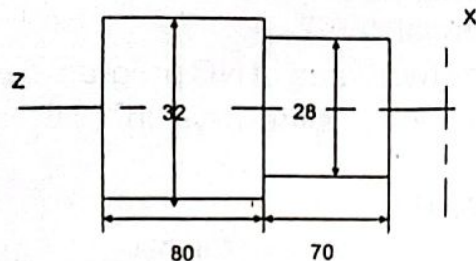Q.35 Write a simple finishing cut program in absolute mode for step turning (CO2)
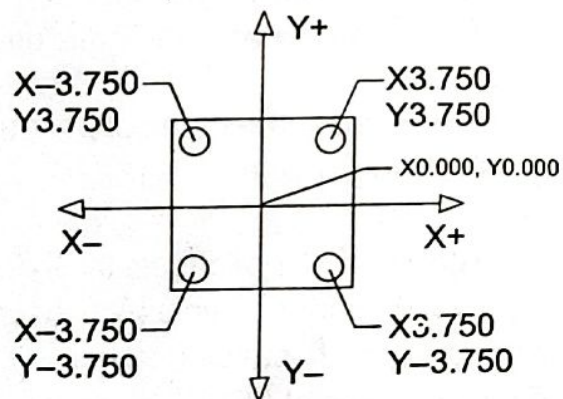

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. 2x10=20

Q.36 Explain the function and working of recirculating ball screw mechanism with a neat diagram. (CO1)

Q.37 Write short notes no :
a) Encoders
b) LVDT

Q.38 Write a complete drill program for the following part. Assume any missing data of dimension

Mechanical Engg
Subject : CNC Machines and Automation

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The axis perpendicular to work holding surface of a CNC machine is (CO3)
a) X
b) Y
c) Z
d) W

Q.2 Point-to-point systems are used for_____ (CO2)
a) drilling
b) parting
c) grooving
d) facing

Q.3 Which type of feedback device used in CNC machine? (CO1)
a) Positional feed back device
b) Velocity feedback device
c) Both a and b
d) None of the above

Q.4 In servo motor, input command is (CO1)
a) Magnetic field
b) Electrical pulses
c) Mechanical device
d) Hydraulic device

Q.5 In a DNC system (CO1)
a) many machine tools can be controlled simultaneously
b) only a single machine tool can be controlled
c) NC machine cannot be controlled

d) non of the mentioned

Q.6 The other name for G-codes is _____ (CO2)
   a) spindle speed codes
   b) preparatory codes
   c) Governing codes
   d) miscellaneous codes

Q.7 Which of the following code will give circular interpolation anti-clockwise? (CO2)
   a) G00
   b) G01
   c) G02
   d) G903

Q.8 Which of the following code is used in programming in incremental coordinates? (CO2)
   a) G92
   b) G90
   c) G91
   d) G94

Q.9 LVDT has got_____number of windings (CO1)
   a) 04
   b) 02
   c) 03
   d) 08

Q.10 The CNC control sytem which has no feedback are also called as (CO1)
   a) uncontrolled systems
   b) controlled systems
   c) closed systems
   d) open systems

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Expand MCU (CO1)
Q.12 Give binary equivalent of 108 (CO1)
Q.13 The setting of tools to a specific length, away from the machine is called _____ (CO1)

Q.14 Recirculating ball screw nut mechanism in CNC machine is used to_____ (CO1)
Q.15 Which feedback device translate physical motion into electrical data? (CO1)
Q.16 Name any two types of NC program reader. (CO1)
Q.17 The function of slideways in CNC is to_____ (CO1)
Q.18 Expand ATC (CO1)
Q.19 _____ code is used for DWELL function (CO2)
Q.20 Expand SCARA robot. (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Enlist the advantages of CNC (CO1)
Q.22 Discuss the Types of CNC (CO1)
Q.23 Explain the purpose of PLC (CO1)
Q.24 What are the special mechanical design features of CNC? (CO5)
Q.25 Write short not on stepper motors (CO1)
Q.26 Explain hydrostatic slideways (CO1)
Q.27 Write short note on safety and guarding devices (CO1)
Q.28 Define pallete. Explain the types of palletes.(CO5)
Q.29 Discuss tool change cycle. (CO1)
Q.30 Classify sensors. (CO1)
Q.31 Explain the concept of tool offsets in CNC. (CO7)
Q.32 Write short not on canned cycles (CO7)
Q.33 Explain the utility of discussion forms (CO5)
Q.34 Explain any one type of AGV (CO6)