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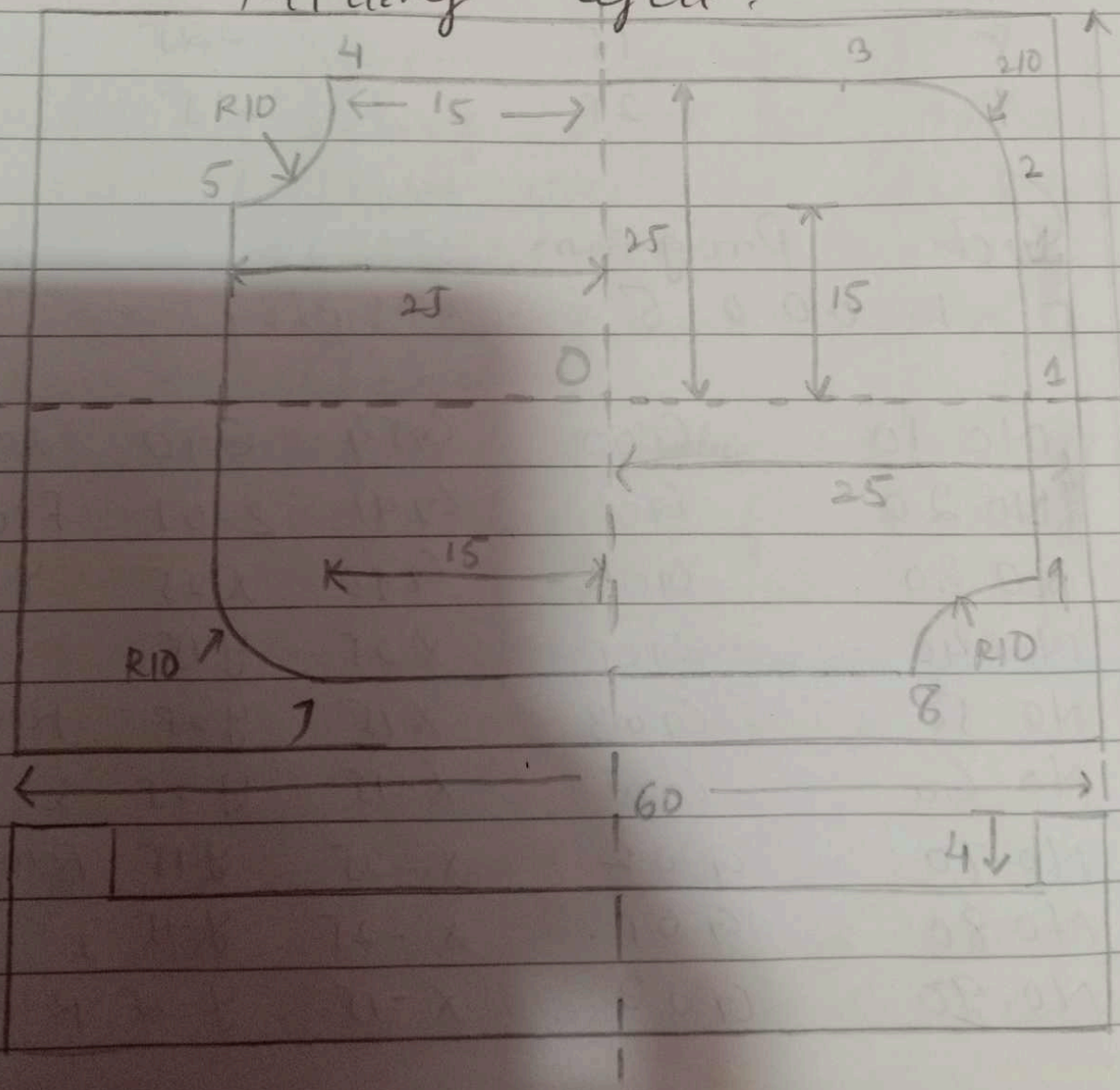
Semester: 7 Branch: Mechanical Engineering
Subject : Manufacturing process II

Assignment 6 : To develop a manual part program of given Component on CNC Miling Machine using pocket Milling cycle.



Absolute cordinate System;

Point	x-axis	y-axis
0	0	0
1	25	0
2	15	25
3	15	25
4	-15	25
5	-25	15
6	-25	-15
7	-15	-25
8	15	-25
9	25	-15

Such Program:

O 1 0 0 0 5

```
NO 10   G00   G54   G90   X0 Y0 F500
NO 20   G01   G91   Z-0.1  F100;
NO 30   G01   G90   X25    Y0;
NO 40   G01   X25   Y15
NO 50   G03   X15   Y25    R10;
NO 60   G01   X-15  Y25    ;
NO 70   G02   X-25  Y15    R10;
NO 80   G01   X-25  Y-15   ;
NO 90   G03   X-15  Y-25   R10;
```

```
N100    G01    X15     Y-25 ;
N110    G01    X25.0   Y-15  R10;
N120    G01    X25     Y5 ;
N130    G01    X0      Y5 ;
N140    G01    Y0
N150    M99
```

Explanation

M06 - Tool Selection
T01 - Tool 01
M03 - Spindle on (clockwise direction)
S1000 - Spinde Speed
G00 - Rapid Tranvese
G54 - Seting Work of offest
(G54 is used in Sub programs)
G90 - Absolute Cordinate
X0 Y0 - Centre of workpiece
F100 - Feed.
G43 - Height datal is set in Tool of offset
G43 H01 → Tool length componsetion
H01 → Height datal is set in Tool 01
Z50 → 50mm gap between tool and work offset piece
Z1 → linear interpolation
F100 → Feed is 100
M08 → Coolant on
G150 → General pocket Miling cycle on
G41 → cutter radius Compensation

an (because tool path is clockwise).

P10005 - calling Sub-program 10005
Q-0.1 - Depth of cut
X0 Y0 - work part zero
Z-5 - Total dept -5 (because started with Z1)
R1 - Retraction
J6 - Incremental cut on y axis (creates cavity in y-direction)
K0.05 - finishing allowance
D01 - Tool diameter data is set in D offset.
G40 - cutter radius compensation off
M03 - coolant off
M05 - Spinde off
M30 - Reset the program.