

This Guess paper is presented to our Young Viewer's  
With lot's of best wishes  
For  
Board Exams - 2010

Vivek sir

For any queries, please feel free to contact to :-

## **Career Academy Tutorials**

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**Practice Paper - 2010**  
**Class - X**  
**Subject - Science(Theory)**

Time : 2½ hrs

MM:60

**General instructions :**

1. All Questions are compulsory.
2. The question paper consists of 27 questions divided into two sections A and B.
3. All questions in both the section are to be answered as per the exact requirement of the question.
4. There is no overall choice. However internal choice has been provided in long answer type question. You have to attempt only one of the alternatives in all such questions.
5. Uses of calculators are not permitted. However you may ask for mathematical tables.

**Section- A**

1. Why does the colour of ferrous sulphate change when a piece of zinc is placed in it ? [1]
2. How is the concentration of hydronium ion affected, when an acid is diluted with water ? [1]
3. Which of the following give addition reaction and why ? [1]  
 $C_4H_{10}$  ,  $C_3H_8$  ,  $C_2H_2$  ,  $CH_4$
4. Convex mirror and a plane mirror form virtual image. How will you distinguish between the two by looking at the images of an object ? [1]
5. What is meant by the power of accommodation of human eye ? [1]
6. Will the current flow more easily through a thick wire or a thin wire of same material, when connected to the same source ? Why ? [1]
7. How does the electronic configuration of an atom relate to its position in the modern periodic table ? [2]
8. State two differences between an anion and an atom, by taking chloride ion and chlorine atom as an example. [2]
9. Why do the faces of persons sitting opposite to you around a camp fire appear to shimmer ? [2]
10. (a) In which situation do we use Fleming's right hand rule ?  
(b) Why don't two magnetic lines of force intersect each other ? [2]
11. (a) How is Plaster of Paris obtained ? What reaction is involved in the setting of Plaster of Paris ? [3]  
(b) Explain, Why an aqueous solution of ammonium chloride is acidic in nature.
12. (a) Explain what corrosion of iron means ?  
(b) Why is it that aluminium which is more reactive than iron does not corrode like iron ?  
(c) How is corrosion of iron prevented by coating it with a layer of oil ? [3]
13. (a) Two conducting wires of the same material and of the same lengths and equal diameters are first connected in series and the parallel in an electrical circuit. Find the ratio of heat produced in series and parallel combinations.

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- (b) A copper wire has diameter 0.5 mm and resistivity of  $1.6 \times 10^{-8} \Omega \text{ m}$ . What will be the length of this wire to make its resistance  $10 \Omega$ ? How much does the resistance change if diameter is doubled? [3]
14. (a) State the properties of magnetic line of force.  
 (b) What precaution should be taken to avoid the overloading of domestic electric circuits? [3]
- 15 (a) Why does carbon form compounds mainly by covalent bonding?  
 (b) Though carbon and silicon have similar electronic configuration but carbon shows greater catenation than silicon? Why?  
 (c) An organic acid 'X' is a liquid which often freezes during winter time in cold countries, has the molecular formula,  $\text{C}_2\text{H}_4\text{O}_2$ . On warming it with ethanol in the presence of a few drops of Conc  $\text{H}_2\text{SO}_4$  a compound 'Y' with a sweet smell is formed.  
 (i) Identify X and Y  
 (ii) Write a chemical equation for the reaction involved. [5]

Or

- (a) What is a homologous series of compounds? List any two characteristics of a homologous series.  
 (b)(i) What would be observed on adding a 5% solution of alkaline  $\text{KMnO}_4$  solution drop by drop to some warm ethanol taken in a test tube?  
 (ii) Write the name of the compound formed during the chemical reaction. Also write chemical equation for the reaction.  
 (c) How would you distinguish experimentally between an alcohol and a carboxylic acid on the basis of a chemical property? [5]
16. (a) One half of a convex lens is covered with a black paper. Will this lens produce a complete image of the object? Verify your answer experimentally. Explain your observations.  
 (b) Draw the ray diagram for the image formation by a concave mirror when the object is placed :  
 (i) Between C and F (ii) Between F and P  
 (c) An object 3.0 cm high is placed perpendicular to the principal axis of a concave lens of focal length 15.0 cm. The image is formed at a distance of 10.0 cm from the lens. Calculate  
 (i) distance at which the object is and  
 (ii) size and nature of the image formed.

Or

- (a) Draw a schematic labeled diagram of a domestic electric circuit which includes a main fuse, a power meter, a light point, a fan and a power plug.  
 (b) Why is it necessary to earth the metallic electric appliances?  
 (c) How can it be shown that a magnetic field exists around a wire through which a direct electric current is passing? [5]

### Section B

17. Why inhalation of carbon monoxide for a longer time leads to death? [1]
18. How does the timing and amount hormones released are regulated in humans? Give an example. [1]
19. How does the reproduction help in providing stability to populations of species? [1]
20. Will geographical isolation be a major factor in the speciation of a self-pollinating plant species? Why or why not? [2]
21. What are the advantages and disadvantages of using solar cooker? Are there places where solar cooker would have limited utility? [2]

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22. If all the waste we generate is biodegradable, will this have no impact on the environment ? [2]
23. What are the problems addressed by the criticsers about large dams ? Explain. [2]
- 24 (a) Hydrogen has been used as a rocket fuel. Would you consider it a cleaner fuel than CNG ? Why or why not ?  
(b) What kind of mirror . concave, convex or plane , would you think be the best suited for use in a solar cooker and why ? [2]
- 25.(a) How is the sex of the child determined in human beings ?  
(b) If a trait 'A' exists in 10% of a population of an asexually reproducing species and a trait B exists in 60% of the same population, which trait is likely to have arisen earlier ?

Or

- (a) How do Mendel's experiments show that traits are inherited independently ?  
(b) A man with blood group A marries a woman with blood group O and their daughter has blood group O. Is this information enough to tell you which of the traits blood group A or O . is dominant ? Why or why not ? [3]
26. Why does menstruation occur in females ? Also draw a well labeled diagram of human female reproductive system.

Or

What happens at the synapse between two neurons ? Draw a well labeled diagram of human brain. [3]

27. Describe the structure and functioning of nephron along with a well labeled diagram.

Or

- (a) Why does the length of the small intestine differ in different organisms ?  
(b) Though the pharynx opens in both oesophagus and trachea but food does not enter into trachea. Why ?  
(c) How does the circulation of blood in mammals differ from circulation in amphibians and fishes ? Also Draw a schematic representation of transport and exchange of oxygen and carbon dioxide. [5]

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