CHEMISTRY SS1

SCHEME OF WORK FOR FIRST TERM

WEEKS	TOPICS
1	INTRODUCTION TO CHEMISTRY
2	NATURE OF MATTER
3	ELEMENTS
4	MOLECULES AND ATOMICITY
5	PARTICULATE NATURE OF MATTER
6	THE RELATIVE ATOMIC MASSES OF ELEMENTS
7	COMPOUNDS
8	IUPAC NOMENCLATURE OF CHEMICAL COMPOUNDS
9	MIXTURES
10	PRACTICALS ON SEPERATION OF MIXTURES

WEEK 1

Chemistry as a Subject and as a Central Science

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CHEMISTRY AS A DISCIPLINE

Human mind has always been very curious to make investigations and know about various activities/phenomena occurring around him. This curiosity has led him to collect information through experiments and observations. The curious mind has also been responsible for the research activities of various people all over the world. The knowledge and data base acquired like this is then systematized in a way that the mankind takes maximum benefit out of it. This knowledge base is known as science. Science may, thus, be broadly defined as

systematized knowledge gained by mankind through observations and experimentation. Science has been further classified into different branches due to its enormous expansion and diversified fields. Some examples are: Chemistry, Physics, Biology, Geology, etc. Chemistry is one of the most important discipline of science to which this present book is devoted.

CHEMISTRY AS A SUBJECT AND AS A CENTRAL SCIENCE

Chemistry may be defined as the branch of science which deals with the study of matter, its composition, its properties and the changes which it undergoes in composition as well as in energy during various processes.

The word chemistry has been derived from the word alchemy, which means ‘study of met also Alchemy itself might have come from al chemical marked effect on our present day life. Chemistry has helped us to meet all our requirement for better living. The continuous

research in the field of chemistry has resulted in the production of useful materials such as, clothes, drugs, artificial foods, plastics, rubbers, fertilizers, insecticides, weed killers, life

supporting products, etc., which have revolutionised our life.

Our life would have been very dull and dreary without the knowledge of chemistry. In fact, we can say, chemistry is everywhere in the world around us; it is, in what we eat; in what we breathe; in how we live and even in what we are.

CHEMISTRY-A CENTRAL SCIENCE

Modem chemistry is an abstract subject whose study presents a great intellectual challenges and rewards. It is a practical field at the hub of man’s future.

Modern chemistry is CENTRAL DISCIPLINE, which correlates almost all branches of science. It is used to study biological, physical, medical as well as environmental phenomena. For example, a chemist works with:

• biologist to understand life processes and metabolic activities,

• physicist to understand properties of matter and to develope new sources of energy,

• geologist to probe outer and inner space,

• physician to design new drugs and medicines,

• ecologist to make improvement in environment,

• engineers and technical manager to provide material and energy for better life.

Chemistry, thus responds to all social needs. It plays critical role in any attempt to: discover new processes; tap new energy sources; develop new materials feed the people properly; improve health and conquer disease, monitor and protect our environment.

BRANCHES OF CHEMISTRY

Chemistry can be broadly divided into Pure Chemistry and Applied Chemistry.

A. PURE CHEMISTRY

Pure chemistry deals with the attempt to get better understanding of nature.

Pure chemistry is further divided into three main branches. Organic chemistry, Inorganic Chemistry and Physical chemistry. These main…