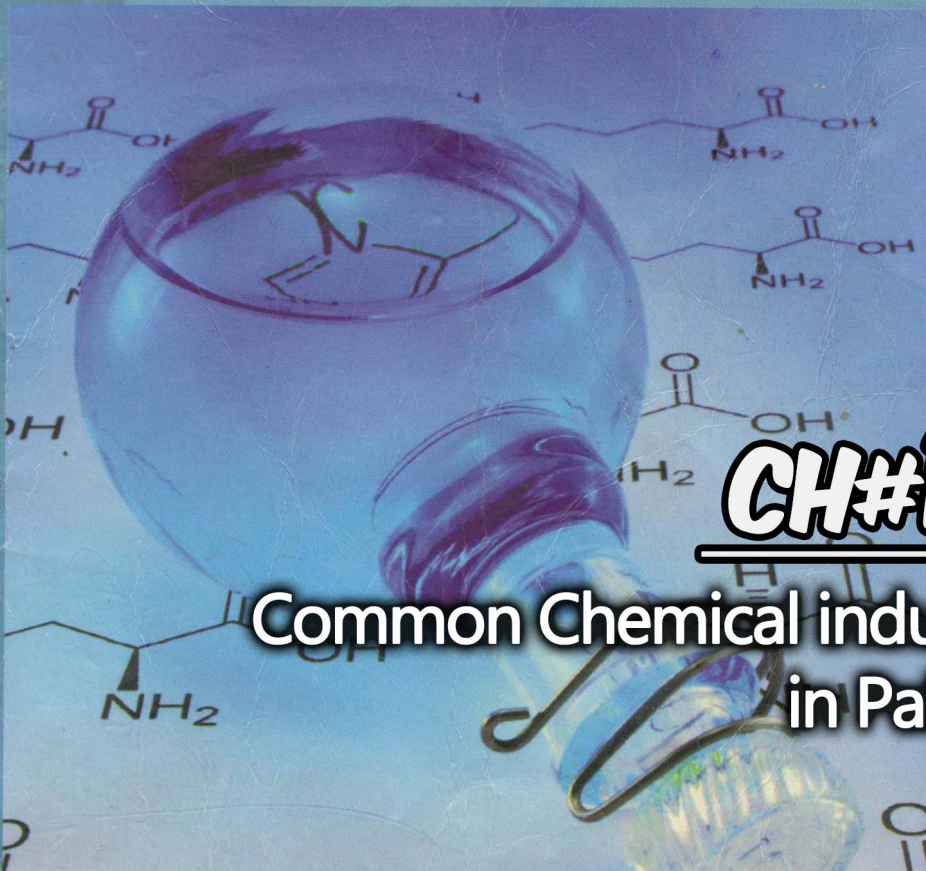


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# CHEMISTRY

12



## CH#15

### Common Chemical industries in Pakistan



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## CHAPTER 15

### COMMON CHEMICAL INDUSTRIES IN PAKISTAN

**Introduction:-** Industrial progress is very important for every country. In 1947 our country was at the bottom in industrial field. Now-a-days a large number of industrial units are working in our country. It is fact that economic progress and development of a country is measured by its chemical industry. In this chapter we will discuss fertilizer, cement and paper industries.

#### Fertilizers

**Early History :-** Agriculture (زراعت) is the oldest industry known to man. The Chinese have been using manure (گوبر کی کھاد) in their fields. A manure is an organic material used as a fertilizer. It consists of faeces (فیس - کچر) and urine of domestic animals.

**Definition :-** The substances which increase the fertility (زرخیزی) of soil and provide essential elements to the plants are called fertilizers.

e.g urea, DAP,  $\text{NH}_4\text{NO}_3$  etc. The essential elements for the proper growth of plants have two

(C) Cellulose and starch:- The cellulose is a simple polysaccharide but starch is a mixture of two types of polysaccharides (10-20% amylose and 80-90% amylopectin)

Q9. What are lipids? In what way fats and oils are different?

Answer:- see page No. 243, 244

Q10. Define saponification number and iodine number. Discuss the term rancidity.

Answer:- see page No. 247, 248

Q11. What is the difference between a glycoside linkage and a peptide linkage?

Answer:- Glycoside linkage is present in disaccharides and polysaccharides. In this linkage molecules of monosaccharides link together through oxygen.

Also see page No. 237

Peptide linkage is present in polypeptides and proteins. In this linkage amino group of one amino acid and carboxylic group of other amino acid condense through  $-NH-CO-$ . It is called peptide linkage or peptide bond.

Also see page No. 241

Q12. What is the chemical nature of enzyme? Discuss the classification of enzymes.

Answer:- see page No. 250, 251

Q13. What are nucleic acids? Write down the role of DNA and RNA in life.

Answer:- DNA carries hereditary informations. They transfer characteristics of parents into next generation. They determine sex of an individual. The RNA carries message from DNA. They involve in synthesis of proteins and ribosomes etc.

6:- It should not be deliquescent (نگیرے)

7:- Its nutrient elements should be readily available to the plant

## Classification of Fertilizers

There are three types of fertilizers

(1) Nitrogenous Fertilizers

(2) Phosphatic Fertilizers

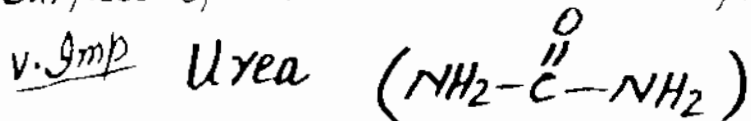
(3) Potassium Fertilizers

### (1) Nitrogenous Fertilizers:-

These fertilizers provide nitrogen to the plants or soil. Nitrogen is required during early stage of plant growth. It develops stem and leaves of plants. It imparts (دینا) green colour to the leaves. Some nitrogen fertilizers are ammonia, urea, ammonium sulphate,  $\text{NH}_4\text{NO}_3$ ,  $\text{NH}_4\text{Cl}$  etc

#### (a) Ammonia As a Fertilizer:-

Ammonia contains 82% nitrogen. It is in liquid state so it is injected 6 inches under the surface of earth to avoid its escaping out.



Urea is the most widely used fertilizer in Pakistan. It contains about 46% nitrogen. It is used in early stage of plant growth

Classes: (i) Micro-nutrients (ii) Macro-nutrients.

### (i) Micro-nutrients (Trace elements)

The elements which are required in a very small amount for the growth of plants are called micro-nutrients. e.g. Boron, Copper, Iron, Zinc etc. These elements are generally required from 6g to 200g per acre (پایے).

(ii) Macro-nutrients:- The elements which are required in a large amount for the growth of plants are called macro-nutrients. e.g. Nitrogen, Potassium, Calcium, Phosphorus, Sulphur etc. These elements are generally required from 5kg to 200kg per acre.

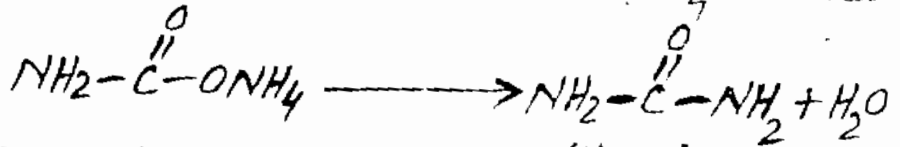
### Requirement of a Fertilizer

Every compound of the nutrient element can not be a fertilizer. The nutrient elements should be present in a water soluble compound. So that the plant can take it up. The requirements or essential qualities of a good fertilizer are given below.

- 1:- A good fertilizer must be very soluble in water.
- 2:- It should not be injurious or نقص to plant.
- 3:- It should be cheap
- 4:- It should not change the pH of soil.
- 5:- It should be stable for a long time

(iv) Preparation of Urea :-

Dehydration of ammonium Carbamate gives Urea.

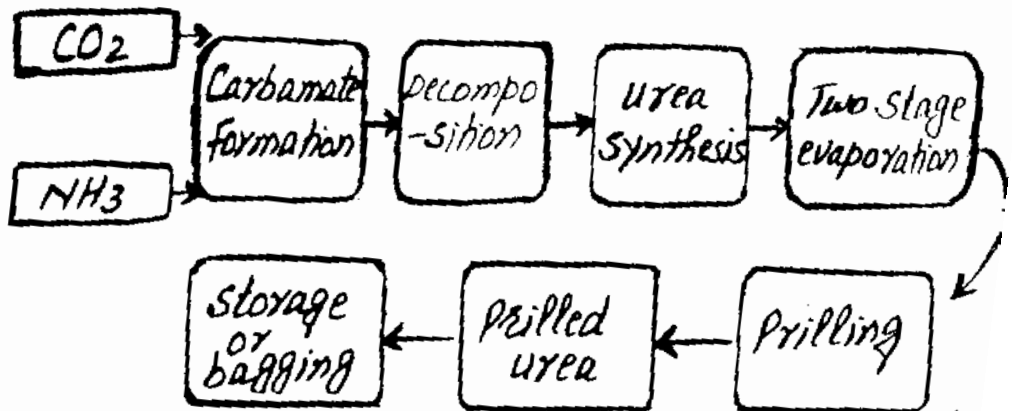


(v) Concentration of Urea Solution:-(Urea)

Urea is obtained in form of solution. It is concentrated by evaporation of water. The evaporation completes in two stages. It gives 99.7% Urea solution

(vi) Prilling :- The Concentrated Urea solution is brought to prilling tower. Here it is sprayed in the form of shower. The droplets solidify to give prills (granules). Then urea is sent to bagging section or to the storage.

The flow sheet diagram for manufacture of Urea is shown below.



## Manufacturing of Urea

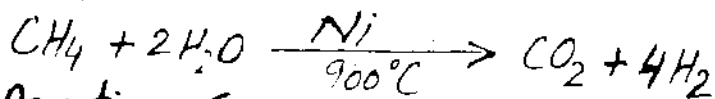
Urea is prepared from  $\text{NH}_3$  and  $\text{CO}_2$ .

The process involves six steps

- (i) Preparation of Carbon dioxide and Hydrogen
- (ii) Preparation of Ammonia
- (iii) Preparation of Ammonium Carbamate
- (iv) Preparation of Urea
- (v) Concentration of Urea
- (vi) Prilling

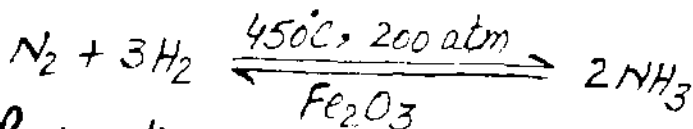
(i) Preparation of  $\text{CO}_2$  and  $\text{H}_2$  :-

Methane passes over steam at  $900^\circ\text{C}$  to give  $\text{CO}_2$  and hydrogen



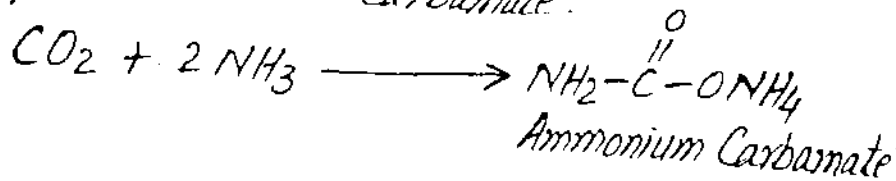
(ii) Preparation of  $\text{NH}_3$  :-

Reaction of  $\text{N}_2$  and  $\text{H}_2$  at  $450^\circ\text{C}$  in presence of catalyst gives  $\text{NH}_3$ .



(iii) Preparation of Ammonium Carbamate :-

Reaction of  $\text{CO}_2$  and  $\text{NH}_3$  in volume ratio of 1:2 gives ammonium carbamate.



The reaction is exothermic. So water vaporizes and crystals of diammonium phosphate are obtained. It contains 16% Nitrogen and 48%  $P_2O_5$ . It can be used alone or as a mixture.

### Potassium Fertilizers

These fertilizers provide Potassium to the plant or soil. These fertilizers are required during the formation of starch, sugar, seeds and fruits. These fertilizers are very useful for tobacco, coffee, potato and corn (جلی).

### Potassium Nitrate ( $KNO_3$ )

Potassium nitrate is prepared by reaction of  $KCl$  and  $NaNO_3$



The  $KNO_3$  is obtained in the form of crystals. Its colour is pale yellow. It contains 13% Nitrogen and 44% Potash.

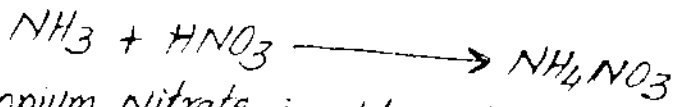
### Fertilizer Industry in Pakistan

Pakistan is an agricultural country. So we need a very good fertilizer industry. Our fertilizer need is high. Our Government is trying to fulfil our fertilizer need. At present 14 fertilizer plants are working which produce 5630100 tons urea per annum.



## Ammonium Nitrate, $\text{NH}_4\text{NO}_3$

Ammonium Nitrate is prepared by reaction of  $\text{NH}_3$  and  $\text{HNO}_3$



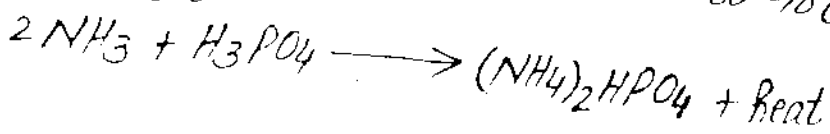
Ammonium Nitrate is obtained in solution form. It is concentrated by evaporation. This concentrated solution of  $\text{NH}_4\text{NO}_3$  is brought to prilling tower. Here it is sprayed down. The falling droplets solidify to give prills. It is  $\text{NH}_4\text{NO}_3$  Fertilizer. It contains 33.5% Nitrogen. It is useful fertilizer for many crops except Paddy rice.

## Phosphatic Fertilizers

These fertilizers provide Phosphorous to the Plants or soil. The Phosphorous is required in early stage of plant growth and also during seed and fruit formation. It also resists the attack of diseases. The two important Phosphatic Fertilizers are Calcium super Phosphate,  $\text{Ca}(\text{H}_2\text{PO}_4)$  and Diammonium Phosphate,  $(\text{NH}_4)_2\text{HPO}_4$ .

### Diammonium Phosphate, $(\text{NH}_4)_2\text{HPO}_4$

Diammonium Phosphate is prepared by reaction of  $\text{NH}_3$  and  $\text{H}_3\text{PO}_4$  (Phosphoric acid) at  $60-70^\circ\text{C}$  and pH 5.8-6.0.



The Choice of Process depends upon following factors

- (i) Physical condition of raw materials
- (ii) Local Climatic Condition
- (iii) The Price of the fuel

Dry Process is used where hard material is available. It is not free from dust. Here fuel price is low. On other hand the wet process is free from dust. Here grinding is easy and greater control of composition. In Pakistan, mostly the wet process is used.

## Wet Process

In this process the grinding is done in presence of water. The wet process involves following steps.

- (i) Crushing and grinding of raw materials
- (ii) Mixing of raw materials to give slurry
- (iii) Heating the slurry
- (iv) Grinding of clinker
- (v) Mixing and grinding of clinker with gypsum

(i) **Crushing and grinding:-** The raw material is crushed and grinded in a rotatory ball mills.

(ii) **Mixing of raw material:-** The powder raw material (75% lime stone, 25% clay) is mixed with water to give a paste like material called slurry.

# Cement

Cement is a very important building material. It was first introduced by an English mason Joseph Aspdin. When he heated mixture of limestone, clay and water, it became hard stone like mass. Its appearance was like Portland rock (Famous building stone of England). Since that time mixture of lime, silica, alumina and Iron oxide is called Portland Cement

**Definition:-** The burning of Calcareous and clayey (argillaceous) materials at very high temperature gives a product called Clinker. The grinding of Clinker with 5% gypsum gives a fine powder. It is called Cement.

An average composition of a good Portland Cement is given in the table.

| Compound                                     | %age |
|--|------|
| Lime (CaO)                                   | 62%  |
| Silica (SiO <sub>2</sub> )                   | 22%  |
| Alumina (Al <sub>2</sub> O <sub>3</sub> )    | 7.5% |
| Magnesia (MgO)                               | 2.5% |
| Iron oxide (Fe <sub>2</sub> O <sub>3</sub> ) | 2.5% |
| Sulphur trioxide (SO <sub>3</sub> )          | 1.5% |
| Sodium oxide (Na <sub>2</sub> O)             | 1.0% |
| Potassium oxide (K <sub>2</sub> O)           | 1.0% |

## Raw Materials:-

Important raw materials of cement are given below.

- (i) Limestone, marble, Chalks, marine shell. They are Calcareous materials and provide CaO.
- (ii) Clay, shale, slate, Blast furnace slag. They are argillaceous materials and provide alumina and silica.
- (iii) Gypsum

## Manufacturing Process of Cement

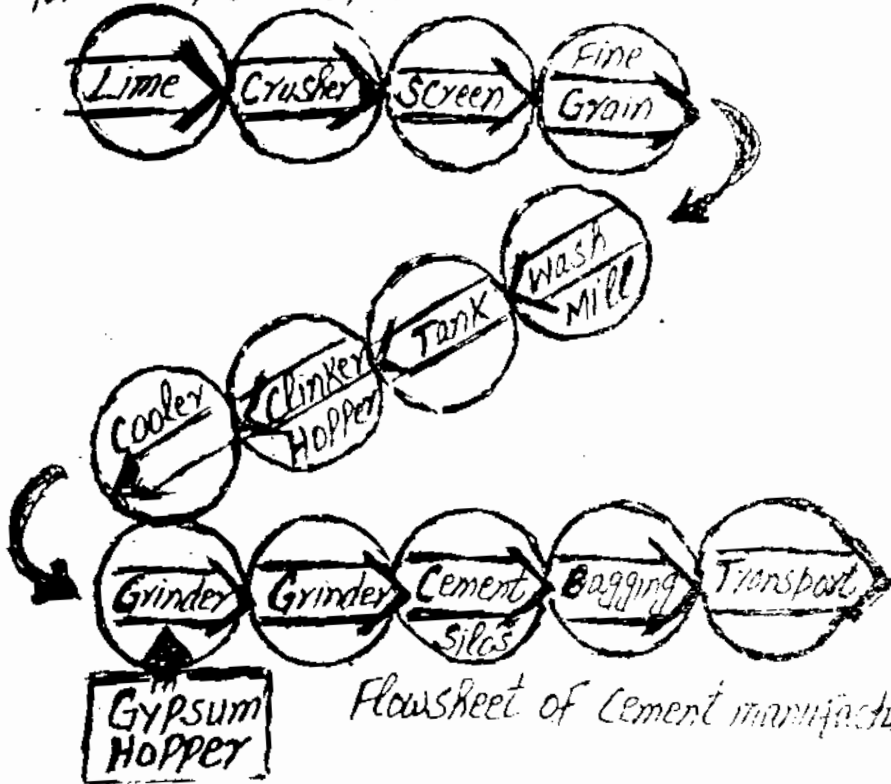
Cement can be manufactured by two methods.

- (1) Dry Process
- (2) Wet Process

(d) **Cooling Zone** :- It is the last zone. Here temperature decreases upto  $150^{\circ}-200^{\circ}\text{C}$ .

(iv) **Clinker Formation** :- The final product obtained from rotary kiln is called Clinker. It is in the form of grey or greenish black balls. Its size is from small nuts to Peas.

(v) **Grinding Clinkers with Gypsum** :- The clinkers are air-cooled and finely ground. Then 5% Gypsum in fine powdered form is mixed with clinkers. Finally cement is pumped to storage silos. At last cement is packed in paper bags. The flow sheet diagram for manufacture of cement is shown below.



Flowsheet of Cement manufacture

The slurry is also called raw meal. It contains 35—45% water. After filtration the water content remains 20—30%.

(iii) Heating the Slurry in Rotary Kiln :-

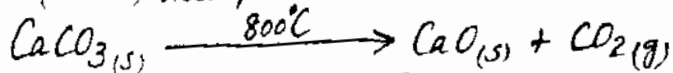
The slurry is fed into rotary kiln. The rotary kiln is a large cylinder 300—500 feet long and 8—15 feet in diameter. It is made of steel and lined inside with firebricks. It is inclined at an angle of 5—10°. It rotates at rate of 1—2 revolutions per minute. The kiln is heated by natural gas. The slurry slowly moves down and hot gases move up in the kiln. The slurry takes 2—3 hours to complete the journey in the kiln. The kiln is divided into four zones of temperature

(a) **Drying Zone or Preheating Zone (Minimum Temperature Zone)**

In this zone temperature is kept at 500°C. Here moisture (H<sub>2</sub>O) is removed and clay is broken into Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub> and Fe<sub>2</sub>O<sub>3</sub>.

(b) **Decomposition Zone (Moderate Temperature Zone)**

In this zone temperature goes upto 800°C. Here limestone (CaCO<sub>3</sub>) decomposes into CaO and CO<sub>2</sub>



(c) **Burning Zone (Maximum Temperature Zone)**

In this zone temperature goes upto 1500°C. Here different oxides (CaO, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and Fe<sub>2</sub>O<sub>3</sub>) combine and form Calcium silicate, Calcium aluminate and Calcium ferrite.

## Paper Industry

**Early History:-** The word Paper is derived from the name of Plant "Papyrus". This plant grew along the delta of River Nile in Egypt 3000 B.C. The modern paper was invented by Ts'ai Lun of China in 105 A.D. He was an official (اندر) in Imperial Court of China. He prepared paper by reaction of bark of mulberry tree (جلبان) with lime, bamboo and other fibres.

**Imp. Definition:-** A sheet material made up of a network of natural cellulosic fibres is called paper.

### Manufacturing Process

**Raw Materials:-** Two types of raw material is used for production of pulp and paper.

| Nonwoody Raw Materials |                     | Woody Raw Materials           |
|------------------------|---------------------|-------------------------------|
| (i) Wheat straw        | (vi) Cotton stalk   | (i) Poplar (hard wood)        |
| (ii) Rice straw        | (vii) Cotton linter | (ii) Eucalyptus (hard wood)   |
| (iii) Bagasse          | (viii) Kahi grass   | (iii) Douglas fir (soft wood) |
| (iv) Bamboo            | (ix) Grasses        |                               |
| (v) Rag                |                     |                               |

**Pulping Methods:-** There are three methods for pulping (کافی کردن کاغذ) (i) Kraft's process (Alkaline) (ii) Sulphite Process (Acidic)

**Setting of Cement:** - When Cement is mixed with water and paste is kept for sometime, then very hard mass is obtained. It is called setting of cement.

(i) Reactions taking place in first 24 hours:-

After mixing the cement in water, its tri-calcium aluminates shows hydration and forms a colloidal gel of formula  $3CaAl_2O_3 \cdot 6H_2O$ .

This gel reacts with gypsum ( $CaSO_4 \cdot 2H_2O$ ) to form crystals of Calcium sulpho aluminate. Its formula is  $3CaAl_2O_3 \cdot 3CaSO_4 \cdot 2H_2O$ ...

(ii) Reactions taking place in 1-7 days:-

The hydrolysis of Tri-calcium silicate ( $3CaO \cdot SiO_2$ ) and tri-calcium aluminate ( $3CaO \cdot Al_2O_3$ )

give  $Ca(OH)_2$  and  $Al(OH)_3$ . These hydroxides get studded (filled) in colloidal gel and fill the interstices (holes). Thus hardening takes place and cement sets to very hard mass.

**Cement Industry in Pakistan:** - In 1947 four cement plants produced 330,000 tons/annum of cement. In 1954 cement production was 660,000 tons/annum. At present 22 cement factories are working. Their production is 95,78,802 tons per annum. However there is need of more activity in this field.

(iii) **Wet Cleaning** :- Wet cleaning of wheat straw is done after its dry cleaning. By wet cleaning, the dust particles and other soluble materials are removed.

(iv) **Screening** :- By screening the over sized unwanted particles are removed. For example iron pieces like nails, bolts are removed by magnetic separator. Stones like particles are removed by Centri-cleaner. For screening purpose, vibratory, gravity and centrifugal screens can be used.

(v) **Digestion** :- Digestion (cooking) of the raw material is main unit of paper manufacturing. The digestion of material is done in a steel digester. It is 10 meters long and 2 meters in diameter. When raw material enters into the digester, the steam and sodium sulphite liquor are introduced in. The pH is maintained at 7-9 by adding NaOH or  $\text{Na}_2\text{CO}_3$ . The digester is closed like a pressure cooker. The digester revolves at 2.5 R.P.M and its temperature is kept at  $160-180^\circ\text{C}$ . The process of digestion completes in 45 minutes after which pressure is released.

(vi) **Blow tank** :- After digestion, the cooked material is blown into blow tank. Then it is



(iii) Neutral Sulphite Semi Chemical Process

It is also called **NSSC** Process. Here we will explain this Process only

**Neutral Sulphite Semi-Chemical Process**

This Process is used in our country. In this Process non-woody materials such as wheat straw (گندم کا پھوس), rice straw, bagasse Cotton linters and eags (پاپیر کے پھوس) etc are used. This Process has two advantages.

(i) It gives maximum Pulp recovery

(ii) It increases Pulp strength.

The **NSSC** Process involves following steps.

(i) Cutting of raw materials

(ii) Dry cleaning (iii) Wet Cleaning

(iv) Screening (v) Digestion

(vi) Blow tank (vii) Pulp Washing

(viii) Bleaching (ix) Machine Chest

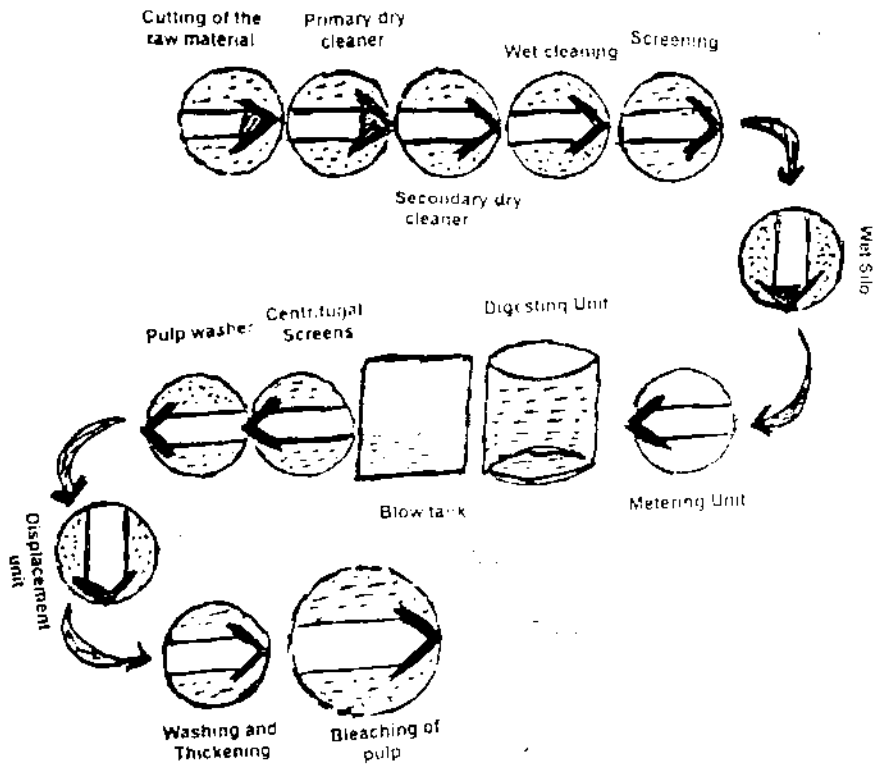
(x) Paper Machine (xi) Drying

(i) Cutting of raw materials :-

There is no need to cut down non-woody raw material. But big logs of woody materials are cut into small chips

(ii) Dry cleaning :- Air is blown into the raw material (wheat straw). In this way unwanted particles remove out.

The flowsheet diagram for Neutral Sulphite Semi-Chemical Process is shown below.



(x) Paper making Machine :-

A basic Fourdrinier type machine is used for paper making. Its main components are explained below.

(i) Flow spreader :- The flow spreader takes the pulp from stock and spreads it across the machine from back to front

(ii) Head box :- Head box is a Pressurizing

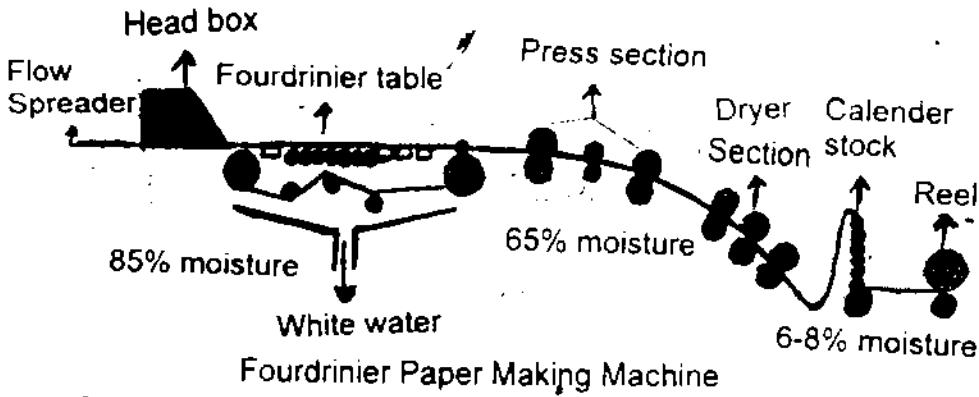
pumped to a centrifugal screen which separates the cooked material from uncooked.

(vii) **Pulp Washing**:- The cooked material is washed with water using 80-mesh sieve. The thorough washing removes black liquor, soluble lignin and coloured compounds. Lignin is an aromatic polymer which makes the paper brittle.

Finally the pulp is thickened and stored in high density storage tower.

(viii) **Bleaching**:- The pulp obtained from chemical process has a brown colour due to residual lignin. In Pakistan bleaching of pulp is done with chlorine dioxide or sodium hypochlorite and hydrogen peroxide. The unbleached pulp is sent to chlorinator. Here chlorine at 4-5 bar pressure is injected. The chlorine reacts with pulp at 45°C for 45-60 minutes. The correct and calculated amount of chlorine gives good brightness to the pulp. After chlorination, the pulp is washed with hot water at 60°C. Finally pulp is dried with air.

(ix) **Stock Preparation Plant**:- The stock preparation of the pulp is done by three stages. First is the preparation of pulp slurry in water. Second is the mechanical beating or refining of pulp fibres. The third stage is addition of chemicals and recycled fibres from the waste paper plant.



## Paper Industry in Pakistan

In 1947, there was no paper industry in Pakistan. At that time our annual consumption (25000 tons) was totally imported (کلیا).

Due to high prices, paper consumption is around 5 kg per head per year in Pakistan.

Now-a-days our Government is taking more interest to develop paper industry.

At present more than 30 industries are working.

Part which discharges a uniform jet of pulp suspension on a fabric. Here suction devices remove water from the pulp.

(iii) **Fourdrinier Table** :- On this table fibres form a continuous matted sheet of paper. Here water is also drained out by suction forces.

(iv) **Press section** :- Here a series of rollers press the sheet of paper to remove additional water. In this way web structure is consolidated.

(v) **Dryer section** :- In this section wet sheet of paper is dried. Here water is removed by gravity by suction or by pressing.

(vi) **Calender stack** :- Here a series of roll nips reduce the thickness of paper sheet and make its surface smooth. It is called calendering of paper sheet. گانڈی! سٹی کرنا

(vii) **Reel formation** :- The dried paper is wound (پینا) in the form of reel. This paper contains about 6-8% moisture (فی).

The Fourdrinier paper making machine is shown in figure. Its important parts are labelled.

- (iii) The nitrogen present in some fertilizers helps plants.  
(a) To fight against diseases (b) To produce fat  
(c) To undergo photosynthesis (d) To produce protein
- (iv) Phosphorus helps the growth of  
(a) Root (b) Leaf (c) Stem (d) Seed
- (v) Micro-nutrients are required in quantity ranging from  
(a) 4g-40g (b) 6g-200g (c) 6Kg-200Kg (d) 4Kg-40Kg
- (vi) During the manufacturing process of cement the temperature of the decomposition zone goes up to.  
(a) 600°C (b) 800°C (c) 1000°C (d) 1200°C
- (vii) The word paper is derived from the name of which reedy plant  
(a) Rose (b) Sunflower (c) Papyrus (d) Water Hyacinth
- (viii) Which is not a calcareous material?  
(a) Lime (b) Clay (c) Marble (d) Marine shell
- (ix) How many zones through which the charge passes in rotary kiln?  
(a) 4 (b) 3 (c) 2 (d) 5
- (x) Ammonium nitrate fertilizer is not used for which crop  
(a) Cotton (b) Wheat (c) Sugar cane (d) Paddy rice

**Answer:-** (i) c (ii) c (iii) d (iv) d (v) b  
(vi) b (vii) c (viii) b (ix) a (x) d

**Q4.** What are phosphatic fertilizers. How are they prepared? Mention the role of phosphorus in the growth plants.

**Answer:-** see page No. 266, 267

- Q5.** (a) What are fertilizers? Why are they needed?  
(b) Discuss the classification of fertilizers and their uses.  
(c) How is urea manufactured in Pakistan? Describe in detail the process used?

**Answer:-** see page No. 261, 263, 264

- Q6.** (a) What are the prospects of fertilizer industry in Pakistan?  
(b) What are essential nutrient elements and why these are needed for plant growth.  
(c) Write down the essential qualities of a good fertilizer?

**Answer:-** see page No. 261, 262

- Q7.** (a) Describe the composition of a good Portland cement.  
(b) Discuss the wet process for the manufacturing of cement with the help of flow sheet diagram.  
(c) What do you understand by the term "Setting of cement". Also discuss the reactions taking place in first 24 hours?

**Answer:-** see page No. 268, 269, 270

**Q8.** What are the essential non-woody raw materials used in the production of pulp and paper in Pakistan?

**Answer:-** see page No. 273

## EXERCISE

### Q1. Fill in the Blanks.

- (i) Fertilizers enhance the natural \_\_\_\_\_ of the soil.
- (ii) Micro-nutrients are required in quantity ranging from \_\_\_\_\_ per acre.
- (iii) Ammonia contains \_\_\_\_\_ % nitrogen.
- (iv) Manure is an \_\_\_\_\_ material used to fertilize land.
- (v) Cement was first introduced by an English mason \_\_\_\_\_.
- (vi) The rotary kiln rotates on its axis at the rate of \_\_\_\_\_ R.P.M.
- (vii) In Pakistan, bleaching of pulp is carried out with \_\_\_\_\_.
- (viii) Cement is generally manufactured using \_\_\_\_\_ process.
- (ix) The dried papers is wound in the form of reel having final moisture content of about \_\_\_\_\_.
- (x) Lignin is an \_\_\_\_\_ polymer and causes paper to become brittle.

**Answer:-** (i) fertility (ii) 6—200g (iii) 82 (iv) natural  
(v) Joseph Aspdin (vi) 1—2 (vii)  $Cl_2$  or NaOCl  
(viii) wet (ix) 6—8% (x) aromatic

### Q2. Indicate True or False.

- (i) Potassium is required to stimulate early growth of plant.
- (ii) Ammonia is used in gaseous state while all other fertilizers are used in the solid form.
- (iii) In wet process for the manufacturer of cement, grinding of raw material is done in the presence of water.
- (iv) The total production of cement in Pakistan is 56.36.100 metric tons/annum.
- (v) In neutral sulphite semi-chemical process, sodium sulphite is used buffered with sodium carbonate and soda ash.
- (vi) Lignin is an inorganic binder.
- (vii) Paper consumption in Pakistan is around 5Kg per person per year.
- (viii) Urea contains 90% nitrogen.
- (ix) The temperature of the digester in paper industry should be around 160-180°C.
- (x) Potassium fertilizers increase the capability of plants to resist diseases.

**Answer:-** (i) false (ii) false (iii) true (iv) false (v) true  
(vi) false (vii) true (viii) false (ix) true (x) true

### Q3. Multiple Choice Questions. Encircle the correct answer.

- (i) Which three elements are needed for the healthy growth of plants.  
(a) N,S,P (b) N,Ca,P (c) N,P,K (d) N,K,C
- (ii) Which woody raw material is used for the manufacture of paper pulp?  
(a) Cotton (b) Bagasse (c) Poplar (d) Rice straw



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## السلام علیکم ورحمتہ اللہ وبرکاتہ

### مختصر تعارف

کافی عرصہ سے خواہش تھی کہ ایک ایسی ویب سائٹ بناؤں جس پر طالب العلموں کیلئے کچھ تعلیمی مواد جمع کر سکوں۔ اللہ تعالیٰ نے توفیق دی اور میں نے ایک سال کی محنت کے بعد ایک سائٹ ”گلدستہ ڈاٹ پی کے“ کے نام سے بنائی جو کہ قرآن و حدیث، اصلاحی، دلچسپ، تاریخی قصے واقعات، اردو انگلش تحریریں، شاعری و اقوال زریں، F.Sc اور B.Sc کے مضامین کے آن لائن نوٹس، اسلامک، تفریحی، معلوماتی وال پیپرز، حمد و نعت، فرقہ واریت سے پاک اسلامی بیانات، پنجابی نظمیں و ترانے اور کمپیوٹر و انٹرنیٹ کی دنیا کے بارے میں ٹپس، آن لائن کمائی کرنے کے مستند طریقہ کار۔ کے ساتھ ساتھ اور بھی بہت سی چیزوں پر مشتمل ہے۔ اور انشاء اللہ میں مزید وقت کے ساتھ ساتھ اضافہ کرتا جاؤں گا۔ آپ کی قیمتی رائے کی ضرورت ہے۔ **عمران شفیق**

### اہم نوٹ

ذیل میں جو نوٹس مہیا کیے گئے ہیں وہ کئی گھنٹوں کی لگاتار محنت کے مرتب ہوئے ہیں۔ اور آپ کو بالکل مفت مہیا کر رہے کیے جا رہے ہیں۔ آپ سے ان کی قیمت صرف اتنی سی متوقع ہے کہ ایک بار **دروڈ ابراہیمی** اپنی زبان سے ادا کر دیں۔



اللَّهُمَّ صَلِّ عَلَى مُحَمَّدٍ وَعَلَى آلِ مُحَمَّدٍ كَمَا صَلَّيْتَ عَلَى  
إِبْرَاهِيمَ وَعَلَى آلِ إِبْرَاهِيمَ إِنَّكَ حَمِيدٌ مُبْجِدٌ



اللَّهُمَّ بَارِكْ عَلَى مُحَمَّدٍ وَعَلَى آلِ مُحَمَّدٍ كَمَا بَارَكْتَ عَلَى  
إِبْرَاهِيمَ وَعَلَى آلِ إِبْرَاهِيمَ إِنَّكَ حَمِيدٌ مُبْجِدٌ