Experiment No 7

Objective: Experiment on tool wear and tool life.

Apparatus; milling machine, Drilling machine

THEORY:

Tool Life for milling Cutter

Tool life: Time of cutting during two successive milling or indexing of the tool. Tool life is the length of cutting time that a tool can be used, or a certain flank wear value has occurred.

Taylor's tool life Equation

$$VT^n=C$$

V=Cutting speed, n=Cutting exponent, C= Cutting constant, T= tool

life n, C depends on speed, work material, tool material \

Cutting speed can be obtained by:

$$N= (V*1000)/(\pi d)$$

Where N=spindle speed in rpm, V= cutting speed in m/min, d=diameter of cutting in mm

PROCEDURE: Determine the cutting speed by using d&N values.

Apply Taylor's equation and find tool life:

S.N.	n	C	d	N	V	T

Tool Wear of a cutting tool while drilling on drilling machine:

Tool wear are classified as

1. Gradual Wear- Crater wear, Flank wear