GPCET
Pioneering Innovative Education

G.Pullaiah College of Engineering and Technology

(Autonomous)
(Approved by AICTE, New Delhi | NAAC Accreditation with 'A' Grade |
Accredited by NBA (CSE, ECE & EEE) | Affiliated to JNTUA)
Nandikotkur Road, Venkayapalli (V), Kurnool - 518452, Andhra Pradesh

DATE: 06-10-2022

To

The Principal,
GPCET,
Kurnool.

Sir,

Sub: Approval of ADD-ON course for II ME, III ME & IV ME Students-Regd

The department of ME requests you to accept the proposal for conducting ADD-ON Course on "**Introduction To Mechanical Micro Machining.**" for the odd semester of II, III & IV year ME students scheduled for the duration of 42 hours. Kindly accept the proposal.

Thanking you sir,

Yours Sincerely

HOD-ME

PRINCIPAL
G.Pullaiah College of Engg & Tech.
Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

GPCET
Pioneering Innovative Education

G.Pullaiah College of Engineering and Technology

(Autonomous)
(Approved by AICTE, New Delhi | NAAC Accreditation with 'A' Grade |
Accredited by NBA (CSE, ECE & EEE) | Affiliated to JNTUA)
Nandikotkur Road, Venkayapalli (V), Kurnool - 518452, Andhra Pradesh

Department Circular –ADD-ON Course

DATE: 07-10-2022

The II year, III year & IV year-I semester ME Students are informed to enroll their names for ADD-ON Course on "**Introduction To Mechanical Micro Machining**" with their respective class-in-charges on or before 10-10-2022. The course commences from 12th January and the duration of the course is for 42 hours. The course is conducted from 4 pm to 5 pm regularly.

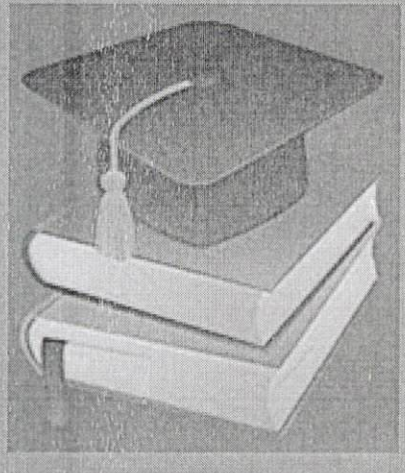
Bus facility is made available soon after the class work.

HOD-ME

G. PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY

(AUTONOMOUS)

Department Of Mechanical Engineering



ADD ON COURSE

Topic : Introduction To Mechanical Micro Machining

Target audience : II and III Year Students

Total Courses Duration : 42 hrs

Selection Procedure : Registration on First come First serve basis

FREE Register Now

Date of commencement of the course : 12 Oct , 2022.

End of Course : 27 Jan, 2023.

Exam Date: 28 Jan,2023.

SYLLABUS FOR ADD-ON COURSE ON INTRODUCTION TO MECHANICAL MICRO MACHINING

DAY	TOPICS
1	Experimental observations and theoretical prediction of constituents of an atom
2	Scaling law
3	Mechanical micro machining (process, mechanism)
4	Burr formation, surface roughness, built up edge
5	Cutting fluid, run out, grain size
6	Micro machine structure - I
7	Micro machine structure - II
8	Fabrication of micro cutting tools
9	Miniature machine tools
10	Diamond Turning (process, types, mechanism, applications)
11	Metrology for micro machining
12	Sensor integration for process monitoring

G PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOG
DEPARTMENT OF MECHANICAL ENGINEEERING
ADDON COURSE SCHEDULE

Date: 28/01/2023

III& IV YEAR – I Semester		
Course	**Faculty**	**Duration**
Experimental observations and theoretical prediction of constituents	Dr.K.Mallikarjuna	3 hours
Scaling law	Dr.K.Mallikarjuna	3 hours
Mechanical micro machining (process, mechanism)	Dr.K.Mallikarjuna	3 hours
Burr formation, surface roughness, built up edge	Dr.K.Mallikarjuna	2 hours
Cutting fluid, run out, grain size	Dr.K.Mallikarjuna	2 hours
Micro machine structure - I	Dr.K.Mallikarjuna	2 hours
Micro machine structure - II	K.Chinna Veeresh	3 hours
Fabrication of micro cutting tools	K.Chinna Veeresh	3 hours
Miniature machine tools	K.Chinna Veeresh	3 hours
Diamond Turning (process, types, mechanism, applications)	K.Chinna Veeresh	2 hours
Metrology for micro machining	K.Chinna Veeresh	2 hours
Sensor integration for process monitoring	K.Chinna Veeresh	2 hours

GPCET

Pioneering Innovative Education

G PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY: KURNOOL (Autonomous)

Department of Mechanical Engineering

The following is the list of the students who have attended Add on Course on "Introduction To Mechanical Micro Machining"

S.No	ROLL NO	Name of the Candidate
1	19AT1A0301	SYED ABBAS
2	19AT1A0302	K. ABHI RAM MANIKANTA YADHAV
3	19AT1A0303	SHAIK AFROZ BASHA
4	19AT1A0304	MOHAMMAD ARAFATHULLA
5	19AT1A0305	AMARAVATHI BEESANNA
6	19AT1A0306	MOHAMMED FAISAL
7	19AT1A0307	BOYA JITHENDRA SAI
8	19AT1A0308	DUDEKULA LAL MAHAMMAD YASIN
9	19AT1A0309	SHAIK MAHABOOB BASHA
10	19AT1A0310	SHAIK MANSOOR
11	19AT1A0311	SHAIK MAHAMMED UMAR
12	19AT1A0312	BAROOD MOHAMMED ZUHAIB
13	19AT1A0313	MOHAMMED MUQEED KHAN
14	19AT1A0314	DASARI NARESH
15	19AT1A0315	AKKALADEVI NAVEEN KUMAR
16	19AT1A0316	KURUVA NAVEEN
17	19AT1A0317	KALLU NIRANJAN
18	19AT1A0318	DARZI NIYAZ AHAMMAD
19	19AT1A0319	BAPURAM PRAKASH REDDY
20	19AT1A0320	KUMMARI PURUSHOTHAM
21	19AT1A0321	NAYAKANTI RAMAKRISHNA
22	19AT1A0322	G ROHIT VENKATA SIVAPRASAD
23	19AT1A0323	KHAN SAHIL KHAN
24	19AT1A0324	KATTUBADI SAMEER
25	19AT1A0325	BOYA SHARATH BABU
26	19AT1A0326	CHAKALI SHIVA KUMAR
27	19AT1A0327	PERIKALA SHIVA
28	19AT1A0328	KAMMARA SIVA DURGA PRASAD
29	19AT1A0329	PINJARI SUBHAN BASHA
30	19AT1A0330	CHINTA SUMANTH
31	19AT1A0331	GANDLA SUMANTH
32	19AT1A0332	CHAKALI SUNIL
33	19AT1A0333	GANAMALA SUNIL RAJU

34	19AT1A0334	BYLUPATI THARUN KUMAR
35	19AT1A0335	BESTA THIRUMALESH
36	19AT1A0336	BOYA VAMSHI KRISHNA
37	19AT1A0337	GUJJULA VAMSI KRISHNA
38	19AT1A0338	KANAKAM VIJAY VIKAS RAJU
39	19AT1A0339	BANKA VINAY
40	19AT1A0340	GANGU VISHNU VARDAN
41	19AT1A0341	SHAIK ZAHEER BASHA
42	19AT1A0342	MOLLA ZIAUR RAHEMAN
43	19AT1A0343	BESTHA HEMANTH
44	19AT1A0344	MALYALA SURYA KOUSIK
45	19AT1A0345	CHAKALI SURENDRA
46	19AT1A0346	BATHULA RAMESH BABU
47	20AT5A0301	SHAIK DARVESH
48	20AT5A0302	K VAMSHI
49	20AT5A0303	ADAVENI HEMANTH MANI
50	20AT5A0304	DEVARA SAI KIRAN
51	20AT5A0305	PALADUGU VIJAY KUMAR
52	20AT5A0306	DANDU SIVAKUMAR REDDY
53	20AT5A0307	MASAPOGU SANJEETH KUMAR
54	20AT5A0308	GATTU SAIKUMAR
55	20AT5A0309	KONETI SUNIL
56	20AT5A0310	TANGUTURI CHAND BASHA

S.No	ROLL NO	Name of the Candidate
1	20AT1A0301	B.NAGENDRA KUMAR
2	20AT1A0302	TALARI ADIKESHAVA KUMAR
3	20AT1A0303	MUNUKALAPALLY AKHIL
4	20AT1A0304	K.VISHNU VARDHAN REDDY
5	20AT1A0305	BESTA ASHOK
6	20AT1A0306	D Azaruddin
7	20AT1A0307	VADDE BHARATH RAJ
8	20AT1A0308	TELUGU BHASKAR
9	20AT1A0309	KATEPOGU DEEVEN KUMAR
10	20AT1A0311	DUDEKULA DILEEP
11	20AT1A0312	POTHEPOGU DINESH
12	20AT1A0313	PINJARI IRFAN
13	20AT1A0314	SHAIK JAVEED
14	20AT1A0315	REPALLE KARTHIK
15	20AT1A0316	DUDEKULA KHAJAMINNELLA
16	20AT1A0318	M KUMAR

17	20AT1A0319	AYODHYA MADHAVA REDDY
18	20AT1A0321	KATTUBADI MAHAMMAD YASEEN
19	20AT1A0322	CHAKALI MAHESH
20	20AT1A0323	TELUGU MANOJ KUMAR
21	20AT1A0324	SHAIK GAJULA MOHAMMAD SADIK
22	20AT1A0325	GOLLA PARASHURANGADU
23	20AT1A0326	VALUPIRI PAVAN KALYAN
24	20AT1A0327	CHAKALI PAVAN KUMAR
25	20AT1A0328	PULIKANTI RAHUL TEJA
26	20AT1A0329	PULIGADDA RAJESH
27	20AT1A0330	KUMMARI RAKESH
28	20AT1A0331	GAJJELA RAM SAI
29	20AT1A0332	REDDYGARI RAMARUCHITHA
30	20AT1A0333	CHILUKA RAVI KIRAN
31	20AT1A0334	M Ravi Sankar
32	20AT1A0335	SYED SADIYA
33	20AT1A0336	GANAPA SAI KIRAN
34	20AT1A0337	BOYA SHIVA KUMAR
35	20AT1A0338	GUDISE SIVA KUMAR
36	20AT1A0339	MERADI SRINIVASULU
37	20AT1A0340	BANDI SUJITH KUMAR
38	20AT1A0342	KATTA TEJESWAR
39	20AT1A0343	GOLLA THIRUMALESH
40	20AT1A0344	M.UPENDRA REDDY
41	20AT1A0345	KOMMADDI VENKATA GANGADHAR
42	20AT1A0346	REDDYPOGU VIDYA SAGAR
43	20AT1A0348	MALLEPOGU VINAY KUMAR
44	20AT1A0350	L.YASWANTH RAJU
45	20AT1A0352	ANNIREDDY YUGANDHAR REDDY
46	20AT1A0353	M JAYA TEJA

GPCET

G. PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

II, III & IV B. Tech I SEM Objective Paper – Assessment

Branch: MECHANICAL ENGINEERING

Sub: Introduction to Mechanical Micro Machining **Date: 28/01/2023**

Time: 30 min **Max.Marks:25**

Roll No: **Invigilator signature:**

I.MULTIPLE CHOICE QUESTIONS

1. What is the primary goal of mechanical micro machining? [ ]

a) Mass production of large parts b) Manufacturing components with micro-scale features
c) Producing complex 3D printed objects d) Assembling electronic circuits

2. Which of the following machining processes is commonly used in mechanical micro machining? [ ]

a) Injection molding b) Turning c) Welding d) Sand casting

3. What is the typical range of feature sizes in mechanical micro machining? [ ]

a) Millimeters to centimetres b) Micrometers to millimetres c) Centimeters to meters
d) Nanometers to micrometers

4. Which of the following materials is commonly machined using mechanical micro machining techniques? [ ]

a) Wood b) Glass c) Plastics d) Concrete

5. What is the primary advantage of mechanical micro machining over traditional machining methods? [ ]

a) Lower cost b) Faster production time c) Higher precision and accuracy
d) Reduced environmental impact

6. Which machining process is used to remove material by rotating a cutting tool against a workpiece? [ ]

a) Milling b) Drilling c) Grinding d) EDM (Electrical Discharge Machining)

7. What is the purpose of a CNC (Computer Numerical Control) system in mechanical micro machining? [ ]

a) To design 3D models b) To control machining operations with high precision

c) To assemble electronic components d) To measure surface roughness

8. Which of the following is a common tool material used in mechanical

micro machining? [ ]

a) Rubber b) Plastic c) Carbide d) Paper

9. Which machining process involves removing material by applying electrical discharges between a tool and a workpiece? [ ]

a) Milling b) Turning c) EDM (Electrical Discharge Machining) d) Grinding

10. What is the primary advantage of micro milling over traditional milling? [ ]

a) Lower cost b) Faster production time c) Higher precision and accuracy
d) Reduced tool wear

11. Which machining process is used to create holes in a workpiece? [ ]

a) Milling b) Turning c) Drilling d) Grinding

12. What is the primary disadvantage of mechanical micro machining? [ ]

a) Limited material compatibility b) Low precision and accuracy

c) Slow production speed d) High environmental impact

13. Which of the following factors affects the surface finish in mechanical micro machining? [ ]

a) Cutting speed b) Feed rate c) Tool material d) All of the above

14. Which machining process involves rotating a workpiece against a fixed cutting tool? [ ]

a) Milling b) Turning c) Drilling d) Grinding

15. What is the primary advantage of ultrasonic machining in micro machining? [ ]

a) Higher material removal rates b) Reduced tool wear c) Lower cost
d) Enhanced surface finish

16. Which machining process is used to remove material by abrading the surface of a workpiece? [ ]

a) Milling b) Turning c) Grinding d) Drilling

17. What is the primary advantage of laser machining in micro machining? [ ]

a) Lower cost b) Reduced environmental impact

c) Non-contact process d) Enhanced material compatibility

18. Which of the following factors affects the machining forces in micro machining? [ ]

a) Cutting tool material b) Workpiece material c) Feed rate d) All of the above

19. What is the primary challenge of micro turning compared to traditional turning? [ ]

a) Higher precision b) Increased tool wear

c) Limited material compatibility d) Slower production speed

20.Which machining process involves removing material by impacting it with abrasive particles? [ ]

a) Milling b) Turning c) Grinding d) Drilling

21..What is the primary advantage of waterjet machining in micro machining? [ ]

a) Non-contact process b) Higher material removal rates

c) Lower cost d) Enhanced surface finish

22. Which machining process is used to remove excess material from a workpiece using a rotating cutting tool? [ ]

a) Milling b) Turning c) Drilling d) Grinding

23. What is the primary advantage of chemical machining in micro machining? [ ]

a) Lower cost b) Higher precision c) Non-contact process d) Faster production time

24. Which of the following is NOT a common application of mechanical micro machining? [ ]

a) Microelectronics b) Medical devices c) Automotive parts d) Household appliances

25. What is the primary benefit of micro machining in the manufacturing industry? [ ]

a) Lower production costs b) Increased environmental impact

c) Enhanced part complexity d) Reduced precision and accuracy

GPCET

Pioneering Innovative Education

G PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY: KURNOOL (Autonomous)

Department of Mechanical Engineering

Evaluation sheet on Add-on Course on "Introduction To Mechanical Micro Machining"

S.No	ROLL NO	Name of the Candidate	Marks
1	19AT1A0301	SYED ABBAS	22
2	19AT1A0302	K. ABHI RAM MANIKANTA YADHAV	19
3	19AT1A0303	SHAIK AFROZ BASHA	20
4	19AT1A0304	MOHAMMAD ARAFATHULLA	22
5	19AT1A0305	AMARAVATHI BEESANNA	18
6	19AT1A0306	MOHAMMED FAISAL	20
7	19AT1A0307	BOYA JITHENDRA SAI	19
8	19AT1A0308	DUDEKULA LAL MAHAMMAD YASIN	15
9	19AT1A0309	SHAIK MAHABOOB BASHA	21
10	19AT1A0310	SHAIK MANSOOR	16
11	19AT1A0311	SHAIK MAHAMMED UMAR	6
12	19AT1A0312	BAROOD MOHAMMED ZUHAIB	18
13	19AT1A0313	MOHAMMED MUQEED KHAN	20
14	19AT1A0314	DASARI NARESH	21
15	19AT1A0315	AKKALADEVI NAVEEN KUMAR	22
16	19AT1A0316	KURUVA NAVEEN	12
17	19AT1A0317	KALLU NIRANJAN	17
18	19AT1A0318	DARZI NIYAZ AHAMMAD	18
19	19AT1A0319	BAPURAM PRAKASH REDDY	19
20	19AT1A0320	KUMMARI PURUSHOTHAM	20
21	19AT1A0321	NAYAKANTI RAMAKRISHNA	22
22	19AT1A0322	G ROHIT VENKATA SIVAPRASAD	18
23	19AT1A0323	KHAN SAHIL KHAN	20
24	19AT1A0324	KATTUBADI SAMEER	19
25	19AT1A0325	BOYA SHARATH BABU	15
26	19AT1A0326	CHAKALI SHIVA KUMAR	19
27	19AT1A0327	PERIKALA SHIVA	20
28	19AT1A0328	KAMMARA SIVA DURGA PRASAD	22
29	19AT1A0329	PINJARI SUBHAN BASHA	18
30	19AT1A0330	CHINTA SUMANTH	20
31	19AT1A0331	GANDLA SUMANTH	19
32	19AT1A0332	CHAKALI SUNIL	15
33	19AT1A0333	GANAMALA SUNIL RAJU	21
34	19AT1A0334	BYLUPATI THARUN KUMAR	16

35	19AT1A0335	BESTA THIRUMALESH	6
36	19AT1A0336	BOYA VAMSHI KRISHNA	21
37	19AT1A0337	GUJJULA VAMSI KRISHNA	16
38	19AT1A0338	KANAKAM VIJAY VIKAS RAJU	6
39	19AT1A0339	BANKA VINAY	18
40	19AT1A0340	GANGU VISHNU VARDAN	20
41	19AT1A0341	SHAIK ZAHEER BASHA	22
42	19AT1A0342	MOLLA ZIAUR RAHEMAN	12
43	19AT1A0343	BESTHA HEMANTH	17
44	19AT1A0344	MALYALA SURYA KOUSIK	A
45	19AT1A0345	CHAKALI SURENDRA	21
46	19AT1A0346	BATHULA RAMESH BABU	20
47	20AT5A0301	SHAIK DARVESH	18
48	20AT5A0302	K VAMSHI	17
49	20AT5A0303	ADAVENI HEMANTH MANI	8
50	20AT5A0304	DEVARA SAI KIRAN	20
51	20AT5A0305	PALADUGU VIJAY KUMAR	21
52	20AT5A0306	DANDU SIVAKUMAR REDDY	16
53	20AT5A0307	MASAPOGU SANJEETH KUMAR	6
54	20AT5A0308	GATTU SAIKUMAR	18
55	20AT5A0309	KONETI SUNIL	20
56	20AT5A0310	TANGUTURI CHAND BASHA	22

S.No	ROLL NO	Name of the Candidate	Marks
1	20AT1A0301	B.NAGENDRA KUMAR	20
2	20AT1A0302	TALARI ADIKESHAVA KUMAR	19
3	20AT1A0303	MUNUKALAPALLY AKHIL	15
4	20AT1A0304	K.VISHNU VARDHAN REDDY	21
5	20AT1A0305	BESTA ASHOK	16
6	20AT1A0306	D Azaruddin	6
7	20AT1A0307	VADDE BHARATH RAJ	12
8	20AT1A0308	TELUGU BHASKAR	17
9	20AT1A0309	KATEPOGU DEEVEN KUMAR	18
10	20AT1A0311	DUDEKULA DILEEP	19
11	20AT1A0312	POTHEPOGU DINESH	20
12	20AT1A0313	PINJARI IRFAN	21
13	20AT1A0314	SHAIK JAVEED	22
14	20AT1A0315	REPALLE KARTHIK	21
15	20AT1A0316	DUDEKULA KHAJAMINNELLA	20
16	20AT1A0318	M KUMAR	18
17	20AT1A0319	AYODHYA MADHAVA REDDY	17

18	20AT1A0321	KATTUBADI MAHAMMAD YASEEN	18
19	20AT1A0322	CHAKALI MAHESH	20
20	20AT1A0323	TELUGU MANOJ KUMAR	19
21	20AT1A0324	SHAIK GAJULA MOHAMMAD SADIK	15
22	20AT1A0325	GOLLA PARASHURANGADU	21
23	20AT1A0326	VALUPIRI PAVAN KALYAN	16
24	20AT1A0327	CHAKALI PAVAN KUMAR	6
25	20AT1A0328	PULIKANTI RAHUL TEJA	12
26	20AT1A0329	PULIGADDA RAJESH	17
27	20AT1A0330	KUMMARI RAKESH	18
28	20AT1A0331	GAJJELA RAM SAI	19
29	20AT1A0332	REDDYGARI RAMARUCHITHA	20
30	20AT1A0333	CHILUKA RAVI KIRAN	21
31	20AT1A0334	M Ravi Sankar	22
32	20AT1A0335	SYED SADIYA	21
33	20AT1A0336	GANAPA SAI KIRAN	20
34	20AT1A0337	BOYA SHIVA KUMAR	18
35	20AT1A0338	GUDISE SIVA KUMAR	17
36	20AT1A0339	MERADI SRINIVASULU	18
37	20AT1A0340	BANDI SUJITH KUMAR	20
38	20AT1A0342	KATTA TEJESWAR	19
39	20AT1A0343	GOLLA THIRUMALESH	15
40	20AT1A0344	M.UPENDRA REDDY	21
41	20AT1A0345	KOMMADDI VENKATA GANGADHAR	16
42	20AT1A0346	REDDYPOGU VIDYA SAGAR	6
43	20AT1A0348	MALLEPOGU VINAY KUMAR	12
44	20AT1A0350	L.YASWANTH RAJU	17
45	20AT1A0352	ANNIREDDY YUGANDHAR REDDY	18
46	20AT1A0353	M JAYA TEJA	19