

CADEM™

Making students Industry Ready



CNC machining
Computer Aided Manufacturing

The VTU syllabus

Theory

CIM 06ME72, Part B Unit 7

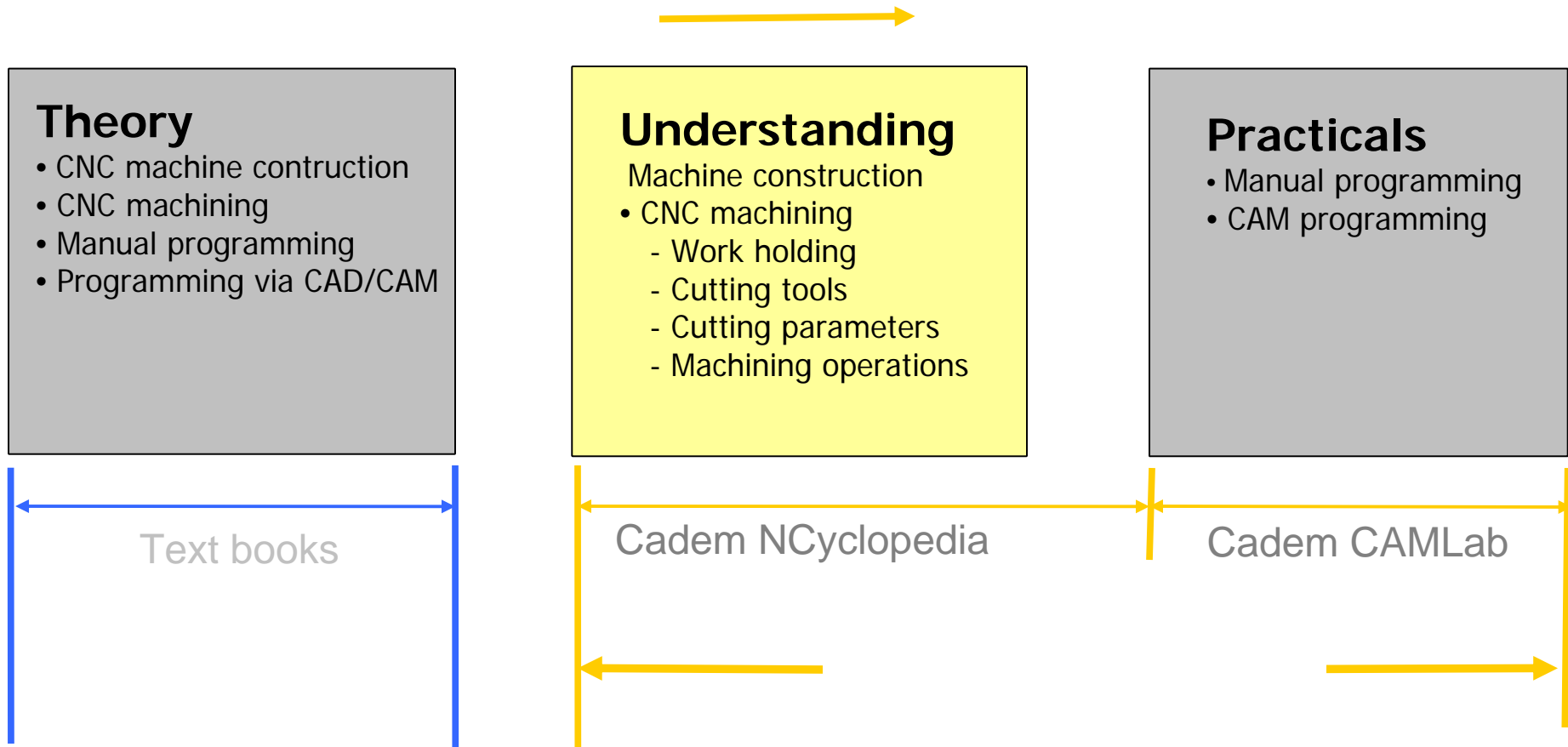
- Introduction to CNC
- Elements of CNC
- CNC machining – turning centers
- Part programming
- Steps in part programming for Milling and Turning

Practicals

CIM and Automation Lab. 06MEL77, Part A

- CNC part programming using CAM packages
- Simulation of turning, milling, drilling operations

VTU syllabus and Cadem



CNC Technology - NCyclopedia



- ▶ Introduction
- ▶ Machine construction
- ▶ Machining operations
- ▶ Cutting tools
- ▶ Cutting parameters
- ▶ Work holding
- ▶ Machine setting
- ▶ Machine operation
- ▶ Programming concepts
- ▶ CNC programming
- ▶ Tool mounting procedure
- ▶ CAD/CAM and DNC



Simplifies teaching complex CNC technology through multimedia and videos
Reduces the burden of teaching, since the software is designed for self-study.

Motivates students to develop an interest in the subject, because of the ease-of-use and interesting multimedia content.



Simulation software - seeNC

Learning manual CNC programming

Checks a manually written program for syntax errors

Lists the errors and locations.

Simulates the tool path.

Syntax status: Simulation

Parameter	Parameter
Machine name	Fanuc 0M
Work coord system	0.0000, 0.0000, 0.0000
Local coord system	
Tool number	1
Tool name	10.0 mm End mill-roug...
Tool diameter	10.0000 mm
Motion	Circular - CCW
X coord	125.0000
Y coord	96.0000
Z coord	-10.0000
Table position	
Spindle speed	1114.0000 rpm
Feed rate	200.0000 mm/min
Spindle status	Cw

Auto refresh
 Highlight NC program during simulation

```
X96. Y125. I0. J-29.  
X125. Y96. I29. J0.  
X154. Y125. I0. J29.  
G01 X162.  
G03 X125. Y162. I-37. J0.  
X88. Y125. I0. J-37.
```

Simulation

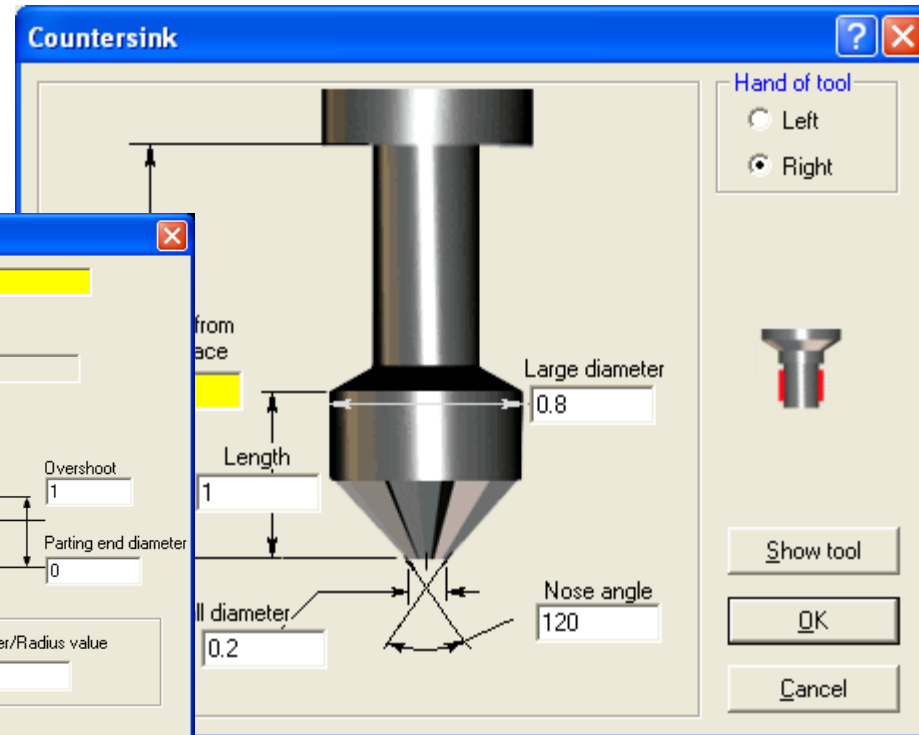
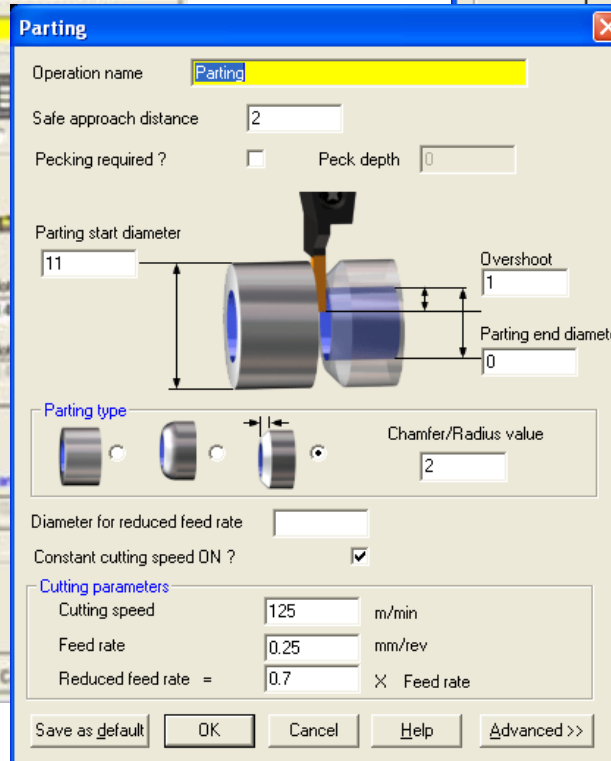
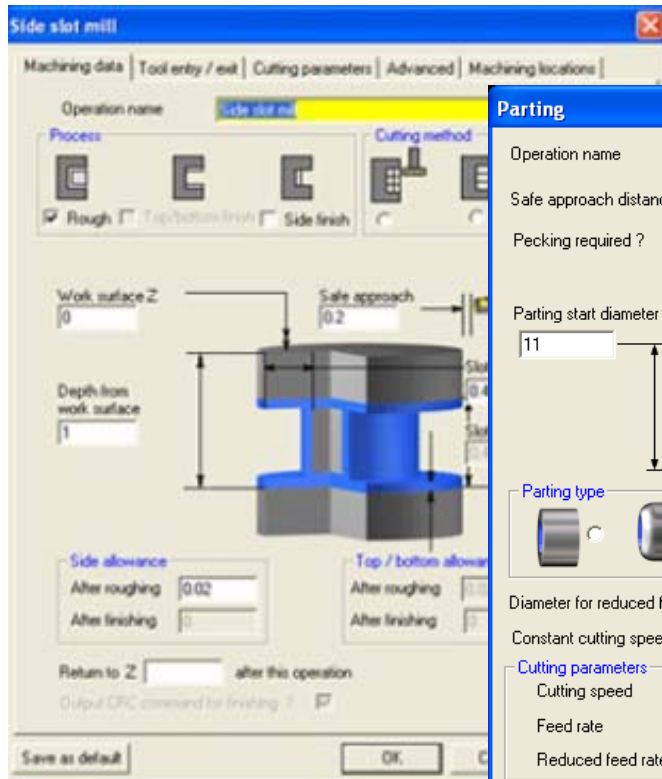
Program errors and tool positions

Program written by student

CAD/CAM software - CAPS

Learning CAD/CAM

- Programming from CAD drawing
- Tool path simulation
- Cycle time calculation



CADEM covers entire syllabus

Theory : CIM 06ME72, Part B Unit 7

- Introduction to CNC
- Elements of CNC
- CNC machining centers
- Part programming
- Steps in programming for Milling, Turning

[NCyclopedia](#)

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Lab. : CIM and Automation Lab. 06MEL77, Part A

- CNC part programming using CAM packages
- Simulation of turning, milling, drilling

[CAPSturn / mill](#)

[seeNCturn / mill](#)

CADEM - Industry leader

Cadem is India's leading provider of productivity solutions for the manufacturing industry.

IMTMA endorses , the Indian Machine Tool Manufacturers' Association uses CADEM for training engineers from industry on CNC productivity enhancements.

Largest selling CNC software and used by India's best and biggest manufacturing industries.



Indian Machine Tool Manufacturers' Association

CADEM used by 100 + colleges

A.V.C. College of Engg, Nagai
Acharya Institute of Technology, Bangalore
Ambedkar Institute of Technology, Bangalore
APS Polytechnic, Bangalore
Arunai Engineering College, Thiruvannamalai
Bahubali College of Engineering, S'belogala
Bannari Amman College of Engineering, Sathy
Bapuji Institute of Engineering Technology,
Davangere
Basavakalyana College of Engineering, Bidar
BCET, Bangalore
BDT College of Engineering, Davangere
BMS Institute of Technology, Yelahanka
BMS College of Engg., Bangalore
BTL Institute of Technology, Bangalore
BVB College of Engineering., Hubli
BVVS Polytechnic., Bagalkot
C.P.C. Polytechnic, Mysore
Central Institute of Tool Design, Hyderabad
College of Engineering, Bhusaval
College of Engineering, Rajaramnagar
Crescent Engineering College, Chennai
D.R.R. Polytechnic, Davangere
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E.G.S. Pillai College of Engineering, Nagai
Easwari College of Engineering, Chennai
Erode Sengunthar College of Engineering, Erode
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Gogte Institute of Technology, Belgaum
Government College of Technology, Coimbatore
Government Polytechnic, Belgaum
Government Polytechnic, Bellary
Government Polytechnic, Bhadravati

Government Polytechnic, Bidar
Government Polytechnic, Bijapur
Government Polytechnic, Chamarajnagar
Government Polytechnic, Channapatna
Government Polytechnic, Chintamani
Government Polytechnic, Gulbarga
Government Polytechnic, Karwar
Government Polytechnic, Krishna Rajpet
Government Polytechnic, Kushalnagar
Government Polytechnic, Raichur
Government Polytechnic, Tumkur
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Gurunanak Dev Engineering College, Bidar
HKBK College of Engineering, Bangalore
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Institute of Road and Transport Technology
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Jayam College of Engineering, Nallanur
JSS college of Engineering, Bangalore
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Kamala Institute of Technology, Karimnagar
Karnataka Polytechnic, Mangalore
Karpagam College of Engineering, Coimbatore
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Kolhapur Institute of Technology, Kolhapur
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Productivity Institute,IMTMA,Bangalore
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Ramakrishan Mission Student's Home, Chennai
Reva Institute of Technology, Bangalore
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Siddaganga Institute of Technology, Tumkur
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Sona College of Technology, Salem
Revana Siddeshwara Inst.of Tech., Bangalore
Siddharatha Institute of Technology, Tumkur
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eachers Tech. Training Institute, Chandigarh
Tontadarya College of Engineering, Gadag
richy Engineering College, Trichy
Victoria Jubilee Training Institute, Bombay
Vidya Vardhaka College of Engineering, Mysore
Walchand College of Engineering, Sangli

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Thank you

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