

**Sample Paper – 2008**  
**Class – X**  
**Subject - Science**

TIME:  $2\frac{1}{2}$  Hrs.

MAX. MARKS: 60

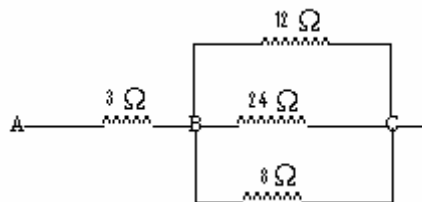
**SECTION- A**

1. How much energy we get if we convert the whole of iron nucleus into the energy?
2. How the resistance in the rheostat varies?
3. What is difference between acetic acid and vinegar?
4. What is functional group?
5. What is reinforced concrete cement?
6. What is the composition of steel which is used in the manufacture of drilling tools?
7. Define 'combustion'. Write the conditions necessary for combustion to take place. 2
8. What is energy crisis ? How do we overcome the same ?

OR

What are the advantages and drawbacks in the use of wind energy ?

- Q.9 (i) What is multi stage launch vehicle ?
- (ii) What does the steady state theory tell about the origin of the universe?  
[It states that universe is constant at the position and didn't had a beginning nor end]
- (iii) A particular satellite revolves round the earth in an orbit, such that it passes over place at around 2P.M. every day. What kind of satellite is it ? And what name is given to it's orbit.
- Q.10. (i) Give reason why tartaric acid is a component of baking powder.  
[To neutralize the base formed by heating baking soda]
- (ii) Why should bleaching powder be stored in air tight containers?  
[As bleaching powder will give its chlorine on exposure to CO<sub>2</sub> in the air]
- (iii) Name the component that is added along with the other ingredients of glass manufacture, to make it durable and thermal shock resistant.  
What is this glass called as?
- Q.11.(i) Why should the carbon-di-oxide gas be removed immediately during the production of lime?
- (ii) What is chloride of lime? Give the equation for the preparation of this compound.  
Mention any one use of this compound. (3M)
- Q.12. (i) How does the resistance of a wire change when
- (a) Its length is doubled. (b) Its area is doubled.



(ii) From the given figure, calculate the total resistance between

(a) B and C

(b) A and C

Q.13. Draw a neat labelled diagram of a box-type solar cooker. Give reason for the use of black surface and reflector. OR

Heat produced on burning 5.0 g of fuel raises the temperature of 1.0 Kg of water from  $20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ . If the specific heat of water is  $4.2\ \text{J/g}^{\circ}\text{C}$ , calculate calorific value of fuel.

Q.14. Write chemical equations to show what happens when :

(i) Sulphur powder is heated with cone  $\text{H}_2\text{SO}_4$

(ii) Cinnabar is roasted in a furnace

(iii) Sulphur dioxide is dissolved in water.

Q15. i) Explain the term- calcination with an example.

ii) Why does  $\text{SO}_2$  form a white precipitate if it is passed through lime water?

iii) What is the difference in the molecular arrangement of rhombic and monoclinic Sulphur.

iv) Give reason why an aqueous solution of  $\text{NaCl}$  is not used for the electrolytic reduction of sodium metal.

v) What happens when you add ammonium hydroxide to ferrous sulphate solution. Mention colour change and give the equation.

Q16. i) Describe two fusion reactions and mention the conditions under which they can take place

ii) Why is energy obtained from nuclear fusion preferable to obtaining energy from nuclear fission. Give two reasons.

**OR**

i) Why is  $\text{U}^{238}$  enriched before using it for nuclear fission reaction.

ii) Mention the role of a coolant and moderator.

iii) What is prompt fission and spontaneous fission.

### SECTION – B

Q.17. Define 'Phytohormones' ?

(1)

Q.18. Give the meaning of 'allele'?

Q.19. What is a nerve impulse? what is the role of axon and dendrites

Q.20. name the gland which secrete digestive enzymes and mention its hormones and their functions

Q.21.a) State the Biogenetic law? What does it explain?

b) Who wrote the book 'Philosophie Zoologique'? Explain his theory of organic evolution.

Q.22 a) What do you mean by Karyotyping? How is it done? How is the study of karyotypes useful? Give an example. A karyotypes of a female organism shows 20 pairs of Chromosomes. How many chromosomes will you find in the egg and Why?

Q.23.What is respiration? Explain its types?

Q.24.What do you understand by renal failure? Why is happens? Can a person live after renal failure? If yes how?

Q.25.a) How can we control particulate emission?

b) How is sex determined in humans?