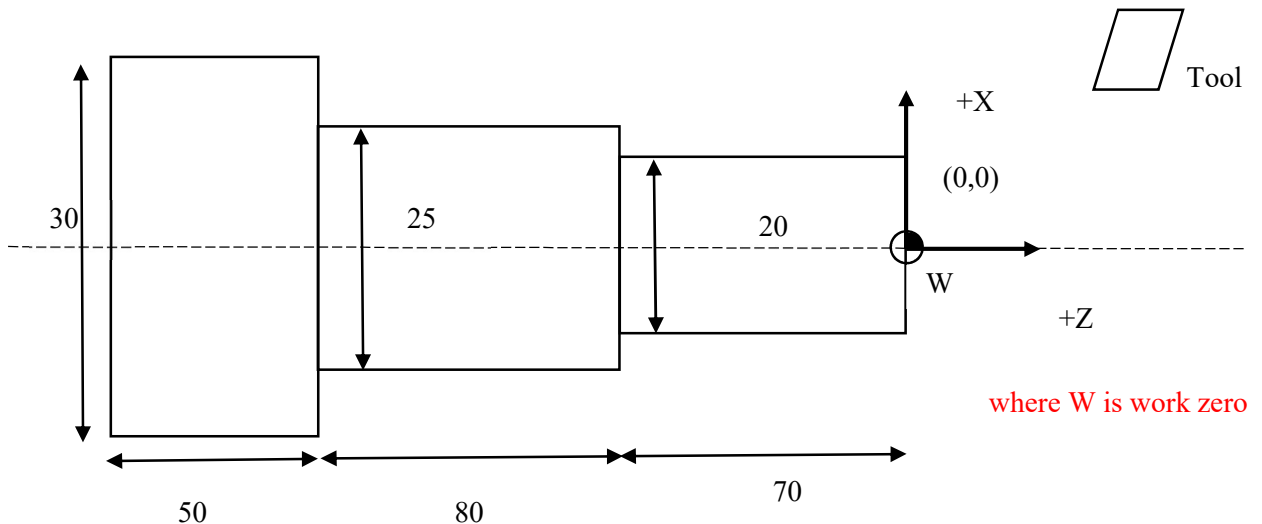


CNC – Assignment 2

Submission date: 3 November 2023 upto 11.00 a.m.

Instructions: Submit the neat and clean assignment within prescribed time. Preferable A4 size white page.

- Q.1. Define control system. Describe two type of control system in detail.
- Q.2. What are actuators? Give the type of actuators used in CNC. Explain any two in detail with neat sketch.
- Q.3. What do you mean by transducer? Write its characteristics.
- Q.4. What is a sensor? Name different type of sensors.
- Q.5. Explain the principal of LVDT with the help of neat sketch.
- Q.6. Differentiate between encoder and decoder.
- Q.7. Write a simple program in absolute mode for step turning. A sample template is given below. (hint: - get familiar with G-code and M-code)



N01 G90 G18 G71 G54 G40; (Parameter setting refer G Codes)

N05 M03 S200; (Spindle start in Clock wise at speed of 200rpm)

Insert Your code here

M30; (Programme Stop)

Upload/Step_Turn.MPF

```
1 G90G18G710G40;      (Parameter Settings)
2 G74X0Z0;             (Return tool at home Position)
3 M03S200;             (Spindel rotate clockwise at 200 rpm)
4 G00X31               (Rapid travel of tool near workpiece at a safe distance
first in X)
5 Z2;                 (then in Z)
6 (First making 20 mm diameter for 70mm length of shaft)
7 X28;                (Position of cut)
8 G01Z-70F0.1;         (Cutting in z with feed rate in mm/min)
9 G00Z-68X29;          (Retrieval of Tool)
10 Z2;                (Rapid travel of tool near workpiece in Z)
11 X26;                (Position of cut)
12 G01Z-70;            (Cutting)
13 G00Z-68X29;          (Ret. of Tool)
14 Z2;                (Rapid travel of tool near workpiece in Z)
15 X24;                (Position of cut)
16 G01Z-70;            (Cutting)
17 G00Z-68X29;          (Ret. of tool)
18 Z2;                (Rapid travel of tool near workpiece in Z)
19 X22;                (Position of Tool)
20 G01Z-70;            (Cutting)
21 G00Z-68X29;          (Ret. of tool)
22 Z2;                (Rapid travel of tool near workpiece in Z)
23 X20;                (Position of tool)
24 G01Z-70;            (Cutting)
25 G00Z-68X28;          (Ret. of tool)
26 (Now making 25 mm diameter for 80mm length of shaft)
27 G01Z-150;            (Cutting)
28 G00Z-148X29;          (Ret. of tool)
29 Z-68;               (Rapid travel of tool near workpiece in Z)
30 X26;                (Position of cut)
31 G01Z-150;            (Cutting)
32 G00Z-148X29;          (Ret. of tool)
33 Z-68;               (Rapid travel of tool near workpiece in Z)
34 X25;                (Position of cut)
35 G01Z-150;            (Cutting)
36 G00Z-148X29;          (Ret. of tool)
37 Z2;                (Rapid travel of tool near workpiece in Z)
38 G74X0Z0;            (Return tool at home Position)
39 M05;                (Spindle stop)
40 M30;                (End of Program)
41
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