

## SCIENCE

## PHYSICS

### 2 MARKS

01. Distinguish between ideal gas and real gas.
02. Define one calorie.
03. Distinguish between the resistivity and conductivity of a conductor.
04. Define the unit of current.
05. State Ohm's law.

### 4 MARKS

01. Distinguish between linear, areal or superficial and cubical expansion.
02. State Boyle's law and the law of volume.
03. A. What are the advantages of LED TV over the NORMAL TV?  
B. List the merits of LED bulb.
04. A. What is meant by electric current.  
B. Name and define its unit.  
C. Which instrument is used to measure the electric current? How should it be connected in a circuit?

### 7 MARKS

01. Derive the ideal gas equation.
02. With the help of a circuit diagram derive the formula for the

resultant resistance of three resistances connected in series and in parallel.

SCIENCE – BIO (LESSONS 15, 18, 21)

Two Marks:

1. What are the allosomes?
2. What are the structures involved in the protection of the brain?
3. Define reflex arc.
4. What are Okazaki fragments?
5. Differentiate: phenotype and genotype.
6. How is a cancer cell different from a normal cell?
7. Differentiate: Type-1 and Type-2 diabetes mellitus.
8. What are psychotropic drugs?
9. What precautions can be taken for preventing heart diseases?
10. What is metastasis?
11. What does ANS stands for? What does ANS comprises of?
12. Differentiate: voluntary and involuntary actions.
13. Differentiate: medullated and non-medullated nerve fibre.
14. Why is euploidy considered to be advantages of both plants and animals?
15. What are two types of tumors?

Four Marks:

16. State the applications of DNA finger-printing technique
17. Describe the types of neuron on the basis of their functions.
18. Suggest measures to overcome the problems of an alcoholic.
19. How is the structure of DNA organized? What is the biological significance of DNA?
20. A pure tall plant (TT) is crossed with pure dwarf plant (tt), what would be the F<sub>1</sub> and F<sub>2</sub> generations?  
Explain.
21. What is reflex action? What are the types of reflex action?

Seven Marks:

22. Explain the structure of chromosome.
23. Explain the structure of neuron, with a neat labeled diagram.
24. Illustrate the structure and functions of brain.
25. Describe the structure of spinal cord with a neat labeled diagram.

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ST.MARY'S A.I. H.S.S CHENNAI -1

SCIENCE

CHEMISTRY

QUESTION PAPER

2marks:

1. When an aqueous solution of potassium chloride is added to an aqueous solution of silver nitrate , a white precipitate is formed . Give the chemical equation of this reaction.
2. Why does the reaction rate of a reaction increase on raising the temperature ?
3. Define combination reaction . Give one example for exothermic combination reaction .
4. Differentiate reversible and irreversible reactions.
5. Can Nickel spatula be used to stare copper sulphate solution ?Justify your answer.

7marks

1. What are called thermolysis reactions?
2. Explain the types of double displacement reactions with examples.
3. Explain the factors influencing the rate of a reaction.
4. How does pH play an important role in everyday life ?
5. What is a chemical equilibrium ? what are its characterstics?
6. A solid compound 'A' decomposes on heating into 'B'and a gas'C'. On passing the gas 'C' through water ,it becomes acidic. Identify A,B,C.