SCIENCE - II

MARKS : 100
TIME : 3 hrs.

Q1 A. Answer in detail any two of the following. (6)

1. Describe the Construction and working of Simple internal Combustion heat engine.
2. Explain the electro magnetic Classification of Spectrum of electro maghetic waves.
3. Name various methods of preservation of food and discuss any two of them.

B. Answer the following any five to the point (10)

1. How is Use of Solar energy Superior to that of other energies.
2. Mention the Chareeteristics of Rocket fuel.
3. State the limitations of Steam engine.
4. State the Reasons for energy Crisis.
5. Explain the importance of Wind energy.
6. Green leafy Vegetables are essential in our daily diet. Explain.

C. Answer each of the following in one Sentence. (4)

1. What is the materialistic form of Solar energy?
2. What is the Calorific value of butane as fuel.
3. Which physical quantity is measured by unit of 1 kilowatt - hour ?
4. How much is the deposit of Coal in the earth.

Q2 A. Answer in detail any two of the following (6)

1. Explain the points for planning for more crop production and explain any two of them.
2. State the causes of Goitre, its Symptoms and treatment.
3. Give the information for the role of different organisms in Spreading diseases.

B. Answer the following any five to the point. (10)

1. What is a balanced diet. State its necessity?
2. What pre-harvest measures Should be taken to improve the production of crops.
3. Why is the modern agriculture known as agriculture industry.
4. What is the adverse effect on health by taking excess of Vitamin A.
5. Describe the ill effects of tobacco.
6. State hazardous effects of radiation on human health.
7. State the names of any four hybrid varieties of Cows.

C. Answer each of the following in one sentence. (4)

1. Which mineral is important for Clotting of blood coming out of a wound?
2. How many percent food gets Spoiled because of enzymic reactions.
3. What is the hybrid variety of the paddy Crop.
4. Which Organism Spreads Guinea worm in human beings.

Q3 A. Answer in detail any two of the following. (6)

1. Explain Carbon cycle in nature with diagram.
2. What are natural biotic and abiotic wealth- bio resources? Give the measures for its Conservation.
3. Give the preparation of ethanol, its two properties and two uses.

B. Answer the following any five to the point. (10)

1. In ecosystem the energy flow is in one direction only. Explain.
2. What is bio geo chemical cycle?
3. Give two points of difference: True solution and Colloidal Solution.
4. What should be done to protect natural Wealth?
5. State the characteristics of potable water.
6. State the uses of calcium Hypo chloride.

C. Answer each of the following in one sentence. (4)

1. Of which metal is the demolite ore?
2. Write the molecular formula of Sodium Silicate.
3. What is Catenation.
4. What type of polymer is nylon?

Q4 A. Answer in detail any two of the following. (6)

1. Describe preparation of methane gas in lab.
2. Explain, with diagram, Froth floatation process.
3. Give the physical and Chemical properties of Silicon.

B. 1. Write a Short note on Nylon. (10)
2. Define isomerism. State the isomers of butane with formulae.
3. Describe the allotropes of phosphorous.
4. Explain what happens when iron reacts with Conc. H_2SO_4.
5. Explain the atomic arrangement of Sulphur molecule.
6. Explain polymerisation with illustration.

Q4. C. Answer each of the following in one Sentence. (4)

1. Name the metal obtained from Siderite
2. Which Compound of Sulphur is a Specific Solvent.
3. Melting points of which alkanes are high?
4. Name two natural fibres containing Cellulose.

Q5 A. Answer in detail any two of the following. (6)

1. Explain how a Star is formed from a protostar.
2. Explain the liquification method for purification of metal with figure.
3. What is Super nova? Explain in detail the Supernova explosions.

B. Answer the following any five to the point. (10)

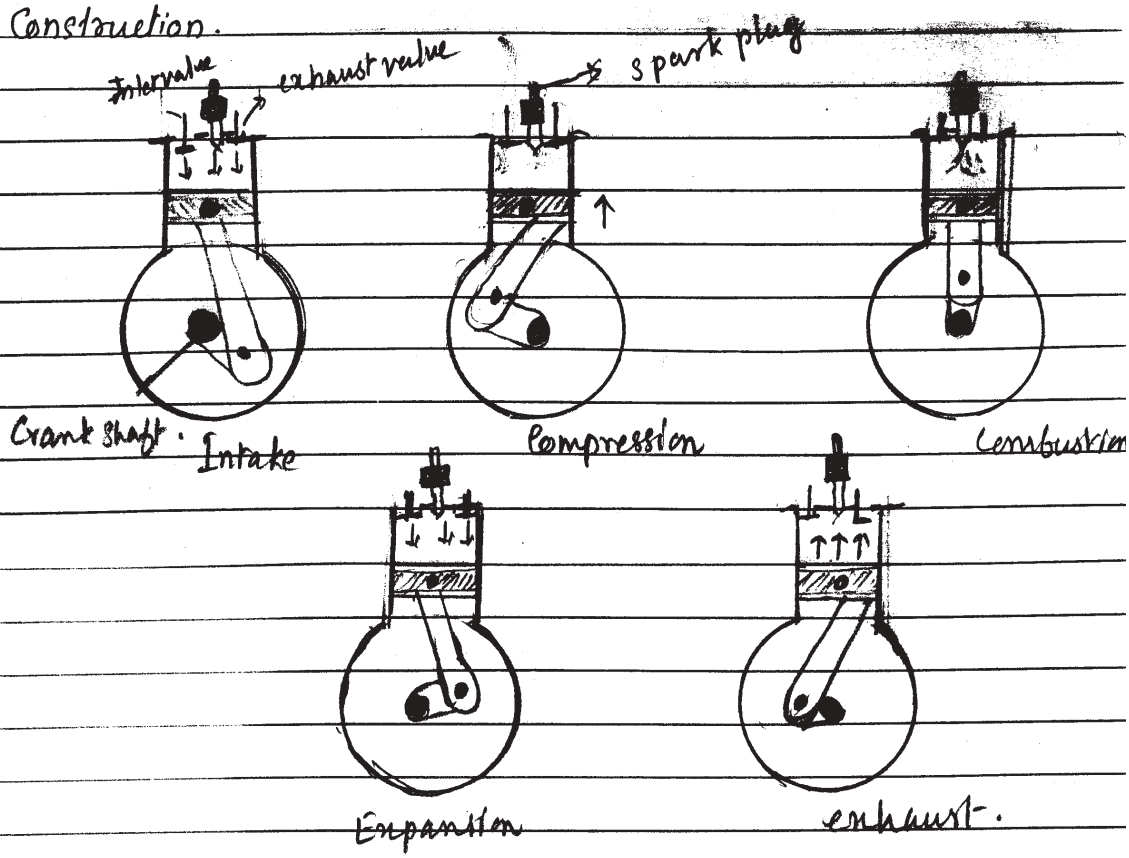
1. What is thermosetting plastics? ~~with~~ Give two examples.
2. Write a short note on moon.
3. What is contribution of INSAT-II Satellite of India.
4. ~~With Solid fuel~~
4. The rocket with solid fuel cannot be used for exploration. Give reason.
5. What is a black hole? Explain how it is formed.
6. What are meteors and meteorites.

C) Answer each of the following in one sentence. (4)

1. What is pulsar.
2. ~~A neutron star~~ What is the age of oldest Rock on the moon?
3. What type of fuel is used in a booster rocket?
4. One light year equals to how many metres.

Ans A. Answer in detail

1. Construction.



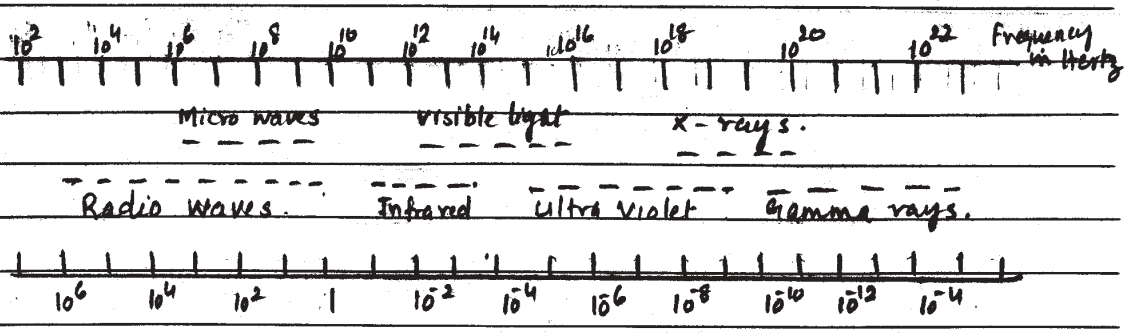
Construction (1) As shown in the figure, there is a movable piston in the cylinder. (2) The piston is linked with a Crank shaft which in turn is connected with a wheel. (3) There are two valves and a spark plug at one end of the cylinder.

Working: The working cycle of this engine is divided into five stages.

1. The mixture of air and fuel in proper proportions enters the cylinder.
2. This mixture is compressed by the piston.
3. The mixture is ignited by a device is known as a spark plug.
4. As a result of burning of the mixture, gases produced at high pressure and temperature propel the piston downwards.
5. In the final stage, the piston moves up, the gases are compressed, exhaust valve opens and the gases are forced out of the cylinder.

Due to the above processes the wheel linked with the piston by a crankshaft rotates and mechanical work is obtained.
By repeating the experiment (all five stages) continueing work can be obtained from the engine.

Ans. 2)



Electro magnetic Spectrum

Explanation :- 1) The Sun is the main source of energy among all the sources surrounding the human being.

2. The energy liberated from the Sun reaches the earth in the form of radiations. This radiations are mainly electro magnetic waves.

3. These electro magnetic waves are of different wavelengths. This wavelength is measured in Angstrom(A°) units. $1A^\circ = 10^{-10}$ metre.

4. Electro magnetic wavelengths are classified according to their wavelengths. This is known as Spectrum.

The wavelengths of wave between 4000 A° and 8000°A constitute what is known as visible light. The waves lying between 100 A° and 4000°A are known as ultra violet waves. This waves are harmful to living organisms. Most of these waves are absorbed in the ozone (O_3) layer at the top of the earth's atmosphere. The waves lying between 8000°A and 20000°A are known as infrared rays and they provide us with heat.

Ans 3. Methods of preserving food :

1. Disinfection, 2) Cooling and refrigeration 3) Drying,
4. Use of Sugar and Salt. 5) Use of chemicals.
6. Irradiation of food.

1. Disinfection : This method is used to preserve fruits and for packing jams, pickles, tomato Souce etc. The Containers are disinfected at the time of packing. The place of work is kept very clean. Clean Cloths is used for wiping jars, tins etc. Eatables are filled in bottles, jars and tins are sealed. So it does not get spoiled.

2. Cooling and refrigeration :- The growth of disease causing germs decreases and the action of enzymes retards at low temperature.

3. Drying :- Removal of water from food without spoiling its taste or reducing its nutritive value is known as drying or dehydration.

4. Use of Salt and Sugar :- Amla, mangoes and lemon are kept immersed in Salt water. Mango jam is preserved by thick Syrup of Sugar. As the Concentration of Salt Solution or Sugar Syrup is more fungus or bacteria can not use the eatable.

5. Use of other chemicals :- If Substances are kept in an acidic medium, germs do not survive in it. Benzoic acid and pottassium meta bisulphate are used for this

6. Irradiation :- Gamma rays are used for Storage of potatoes and onions. By this method they can be preserved for a long time.

Q.2. B. Answer the following

Ans 1. There is a danger of exhaustion of the Conventional Source of energy like petroleum, natural gas etc. More over Co_2 produced by their Combustion pollutes the atmosphere. This pollution has many adverse effects on the life.

Solar energy is inexhaustible and available in large quantity. It does not create any pollution. Solar energy can be converted into heat and electrical energy. Thus it is superior to other form of energy.

Ans 2. Rocket fuel :- Very high quality fuel is necessary for rockets. Its characteristics are as follows.
1. The fuel must be completely converted into gaseous form
2. The rate of combustion must be very great.
3. No residue must remain at the end of combustion

Ans 3. Limitations of steam engine.
Large size of boilers are used in steam engine so it is not used for running small engines or machines. Defective construction of boilers can cause accidents. Heat is wasted on a large scale and so mechanical energy is obtained on a very small ~~fig~~ scale

Ans 4. The following are the reasons for energy crisis.

Electrical energy is being used continuosly in cities as well as in villages for lighting bulbs and tubelights. There is a constant use of electricity in commercial centres hotels, shops etc for lighting the bulbs and running fans and Air Conditioners. Petrol, diesal and other fuels are used continuously in transportation. In rural areas, mainly wood and dung are used as fuel. Because of the large demand for fuel, more number of trees are cut than they are planted and this is how forests are destroyed. Thus, wood as fuel, is a non renewable source of energy. ~~It~~ Moreover, Conventional sources of energy like coal, mineral oil, natural gas are limited. The continuous increase in population is also the cause of the energy crisis.

Ans 5. Boats and Ships use Sails to utilize kinetic energy of the wind. Transportation on Sea water is made possible by boats and Ships. kinetic energy of the wind is used to rotate the blades of the windmill and this in turn, can run the water pump sets and the flour mills Electricity is generated with the help of wind mills.

Ans 6. Minerals and vitamines are essential in our daily diet. Minerals Such as Calcium, iron, phosphorus, magnesium, Sulphur and Sodium and vitamins A, B Complex and E are available from green leafy vegetables. It also contain carbohydrates as well as proteins. Thus green leafy vegetables not only provides us nutrients but also fibres and Cellulose, which help in proper digestion of food and in the process of egestion of faeces.

C. Answer the following in one Sentence.

1. Materialistic form of Solar energy is Biomass
2. Calorific value of butane as fuel is 50 kJ/gm.
3. Energy is measured by unit of 1 KWH.
4. The deposit of Coal in the earth is 112 billion ton.

Q2. A.

Ans 1. Fertilizers and natural resources are less available in india. So it is inevitable to develop new varieties of crops and vegetables giving more yield.

New varieties of crops:- There are some varieties of crops which do not grow in India but grow in other countries. We should adopt some techniques to grow some of these necessary for us and suitable to the climate of India.

Vernalisation:- In this method the seeds are soaked in water and kept in refrigerator before germination or chemical processes are done on the seeds. Such seeds germinate quickly.

Hybrid varieties of crops:- It is not possible that some particular vegetables possesses all desirable qualities. But by performing hybridisation between two or more types of vegetables, seeds can be produced of new quality and from them better quality of vegetable can be developed.

Improvement in harvestation: New techniques should be adopted for harvestation after the crop is ready. Scientific approach should be cultivated in agriculture. If grains are washed using machines, man power should be adopted. ~~Various~~ Harvestation must be done taking the proper time into account.

Ans 2. Conditions responsible for Goitre are 1) Goitre is caused due to deficiency of Iodine - 2) The deficiency of Iodine affects the thyroid gland in the throat. Thyroid gland secrets the hormone called thyroxin becomes less due to the deficiency of iodine. In some regions of Himalayan terrain the amount of Iodine is less in land and water.

Symptoms of Goitre:

1. The thyroid gland in the throat swells.
2. A large and ugly tumor develops on the neck. So the physical and mental growth of a person is inhibited.

Measures to prevent Goitre

1- Iodised salt should be taken in food.
2. Fish and other Iodine rich Sea food should be taken.

Ans.3. The deseases of digestive track are spread by round worm, tape worm and hook worm. 2) Malaria is caused by a protozoan called plasmodium and is spread by the bite of anopheles mosquito. 3) The filarial worms of elephantatis enter the body through the bite of Culex mosquito and cause elephantatis 4) The antropod cyclops is seen in the stagnant waters of wells, ponds and step wells. It enters the human body through water. Guinea worm and the mentioned worms are transmitted into human body by cyclops 5) Tetanus is caused by tetanic virus residing in the drug of cattle or horse 6) plague is spread by flea and rats. 7) Rabbis is caused by the bite of rabid dog.

Ans2B. Answer the following to the point.

1) The diet from which we get all the constituents of food in proportion and proper amount of calories for our daily requirement is known as balanced diet.

Need for balanced diet:

1) The organisms get energy. 2) The health of the body is maintained 3) Balanced diet develops the immunity of the body. 4) Growth and development of the body takes place properly. It is necessary to meet with the wear and tear of the body and to

Construct new cells. It maintains the activity and efficiency of the body.

Ans 2. Selection of proper crop. Procuring seeds of high quality. Proper processing of seeds before Sowing Maintaining the fertility of soil through proper cultivation. Deciding proper time of Sowing. Adopting proper method of Sowing. Sufficient irrigation at proper time. Control of weeds and pests

Ans. 3 Many Changes have come in the Contemporary agricultural practices. Modern agriculture does not depend upon man power or animal power. Factories have developed to manufacture various appliances in the field of agriculture. Industries have developed for production of pesticides, insecticides and chemical fertilisers. Factories for production of Spray pumps for medicines, water pumps, trashers, tractors etc have started. Electric power stations are developed to Supply necessary energy to factories.

Ans. 4. Excess of Vitamin A results in rough and leathery Skin, increased porosity of bones and makes them brittle.

Ans. 5. Tobacco contains a stimulating alkaloid - nicotine which is poisonous Nicotine stimulates the nerves and the blood pressure increases for a short time. The heart experiences pressure. Addiction to tobacco in the long run causes weakening of nerve fibres, Constipation, indigestion etc and it also may cause cancer of mouth or lungs.

Ans. 6. The names of hybrid varieties of Cows are 1. Santa Gertrudis, 2) Jersey 3) Friesian Sahiwal and 4- Brown Swiss.

B2.c.1. Calcium is important for clotting of blood coming out of a wound.

2. 10% of food gets spoiled because of enzymic reactions.

3. Taichung is a hybrid variety of paddy crop.

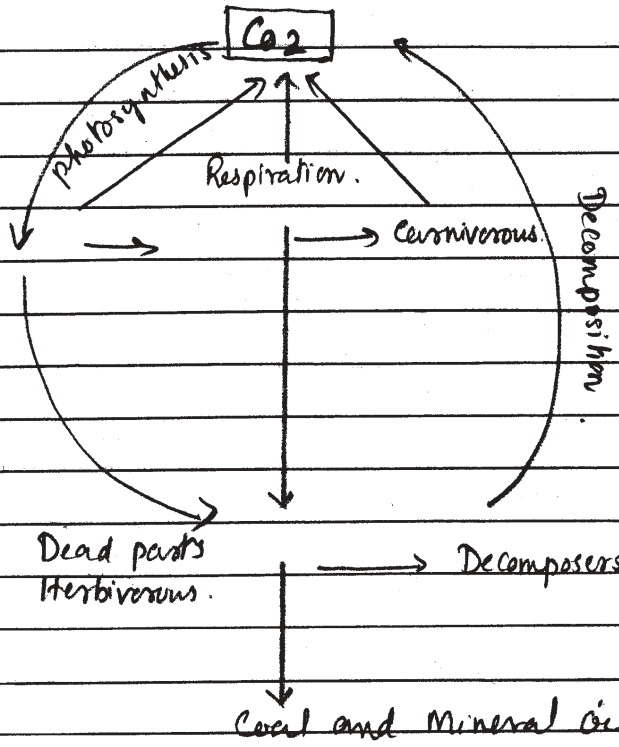
4. Cyclops spreads guinea worm in human beings.

A)

Ans 3 A 1. The cyclic path followed by Carbon from the atmosphere to green plants, from green plants to animals and from both these, back to the atmosphere is called Carbon cycle.

Normally there is about 0.03% carbondioxide in the atmosphere, whereas compared to the atmosphere on the earth, the sea water contains about 50% more Co_2.

Carbondioxide is added into the atmosphere as a result of respiration in plants and animals, industrial activities created by man and by the combustion of petroleum fuel in the ~~at~~ autovehicles. This Co_2 causes atmospheric pollution.



However during day time, the green plants take up Co_2 from the atmosphere for the process of photosynthesis & release O_2. This process purifies the atmosphere.

Considerable amount of Co_2 is absorbed by the Ocean.

Ans.2. Biotic resources are Forests, Wildlife birds, micro organisms etc.
Abiotic resources are Minerals, air, water, mineral oil etc.

Measures for conservation of biotic resources are
1. Indiscriminate destruction of forest must be stopped.
2. Social forestation program should be implemented and Serious attemps should be made to make programmes like 'Vana Mahotsava' and 'Tree plantation' Successful to - Metals like Fe, Al or plastic should be used for household furniture, doors etc. Sanctuaries must be developed. The Silviculture method for rapid growth and development of trees adopted by department of forestry should be firmly implemented.

Measures for conservation of abiotic wealth.
i) Mineral oil, gas and coal should be used economically and with discretion. Instead of burning the natural gas obtained from oil wells should be re-introduced in the earth and should be Conserved Arrangement should be made to bury the waste from industries instead of dumping it in the rivers.

Ans. 3. It is prepared on a large scale by fermentation of Sugar or starch by enzyme present in yeast. It is also prepared by the addition reaction of ethene and water in presence of phosphoric acid
$C_2H_4 + H_2O \longrightarrow C_2H_5OH$.
properties -
1. It burns in air with blue flame producing CO_2
$C_2H_5OH + 3O_2 \longrightarrow 2CO_2 + 3H_2O$.
2. On reaction with O_2 or potassium dichromate it produces ethanoic acid
$C_2H_5OH + O_2 \longrightarrow CH_3COOH + H_2O$,

Uses.
It is used as a fuel.
Useful as a solvent.
It is used in alcoholic drinks like beer, wine, whiskey etc.
To clean wounds and to sterilise injection syringe

Q.9.

Ans B. 1. In an ecosystem two important processes, viz flow of energy and cycle of matter are linked with each other. The energy flow occurs in one direction only, while the flow of minerals occurs through cyclic pathways. Sun is the main source of energy. The solar energy enters the ecosystem through green plants. Among the living organisms only green plants contain Chlorophyll. With this the green plants transform the light energy into Chemical potential energy. The energy is stored as organic food substances, which in turn, is first obtained by herbivorous animals. From latter the energy reaches the carnivorous predators of first, second, and third orders respectively. Thus the flow of energy flows up to the tertiary predators.

2. The cyclic flow of elements like carbon, nitrogen, oxygen etc. between an ecosystem and its physical environment is called biogeochemical cycle. The main elements, enter in the producers and through them in the ecosystem.

3. True Solution	Colloidal Solution.
1. In true solution the diameter of solute particles is up to 10^{-8} cm.	1. In colloidal solution, the diameter of solute particles is from 10^{-7} to 10^{-5} cm.
2. In true solution, the solute is in the form of molecules	In colloidal solutions, the solute particles are dispersed in any

4. Controls must be exercised on the use of natural resources. Intensive and sincere efforts should be undertaken for renewation of renewable resources. Efforts must be made to increase natural resources. The area of forests and the number of trees must be increased through Van Mahotsava and tree planting programmes. Forest area should be reserved for conservation of wild life. Legal controls over the misuse of natural resources.

5. Characteristics of Potable water are 1) It should be hygienically harmless. 2) It should be odourless, colourless and free from organic substances and microorganisms 3 It should be soft and should not contain more than 500ppm of total soluble substances. 4 It should contain a proper amount of iodine - It should not contain more than 0.6 to 0.8 ppm of fluoride.

6. Calcium Hypochloride is a strong bleaching agent. So used for bleaching in laundries It is used as a germicide. Chloroform can be prepared from it. In textile mills and in paper mills

Ans. C 1. Calcium metal is the clemolite ore.

2. The molecular formula of Sodium Silicate is Na_2SiO_3

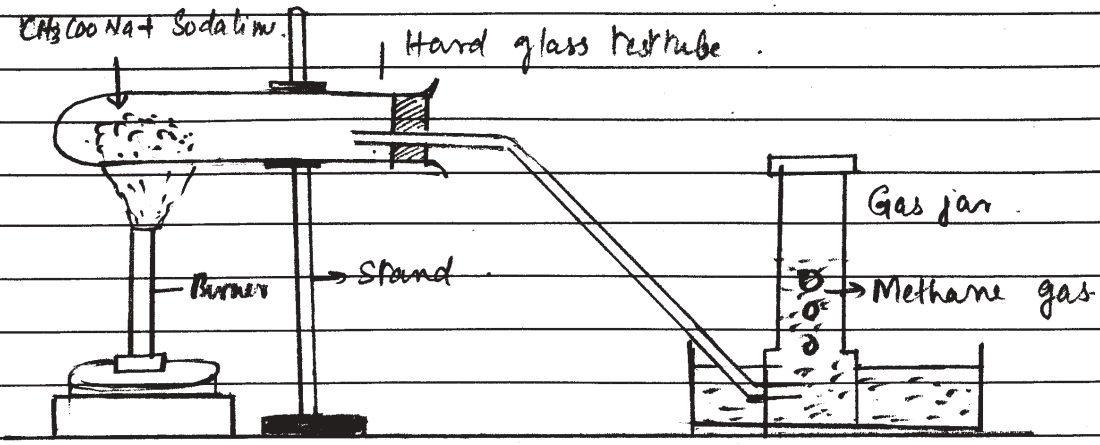
3. The atoms of Carbon can combine with each other and form chains. This property is called catenation.

4. Nylon is polymide type polymer.

Q4A.

Q4A 1. Aim :- To prepare methane gas in laboratory

Apparatus :- Hard glass test tube, burner, stand, delivery tube, beehive shelf, gas jars, Cork with one hole
Materials :- Sodium acetate, Soda lime, water.



procedure :- Take a mixture of 2 gms of Sodium acetate and 2 gm of Soda lime. Arrange the tube as shown in figure. Close the test tube with Cork with one hole. Pass one end of the delivery tube through the hole in the cork to inside the test tube. place the second end in the beehive shelf kept in water through filled with water. Put an inverted gas jar filled with water over the beehive shelf. Heat the mixture. Chemical reaction takes place between Sodium acetate and Soda lime methane gas is liberated.

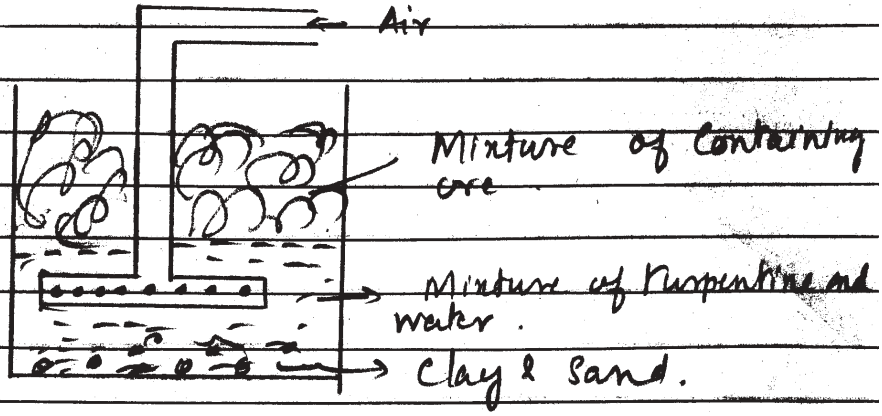
$$CH_3COONa + NaOH \longrightarrow CH_4 + Na_2CO_3$$

Methane produced is collected by downward displacement of water.

properties of methane :- It is insoluble in water
It is colourless and odourless, It is lighter than air
It burns with blue flame.

2. Froath floatation process.

principle: Particles of Clay and sand get wet by water but not by turpentine. The particles of Sulphide get wet by turpentine but not by H_2O.



Construction:- A mixture of turpentine or Eucalyptus oil is taken in a big vessel. Fine powder of the ore is mixed with this liquid mixture.

Working:- The Sulphide particles get wet and stick to turpentine while the particles of clay and sand do not get wet by turpentine but get wet by water and settle at the bottom. Air is passed through a pipe. So froath is produced. The Sulphide ores are caught up in the froath and rise to the surface of the mixture. Froath containing Sulphide is taken to another vessel and washed with water. Copper pyrites are Concentrated by this method.

3. Physical properties of Silicon are 1) It is lustrous semimetallic element. 2) It is a Semiconductor of electricity 3) It has a high melting point 4) It is very hard.

Chemical properties of Silicon are i) when it is strongly heated in air, it combines with O_2 and gives Solid white Silica. ii) when water vapour is passed over red hot Silicon, hydrogen gas and Silicondioxide are produced.

4. Silicon reacts with HCl and liberates hydrogen gas.
5. When Silicon reacts with hot solution of NaOH, Sodium Silicate and hydrogen gas are produced.

Ans 4-B) The fibres of nylon are man-made fibres. They were the first artificial fibres. For production of nylon, polymerisation takes place between two type of organic compounds, one having two amino groups ($-NH_2$) and the other having Carboxylic groups ($-COOH$)

$$n\,H_2N-\square-NH_2 + n\,HOOC-\square-COOH \rightarrow$$
$$H_2N-(-\square-NHCO-\square-)_n-COOH + n\,H_2O.$$

Ans 2) The phenomenon in which organic compounds have the same molecular formulae but different structural formulae is known as 'isomerism'. Butane has two isomers. Molecular formula of butane is C_4H_{10}.
1) normal butane.
2. Iso-butane

Ans 3. The allotropes of phosphorous are 1) Yellow phosphorous, 2) Red phosphorous, 3) Black phosphorous.

Amongst these forms, Yellow form is the most reactive, while black is the least reactive. A molecule of Yellow phosphorous has four atoms. The Crystal structure is tetrahedral. It is kept under water. The Configuration of red phosphorus is complicated and it has not yet been clear. The Configuration of black phosphorus is like a net-formed of different hexagons. It has metal like lustre and to some extent it conducts electricity.

Ans 4. Iron reacts with hot and conc. H_2SO_4 forming a mixture of ferrous Sulphate and SO_2 gas set free.

$$Fe + 2H_2SO_4 \xrightarrow{heat} FeSO_4 + 2H_2O + SO_2$$

Ans 5 The molecule of Sulphur in its stable state has eight atoms of Sulphur. In this molecule, each atom of Sulphur is joined to other two atoms by co-valent bond. The angle formed between two atoms by Covalent bond is 108°. Due to this a wavy shape of molecule results. This arrangement is known as S_8.

Ans 6. Many molecules of an unsaturated compound unite to form a long chain compound in polimerisation. Ethene forms a polymer known as polythene. The double bond of Carbon-carbon unsaturated compound breaks and a single bond Carbon — Carbon Saturated Compound is formed.

B. C. 1. Iron is obtained from Siderite.
2. Carbon di Sulphide of Sulphur is a Specific Solvent
3. Melting point of decosane, $C_{22}H_{46}$ is very high melting point.
4. Cotton and jute are two natural fibres containing cellulose.

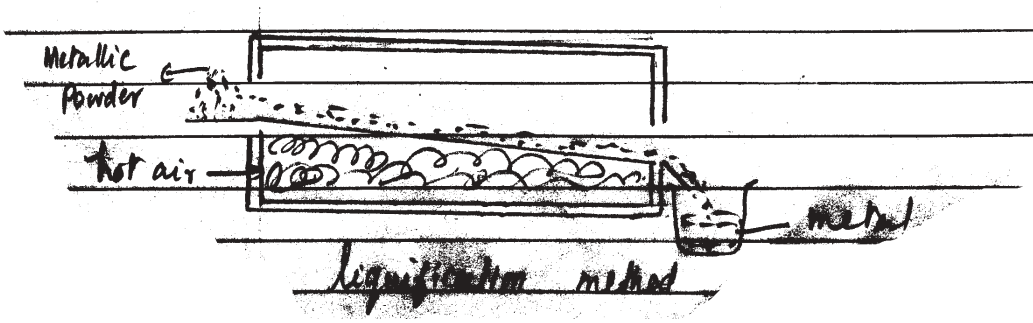
Ans 5 A.-

Ans 1. If the cloud of hydrogen gas in a galaxy is dense and large, the gravitation force of attraction between molecules is very strong and the cloud starts contracting. On adequate contraction the cloud contracts into a dense gas material known as protostar. At this stage, the protostar does not glow as sufficient energy is not emitted. The contraction of a protostar can continue for a million years.
Star from a protostar.

The contraction of a protostar can continue for about 1 million years. During this the inner temperature increases from $-173^{\circ}C$ to $10^{7}C$. At this temperature thermonuclear fusion starts. Four H_2 nuclei combine and form a 'He' nucleus. The mass of He atom is slightly less than that of four hydrogen atoms. The mass which disappears is converted into energy according to Einstein's formula $E = \Delta m c^2$
The protostar continues to contract till the gravitational pressure and the radiational pressure balance eachother. The tremendous amount of energy released during this process is in the form of visible light.
So the protostar starts glowing.

Ans 2. Construction and working.

1. Ordinarily the metals whose melting points are very low or which melt easily are purified by this method.



In this method there is a furnace with a Slope. This Slop is pre heated. Then the fine powder of metal is allowed to fall on the Slope. Due to the heat of the Slope the metal liquifies but the impurities mix do not. The metal is collected in the vessel below. Metals like tin & lead can be purified by this method.

Ans 3. If the mass of the Star is 10 times more than the mass of our Sun, the helium formed during the red grant phase continues to Contract. This increases the temperature to a higher limit. As this contraction continues, the energy liberated causes the othe envelope to explode with a brilliant flash. During this the energy liberated is equal to radiation by the Sun in about 100 years per minute. It would light up the Sky for many days. It is known as Supernova. In the history of astronomy, five Supernava explosions are recorded for ~~ever~~ So far.

Ans 1. The polymer which once Settled, does not become Soft when heated and does not change its Shape is known as thermo Setting plastic; Bakelite and melamine are two examples of it.

Ans 2. Moon is a Satellite of earth. The age of moon is almost Same as that of the earth. The temperature on the Surface of the moon during day time is 100°c and night is −115°c. The gravitation of the moon is too feeble and hence there is no atmosphere. Life is not possible in moon. The intensity of magnetic field on the moon is also very small.

Ans 3. There is 'talk back' channel in INSAT II. Using it Conversation can be made both ways. These two are the Contribution of INSAT II Satellite of India

Ans 4. For Space exploration, rocket engines are required to be kept on and off according to the need. In the rocket with Solid fuel Combustion once started can not be stopped and restarted at our will.

Ans 5. The gravitational Contraction of very massive neutron Star goes on Continuously. It experiences an infinite Contraction and result into a point like object. Its gravitational force being very high even radiation cannot escape from that point mass. So it Therefore it appears black. Such point like object is called black hole.

Ans 6. Meteors :- There are particles and chunks of materials wandering through the Solar System. They are called meteors. They are heavenly bodies.
Meteorites :- When meteors enter the atmosphere of the earth, a large amount of heat is produced due to the friction with the atmosphere. As a results they starts burning. Most of them burn out in the atmosphere. But some meteors do not burn Completely. The left over parts of them fall on earth. These are called meteorites.

C. 1. The neutron star rotating very fast about its own axis emits radio waves. They are called pulsar.

2. The oldest age of rock on moon is 3.7×10^9 years.

3. The booster rocket uses Solid fuel.

4. One light year equals 9.46×10^{15} metres