



GOVERNMENT POLYTECHNIC, NABARANGPUR
DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: MECHANICAL ENGG	Semester: 5TH	Name of the Teaching Faculty: Lect. N Bikash Rao
Subject: CAD/CAM LAB	No. of days/per week class allotted: 04	Semester From date: 01.10.2021 To Date: 28.02.2022 No. of Weeks: 15
COURSE OUTCOMES	CO1. To understand the fundamentals and use of CAD. CO2. To conceptualize drafting and modelling in CAD. CO3. To interpret the various features in the menu of solid modelling package. CO4. To synthesize various parts or components in an assembly. CO5. .Toprepare CNC programmes for various jobs.	
WEEK	CLASS DAY	Theory / Practical Topics
1ST	1	1. PART –A INTRODUCTION Part modelling, Datum plane, Datum plane; constraint; dimensioning.
	2	Part modelling, Datum plane, Datum plane; constraint; dimensioning (Contd...)
	3	Extrude; revolve; sweep; protrusion; extrusion.
	4	Extrude; revolve; sweep; protrusion; extrusion (Contd...)
2ND	1	Rib; shell; hole; round; chamfer
	2	Rib; shell; hole; round; chamfer (Contd...)
	3	Copy; mirror; assembly; align; orient.
	4	Copy; mirror; assembly; align; orient (Contd...)
3RD	1	2D DRAWINGS Rectangle, circle, polygon and its dimensioning.
	2	Rectangle, circle, polygon and its dimensioning (Contd...)
	3	Rectangle, circle, polygon and its dimensioning (Contd...)
	4	3 D DRAWING Gib and cutter joint
4TH	1	Gib and cutter joint (Contd...)
	2	Gib and cutter joint (Contd...)
	3	Screw Jack
	4	Screw Jack (Contd...)
5TH	1	Screw Jack (Contd...)
	2	Connecting Rod
	3	Connecting Rod (Contd...)
	4	Connecting Rod (Contd...)
6TH	1	Bearing Block.
	2	Bearing Block (Contd...)
	3	Bearing Block (Contd...)
	4	PART-B CNC Programming and Machining Study of CNC lathe, milling
7TH	1	Study of CNC lathe, milling (Contd...)
	2	Study of CNC lathe, milling (Contd...)
	3	Study of international codes; G-Codes and M –Codes.
	4	Study of international codes; G-Codes and M –Codes (Contd...)
8TH	1	Study of international codes; G-Codes and M –Codes (Contd...)

	2	Format –Dimensioning methods.
	3	Format –Dimensioning methods (Contd...)
	4	Format –Dimensioning methods (Contd...)
9TH	1	Programme writing –Turning Simulator-Milling simulator IS practice-commands menus.
	2	Programme writing –Turning Simulator-Milling simulator IS practice-commands menus (Contd...)
	3	Programme writing –Turning Simulator-Milling simulator IS practice-commands menus (Contd...)
	4	Programme writing –Turning Simulator-Milling simulator IS practice-commands menus (Contd...)
10TH	1	Editing the programme in the CNC MACHINES.
	2	Editing the programme in the CNC MACHINES (Contd...)
	3	Editing the programme in the CNC MACHINES (Contd...)
	4	Execute the programme in the CNC machines.
11TH	1	Execute the programme in the CNC machines (Contd...)
	2	Execute the programme in the CNC machines (Contd...)
	3	Print the programme and make the component in the CNC machine.
	4	Print the programme and make the component in the CNC machine (Contd...)
12TH	1	Print the programme and make the component in the CNC machine (Contd...)
	2	Print the programme and make the component in the CNC machine (Contd...)
	3	Print the programme and make the component in the CNC machine (Contd...)
	4	Print the programme and make the component in the CNC machine (Contd...)
13TH	1	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine.
	2	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine (Contd...)
	3	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine (Contd...)
	4	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine (Contd...)
14TH	1	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine (Contd...)
	2	Using canned cycle-create a part programme for thread cutting, grooving and produce component in the CNC Turning Machine (Contd...)
	3	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine
	4	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine (Contd...)
15TH	1	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine (Contd...)
	2	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine (Contd...)
	3	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine (Contd...)
	4	Using Linear interpolation and Circular Interpolation-Create a part programme for grooving and produce component in the CNC Milling Machine (Contd...)

Sign. Of Faculty concerned

Sign. Of HOD I/C

Principal, GP NABARANGPUR