how the human ear works?

18.

a. Why we are normally advised to take bland and nourishing food when we are sick?
b. Differentiate between acute and chronic disease.

19.

a. What is the difference between 'Broilers and layers' and in their management?
b. Which method is commonly used for improving cattle breed and why?

20.

a. Explain the working and application of SONAR? Make diagram also.
b. What are the desirable characters of bee varieties suitable for honey production?

21.

a. How do poriferan animals differ from coelenterate animals?
b. Give reasons-
(i) Naphthalene balls disappear without leaving any solid.
(ii) We can get smell of perfume sitting several metres away.

SECTION - B

22. While performing an experiment in class, Pooja found an animal which has an open circulatory system is blood filled coelomic cavity and has jointed legs?

a. To which group will Pooja classify this animal?
b. Name the largest phylum of the animal kingdom and write two characteristics of this group.

23.

i. What happen when magnesium is burnt in the air?
   a. Magnesium is deoxidized
   b. Magnesium gets oxidized
   c. Magnesium forms compound with water vapour
   d. Magnesium forms a compound with hydrogen

ii. Write the chemical equation of the reaction when magnesium ribbon is burnt in the air? What kind of reaction it is?

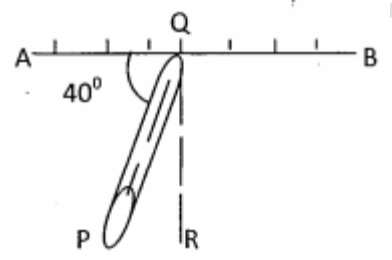
23. In a laboratory experiment, a compound x was strong heated , it changes its colour into off white after losing its water of crystallization.

a. Identify the compound x and write its chemical formulas
b. What is "blue vitriol".

23. Write common chemical compound and their formulas:

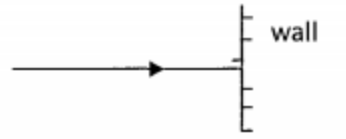
Common name	Chemical name	Formulas
(a) Bleeching powder		
(b) Caustic soda		
(c) Washing soda		
(d) Quick lime		

24. To verify the laws of reflection of sound, Ashok put the pipe at an angle of 40∘40∘ to the reflecting surface. At what angle to QR should he keep the other pipe to receive the reflected sound distinctly?



25.

a. A sound wave strikes a high wall perpendicularly. What will be the angle; of incidence for sound wave?



b. What kind of wave is sound wave?