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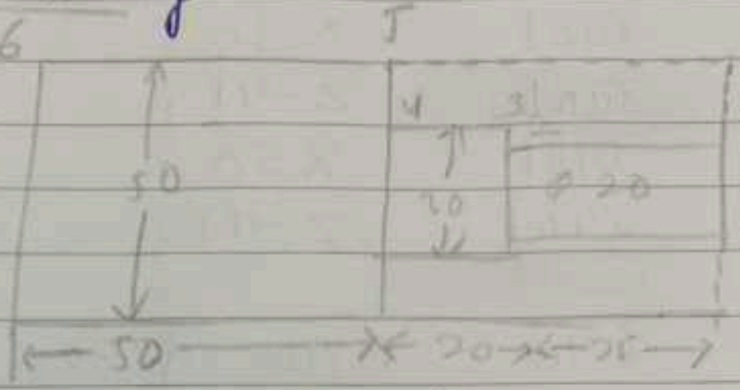
Semester : 7 Branch - Machanical Engineering
Subject :- Manufacturing

Assigment 4: To develop manual part program of a given component on CNC lative using canned cycle

part Drawing



Absolute Co-ordinate system

point	X	Z
0	0	0
1	20	0
2	20	-25
3	30	-25
4	30	-45
5	50	-45
6	50	-95

part program

O 10 10

```
N10     G90     G96     G21 ;
N20     M03     M07 ;
N30     T0101   S3000
N40     G00     X0
N50     G71     U1
N60     G71     P70 Q120 U0.5 F0.3;
N70     G01     X20;
N80     G01     Z-25;
N90     G01     X30;
N100    G01     Z-45;
N110    G01     X50;
N120    G01     Z-95;

N130    G70     P70 Q120;
N140    G00     Z100 ;
N150    M05
N160    M09
N170    M30
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Explanation:-

O1010 - Program Name
G90 - Absolute - Co-ordinate system
G96 - constant surface cutting speed
G21 - Metric conversion system (in mm)

M03 - Spindle on (clockwise direction)
M07 - Coolant on
T0101 - Tool no. 1 and offset no. 1
S3000 - Spindle Speed
F0.3 - feed rate
G00 - Rapid Traverse
X0 Z0 - origin of part
G71 - canned cycle
U - Depth of roughing cut
R - Ammount of retract from each cut
P - first block i.e Starting point (eg N10)
Q - last block i.e End point eg (N120)
U - ammount left for finishing in x-axis
W - amount left for finishing in z-axis

F - Cutting feed rate. overided feed rate between P block and Q block.
G01 - linear interpolation
G70 - Finishing cycle
M05 - Spindle Stop
M09 - Coolant Off
M30 - Reset the program