

## National Service Scheme RV College of Engineering®





**REGISTER NOW UTSARGA MARATHON' 24** 

5 KM - ₹399/-

10 KM - ₹449/-

HELP A CHILD, **CHANGE THE WORLD** 

Includes

- T-shirt
- Certificate
- Medal
- Breakfast
- Refreshments



FEBRUARY





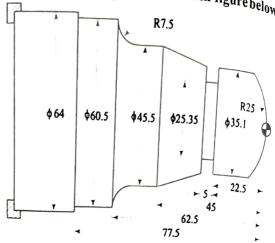








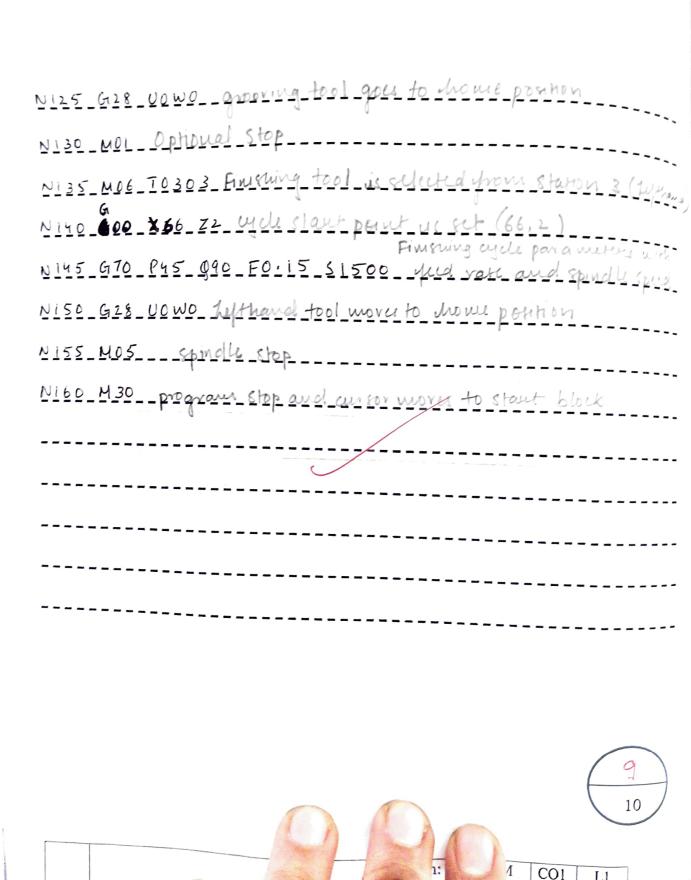
Exercise No. 01: Write a manual part programming for the component shown in figure below



Openation	Tool	Machiner (91Pm) Speed	Param Pred	Depth of cut	Remarks
Rough Turning	Rough.	1200	0.7	1	
Finguing Cycle	Lefthand	1500	0:15	0.25	
Coropring	Enternal grooving tool (3mm)	<b>8</b> 00	0-1	2000 yl	

FMS LAB, DR. NAGESH S & DR. KESHAV M, Dept. of Mechanical Engg. RVCE

NOS_GOZI_GO9All dimension are set town & yeed rate is a
NIO_GUE_UOWOTOOL moves to home position
NIE MOG TOIDI Tool selection: roughing tool is selected
N20_M03_S1200spindle is turned on g set at 1200 pm
N25 MOT Coplant is switched ver
N30 6100 X66 72 yell start point is set at (66.2)
N35 G71 UI RO.5
Nyo G71 P45 Q90 UD.5 WO.2 FO.2 Depling cycle parameters
NYS_G100_XOFinithing allowance in X 3 Z and one 0.5 20.2
NEO GIOI ZO
N55 GO3 X35.5 Z-7.2 R25
NEO GIOI X35.1 Z-27.5 Body of Program
N65_G01_X45.5_Z-45
N70 GOI X 45.5 Z-55
N75 GD2 X60.5 Z-62.5 R7.5
N80 GOLX60:5
N85_GO1_X64_Z-11.5
N90 G01 X64 Z-95
N95 G28 UOWO vouguing dool goes to chome position
NIOO MOI Ophonal Stop
NIOS MOG TO202 growing toother selected your station 2
NIIO_X36_Z-22.5 Tool us brought to growing parition
NIIS G15 ROS grooving parameters with position of groove.
NIZO X25.35 Z-27.5 P2000 Q2000 F0:1 S800 depth of culter,
cace cycle feed rate, spindle feed



Vrit

m a

t:

ition

Faculty Signatur

L1

L2

L3

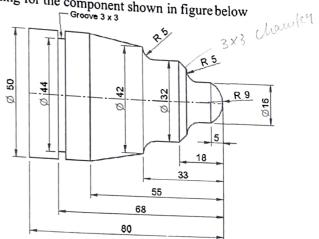
L4

CO<sub>2</sub>

CO<sub>3</sub>

CO4

Exercise No.02: Write a manual part programming for the component shown in figure below



Operation_	_ Tool_	Machini	ig Para	meters	Remarks
Rough Tuoling	Rover	Speed)	Feed.	Depringent	
Finstung Cycle	- hefthand	1500	0:15	0.25	
Grooving	Enternal opposing tool (3mm)	800	0.1	_2 <u>000 ft.</u> _	

NOS GZI G99 All demensions are se	sin mm & feed vale un number
N10 G28 UO WO Tool works to	home partion
NIE MOG TOLOI Rough tool is s	elected your Station !
N20_M03_SL200_spindle visture	colori
N25 M07 (polant is furned on	
N30 G00 X52 Z2 Lycle start po	int is set at (52,2)
N35_G11_UI_R0:5 Louguing_	parameters are set Dyphogens: In
N40 G71 P45 910 U0.5 W0.2	Fo. 2 allowance in X & Z and : 0.50
N45 G00 X0	·
N50 G01 Z0	
N 55 GO3 X 16 Z- 50 R9	
NGO GOI XI6 Z-10	17.7.5.
NES_GO2_X26_Z-15_R5	ly of Program.
N70_G01_X32_Z-18	
NJ5_GOL_X32_Z-28	
N80_G02_X46_Z-33_R5	
N85 GOI X50 Z-55	
N90 G01 X50 Z-85	
N95 G18 Up Wo Tool outurns	to home position
NIDO MOI Optional Stop	
NIOSMOG_TOZOZ grooving toel	is relected you on Station 2
110_G00_X52_Z-65 Cycle sta	t point is set at (52, -65).
FMS LAB, DR. NAGESH S & DR. KESHAV M	Page 20

groove parameters are sets position of govore,
NIES_GITS_RD:5_ depth of cutter, each cycle feed rate, spindle fee
NIZO_GI5_X44_Z-65_P2000_G0_F0:L_\$800
NIZE GZ 8 - UD - MO - tool marries to mance position
De mone Deapon
N130_Mo1_Ophonal Stop
DISS_MOB_TO303 Auisting (Lethand) tool is selected from chakons
N140 GOO X52 Z2 well Start point is set (52,2)
N140 GOO X52 Z2 - cycle Start point is set (51,2) Finishing parameters are set  N145 GJD P45 Q90 E0:15 S1500 - yeld rate 9 spindle speed
NISO G28 UD WD tool returnsto house perition
NISS_MOS_ spindle Stop
NILO M30 CUVION Stop & courson moves to start block

10	\
10	

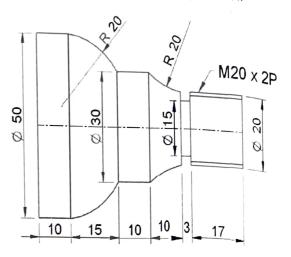
Diagram: 1M 10 M	CO1	LI	
Procedure:2M	CO2	L2	
procedure.2	CO3	L3	1
Writing Program: 5M	CO4	1.4	
Simulation the program and print out: 2M			_1
Simulation			

Faculty Signature with Date

fash 12/2/84

Exercise No. 03: Write a manual part programming for the component shown in figure below

Show threading calculities



Rough Turning Rough 1200 02 1  Finishing Cycle Repthand 1500 015 025  Grooving Cycle Enternal 600 01 2000 41  grooving tool	Operation	Lool	Machinic	g param	eteri	Remark
	Rough Turning	<u>Rovgir</u>	'		' . V	
Grooving Cycle Enternal 600 0.1 2000 41 grooving tool	Finishing Cycle	hefthand	1500	D-15	0.25	
	Grooving Cycle	External quocring tool	600	0.1	2000 YL	
Threading Enternal 300 2 200 41 threading tool	Threading	Enternal tureading tool	300	Σ	200 Yu	

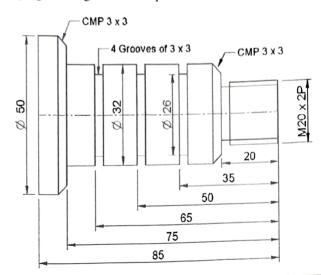
NOS_G21_G99 All dimensions are set un mus & fied vate un mus free
NIO_G28_UO_WO_tool moves to home position
NIS_MOG_TOLOJ_Rough fool us selected from station]
- Pindy slart & sheed week at land
N25 M01 Loolant us switched on
N30 GOO X52 Z2 Cycle start point us set at (52,2)
N35 GT1 U1 RO. 5 Roughing parameters are set. Depth of cut = Imm N40 GT1 P45 9TO U0. 5 WO. 2 FO. 2 Finishing allowance in X & 7
Nyo G71 P15 970 U0.5 Wo. 2 Fo. 2 Finishing allowance un x 42
Ny5 GOD XD ZO
N 50 - GD1 - X120 - Z-20
N55 G02 X30 Z-30 R20 Body of program
N60-G01-X30-Z-40
N65_G03_X50_Z-55_R20
N70 G01 Z-65
N75 G28 UO WO Tool moves to home position
NEO_MOI_Optional Stop
NS5 MOG TO202 Finishing (Left hand) tool is selected from station 2 190 GOO X52 Z2 yell start point is set \$2,2)
N95 G70 P45 Q70 F0. 15 S1500 spindle speed & feed rate
N100 G28 UD WO TOO Justurus to home position
N105 MOI Ophonal Stop - 3 months
NILO MOG TO 303 grooving tool is relected from Station 3
NII5 GOO X22 Z-17 get start point is get (21,-17)
FMS LAB, DR. NAGESH S & DR. KESHAV M Page 22

NIZO-675-RO:5 depth of cutter, each cycle fred valia sprudy NL25-615-X15-Z-17-P2000-90-F0-1-S600-NI30-G28-40-WO\_tool moves to home position N135\_MOI-Optional Stop N140-M06-T0404 Hreading tool is selected NI41 MO3 8300 NI45 GOO X20 Z10 threading position is set to (20,10) N150-G16-P051060-G100-R0:15----N155 G76 X17:548 Z-17 P1226 Q200 F2 NIGO G28 UD WO tool outurns to home position NI65 MOS Spinolle Stop NITO M30 wisor Stops & wisor returns to Start block



		001	
	Diagram: 1M	10 M COI	12
	Procedure:2M	CO2	1.3
717		CO3	
Simulation the program	ting Program: 5M	CO4	14
middle ine program	and mint aut OM	(.04	

Exercise No. 04: Write a manual part programming for the component shown in Figure below

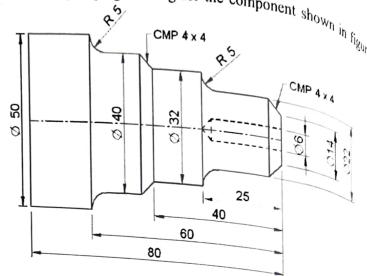


Operation	Tool	Machinery Parameters			Remarks
		Speed	9	Depth of Cut	
Rough Turning	Rough	1200	0.2	1	
Finishing Cycle	Legenand_	1500	0.15	0.25	
Grooning	Enternal grooning tool	600	0.1	2000 Ju	
Threading	External threading tool	300		200 pm	

NOS-G21-G99 All dimention set un min & feed rate un min Iren
NIQ-628-UP-WO-tool moves to home position
NIE-MOG_TOLOL_Rough tool is selected your station !
NIB-MO3_SI200 Spindle on & speed set to 1200 xpm
N25-M07 Loolant on
NSC-GOO X57 Z2 yell Start position is set to (52,2)
N3C-GOO X57 Z2 well Start position is set to (32,2)  Roughing parameters depth of out Thing  N35-G71 VI RO: 5 set ract amount o.s. Finishing allowar  In X & Z amis = 0.5 & 0.2
N40-G11-P45-980-UD-5-WO-2-F0-2-fced vate = 0.2 um/m
N42-0100-X20-Z0
N50_GD1_Z=20
NSS GOO X 26
> Rody of Program
NED GOL X34-4-43
NES GOI Z-75
NJO_GOO_X 44
N15 GOI X50 Z-78
N80 GOI Z-85
N85 G28 UD WO TOOL victures to home position
N90 MOI Optional Stop
N95 MO6 TOZOZ Finishing tool is selected fecom station 2
NICO GOD X52 Z2 yell Start position us let to
NIOS GIO P45 Q80 FO: 15 S1500 yeed vate 9 spins
NILO G28 UD WO tool returns to home position
FMS LAB, DR. NAGESH S & DR. KESHAV M Page 25

,-	NI 15 M O I Optional 8top statio	N
Δ	VI20 MOG TO 3 O Grooving tool is selected from 3	-
	25 (n O D V 22 7-10 graphing portition	-
	portion distance 6/10 grows	_
	101 52 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
)	NI 40 G175 RO.5 Relig clearance US set to 05	_
5	NI 55 GOD X33 7-62 G15 X26 7-3 5 P2000 GO DO: 1 S600	-
	NISO (n DD X 33 _ Z-65 _ gred rate & gred speed	_
	NI65 G15 RO:5 Relief dearance us set to 0.5	_
	Ni 60 G 75 X26 Z- 85 P2000 g0 F0. 1 S600	
	NI 65 G28 DO WO tool steturns to home position	. <b>-</b>
	NUTO MOI Optional Stop	
	NITE MOG TO 404 Threading tool is selected from Station 4	
	NITE MOS 5300 NITE MOS 5300 ZIO Threading position is set (20,10) Threading parameters are	
	N195 (476 PO5 1060 9100 RO:15 Set	
	VIO 2 676 V 17.548 Z-17 P1226 - 0200 F2	-
	N 195 G128 UO WO tool outurns to home per test -	_
	N 200 MOS Spindle stop  N 161 G100 X33 Z-75 poulton depth of cut, block  N 161 G15 R0.5 feed rate gipindle spied, relief  10  163 G15 X26 X-75 P2000 G0 F0.1 S600	1
	N205 M30 W33 Z-75 poulton + depth of cut, block (10)	)
7	Not G15 Ro.5 yeed rate & spindle spied, rung	
	163 G15 X26 X-75 P2000 90 FO.1 3600	
	Diagram. IW 10 W	
	Procedure:2M CO2 L2 Writing Program: 5M CO3 L3	
	Simulation the program and print out: 2M   CO4   L4	
	Faculty Signature with Date	

Exercise No.05: Peck Drilling - Write a manual part programming for the component shown in figure



	80
Operation Tool	Machining Parameters Pour
Rough Turning - Rough	Speed Treed Depth of Cut.
Finering Cycle hefmand	1500 0.25
Drilling Drill (dia 6 muri)	

NOS_G21_G199_AU_dimensions are set to mus & feed rate in mus/min
NIQ-GIZ8-UD-WO-tool moves to home position
NIS_MOG_TOLOI_Rough tool us sched from station 1
N20_MO3_S1200_ Spindle is switched on 9 speed is set at 1200 pm
N25 MOT Coplant is singlified on.
N30 G00 X52 Z2 eyclestant porition is set (52,2)
N35 G71 UI RO.5 verract amount = 0.5. finishing alloward
N40 G71 P45 085 VO.5 WO.2 FO.2 Feed rate = 0.2 mm/mm
N45 G00 X14 Z0
N50 G01 X22 Z-4
N55-GOI X 22-Z-20
N60 G02 X32 Z-25 R5 Body of program.
N65 GLOJ X32 Z-40
N70 G101 X 30 Z-44
N75 GDI X40 Z-55
N80 GOZ X50 Z-60 R5
N85 GO1 X50 Z-80
N90 G28 VOWO Tool moves to home persition
N95 MOL Optional Stop
NIOO MD6 TO202 finishing (Left hand) tool is selected from station 2
NIOS GOD X52 Z2 yell Start point is Set (51,2) 1 Finishing parameters are set NIIO GIO P45 Q85 FO:15 S1500 yeld rate & spindle speed.
N110 G10 P45 985 FO:15 S1500 fred rate & spindle speed.

FMS LAB, DR. NAGESH S & DR. KESHAV M

NIIS GOO vowo tool desturns to home position.
A-linual Cha
NIZE MOL TOSDS Drilling tool (6 mm dia) is selected from stations  NIZE MOL TOSDS Drilling tool (6 mm dia) is selected from stations  drilling parameters are set (6,2)
NI30 GOO XO ZZ doilling start point is set 6,2 mon stations
NI30 GOO XO Z2 doi Wing Start point is selected from stations  willing parameters are set, driving depth,  NI35 GT4 RO.5 yeld rate, spindle speed and relief  NI40 GT4 XO Z-25 Q1000 FD: 15 S600 amount at end of wh
N140 G74 XO Z-25 Q2000 FD. 15 S600 amount at end
NISO_MOS_Spindle Stop
NISS M30 Curror Stop & Curror returns to start block
***************************************

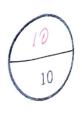


Diagram: 1M	10 M	COI	LI
Procedure: 2M		CO2	12