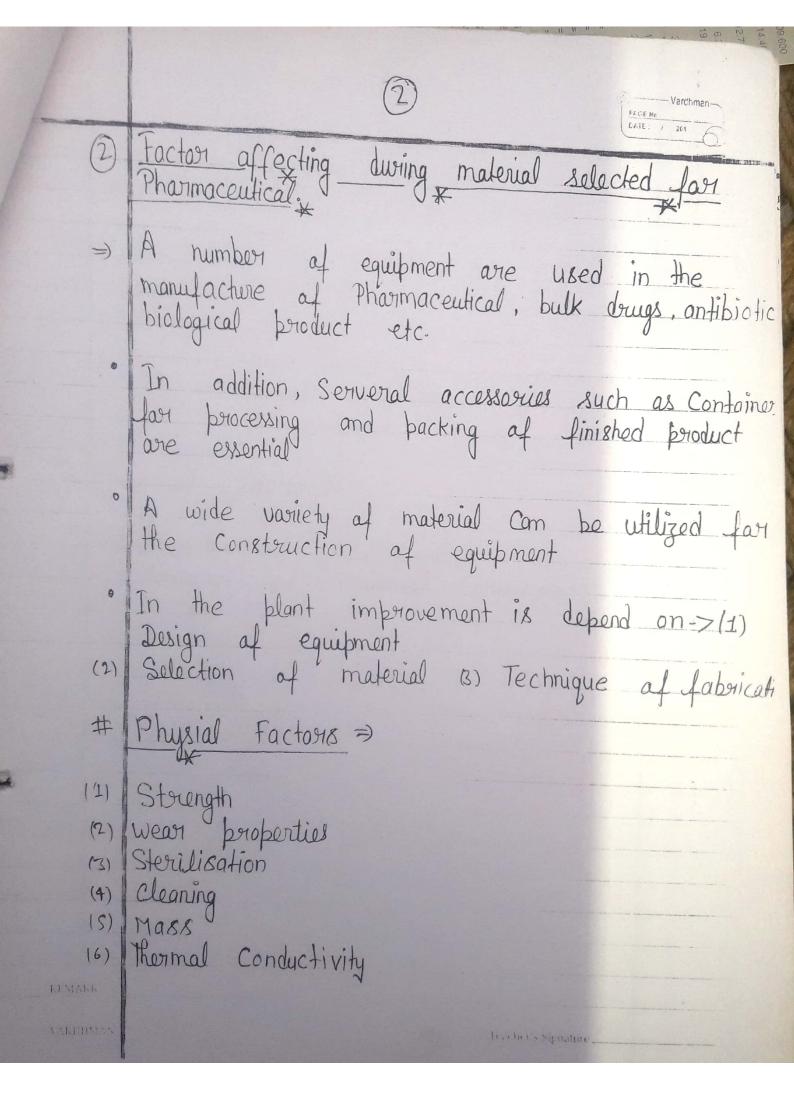
1 # Material al Pharmaceutical Plant Construction.

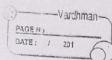
Common building material used for process plant include Carbon steel stainless steel, Steel alloys araphite, glass, titanium, plastic, monel, and many more. For this discussion let's focus on material af Construction that are used far highly Corviosive and abrasive media the Selection of a material for the Construction of equipment depends on the following Classification of coversion according to the environment

Prevent of Cornosion => Protective Coatings

The application of a point Cooting is a Costeffective way of preventing Carrosion. Paint
Coating act as a barrier to prevent the transfe
of electrochemical charge from the Carrosive
Solution to the metal undereath. In this
process, a dry powder is applied to the
clean metal Surface while all matals Carrosion
clean metal Surface while all matals Carrosion
Could be prevented using suitable protection method
one simple way to prevent Carrosion is to use
a Coronosion resistant metal Such as aluminum
os stainless steel

To perevent Covosion, the material Selection has to take into account the groundwater Composition the main aspect that influence the Visitually all Situation, metal Covosion Com be managed Slowed numberous ways to slow an prevent it





Annual Control	DATE: / 201
#	Non- Metal > The Solection of material >
(1)	Rubber Plastic Other is
	- Wood Timber - Carbon braphite - Silica ware
0	Chemical factor=
	Constructive of material Contruction
11128	
RAMINES	Carbon's Monature

3 Theory of Corrosion => This type of Coverosion occur when the metal comes in Contact with a Conducting liquid on when two dissimilar metals are immersed

there is the farmation of a galvanic coll on the Surface of metal. Parts of the cell act as anode and rest act as cathode. The chemical in the environment and humidity act as an electrolyte.

oxidation of amodic part takes place and lit result in Corrosion at anode, while

reduction takes places at cathode. The Carrosion

product is formed on the Surface of the

metal between anode and cathode.

Different theories of Corrosion are:

11) Acid theory 12) Direct chemical attack or try Corrosion theory
13) Electrochemical or wet Corrosion theory

JIMALK

her et : Signature _

Type of Corrosion =)

=) Dry OH chemical Corrosion =)

It is Due to the linect chemical action of environmental Atomosphere gases Such as 02 H2S, SO2, N2 halogenes on anhydrous inorganic liquid with metal Surface.

Wet on Electrochemical Corrosion =>

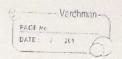
"It is due to the existence of separate "anodic and "Cathodic" areas in the system between which Current flow through the Conducting liquid and the amode gets oxidized and wasted.

Prevent of Corrosion =)

One afthe easiest and cheapest ways to prevent Corvosion is to use barrier Coatings like Paint Plastic or Powder

Powden including epoxy nylon and wrethone are healed to the metal Surface to create a thin film





1 terrous and Non- Ferrous metal= The Simple answer is that feverous metal Contain bion, and Non-Ferrious metal don't That means each type of ferrous and non-Ferrous metal has different Qualities uses. Ferrous metal Contain iron, and are known for their Strength. Think steel Stainless steel, Carbon steel, Cast ison Some ferrous metal are - vehicle scorap metal demolition site Scrap metal, metal aff cut from manufacturing industries.

Territor - Signature

		1 4 5 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		PAGE No. DATE: / 201
Some	non-Ferrous metals are	alyminum and
1	prais, lead,	Zinc Stainless
Sittle 1	electronic Cable etc.	

Inarganic Non-Metal, basic of material handling sy # Inorganic made af oxides, Carbides, Niterides, haloger Compound, Sillicate aluminate, Phosphate, borrates an other Substances on the other hand, is the opposite. It is the study of the formation Synthesis, and properties of Compound that do not Contain Carbon-hydrogen bonds. The 17 non metal element aue: hydrogen helium, Carbon, Nitorogen, oxygen, fluorine neon, Phosphatus, Sulfw, chlarine, xenon and radon. Radeon.

井	Handling System material =>
4	In early system of handling material, goods
	were handled as single unit in a
	discontionous manner. These early method
	treated the three basic stage of handling
	material Callection, manufacturing, and Product
	distribution - as discrete step, and material
	were moved in individual rather than
	bulk units.
133	Teacher's Signature

Types of Material Handling equipment.

Material handing equipment is any tool

used to aid in the movement, protection

Starage, and Control of material and product

Storage and Handling Equipment.

Example of Storage and handling equipment

Tuck

Bulk material Handling Equipment.