

DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION
MASTER OF TECHNOLOGY IN Control & Instrumentation (C&I)

The following alphanumeric coding scheme has been adopted

Core Courses XXXYMN

Elective Courses XXXYCMN

XXX abbreviates a particular M. Tech. program, Y – (5 for M. Tech. 1 st year, 6 for M. Tech. 2 nd year),

C – credit of the course (4/3/2),

MN – Subject code (Odd number for odd semester and even number for even semester courses)

| Semester-I | | | | | | | | | | | | | | |
|--------------------|--------|--|--------------------------------------|---------------|----|---|---|---|-----|-----|-----|-----|-----|---------------|
| | S. No. | Course Code | Course Name | Type/ Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE | Total Credits |
| Group A | 1 | C&I 501 | System Theory | Core | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - | 17 |
| | 2 | C&I 503 | Measurement & Instrumentation | Core | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - | |
| Group B | 3 | C&I 5401/5403/..... | Elective 1 | Elective | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - | |
| | 4 | C&I 5301/5303/..... | Elective 2 | Elective | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - | |
| | 5 | C&I 5201/5203/...../ UEC5201/5203/..... | Elective 3/ University Elective I | Elective | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - | |
| Semester-II | | | | | | | | | | | | | | |
| | S. No. | Course Code | Course Name | Type/ Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE | Total Credits |
| Group C | 1 | C&I 502 | Intelligent Control | Core | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - | 17 |

| | | | | | | | | | | | | | |
|----------------|---|---|---------------------------------------|----------|---|---|---|---|----|----|----|----|---|
| Group D | 2 | C&I 504 | Process Control | Core | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 3 | C&I 5402/5404/..... | Elective 4 | Elective | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 4 | C&I 5302/5304/..... | Elective 5 | Elective | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 5 | C&I 5202/5204/...../ UEC 5202/5204/..... | Elective 6/ University Elective II | Elective | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |

Semester-III

| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE | Total Credits | |
|----------------|---------------------|---------------------|------------------|-----------|----------------|---|---|----|-----|-----|-----|-----|-----|---------------|-----------|
| Track 1 | | | | | | | | | | | | | | 12 | |
| Group E | 1 | C&I 651 | Research Project | Core | 2 ¹ | 0 | | 12 | 0 | - | 0 | 100 | 0 | | |
| | Track 2 | | | | | | | | | | | | | | |
| | 1 | C&I 601 | Major Project-1 | Core | 3 | | | | | | | 40 | 60 | | 12 |
| | 2 | C&I 6401/6403/..... | Elective 7 | Elective | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - | | |
| | 3 | C&I 6301/6303/..... | Elective 8 | Elective | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - | | |
| 4 | C&I 6201/6203/..... | Elective 9 | Elective | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - | | | |

Semester-IV

| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE | Total Credits | |
|----------------|----------------|-------------|------------------|-----------|----------------|---|---|----|-----|-----|-----|-----|-----|---------------|--|
| Group F | Track 1 | | | | | | | | | | | | | | |
| | 1 | C&I 652 | Research Project | Core | 2 ¹ | 0 | | 12 | 0 | - | 0 | 100 | 0 | 12 | |
| | Track 2 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|--|---|---------|------------------|------|---|---|---|----|---|---|---|-----|---|----|
| | 1 | C&I 602 | Major Project II | Core | 2 | 1 | 0 | 12 | 0 | - | 0 | 100 | 0 | 12 |
|--|---|---------|------------------|------|---|---|---|----|---|---|---|-----|---|----|

LIST OF ELECTIVES :

| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
|-------------------|-------|-------------|--|-----------|----|---|---|---|-----|-----|-----|-----|-----|
| Elective 1 | 1 | C&I 5401 | Analog and Digital Electronics | Elective | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 2 | C&I 5403 | Manufacturing, Automation & Control | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 3 | C&I 5405 | Biomedical Instrumentation | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 4 | C&I 5407 | Soft Computing Techniques | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
| Elective 2 | 1 | C&I 5301 | Random Processes in Control & Estimation | Elective | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 2 | C&I 5303 | Nonlinear Control Theory | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 3 | C&I 5305 | Design of Fractional Order Systems | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 4 | C&I 5307 | Optimization Techniques | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 5 | C&I 5309 | Applied Mathematics | | | | | | | | | | |
| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
| | 1 | C&I 5201 | Seminar | | 2 | 2 | 0 | 0 | 2 | - | 100 | - | - |
| Elective 3 | 2 | C&I 5203 | Bio Engineering & Control | Elective | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 3 | C&I 5205 | Networked Control System | | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 4 | C&I 5207 | Robust Control | | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |

| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
|-------------------|-------|-------------|---------------------------------------|-----------|----|---|---|---|-----|-----|-----|-----|-----|
| Elective 4 | 1 | C&I 5402 | Intelligent Instrumentation | Elective | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 2 | C&I 5404 | Digital Signal Processing | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 3 | C&I 5406 | Modelling, Identification and Control | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | 4 | C&I 5408 | Power Quality | | 4 | 3 | 0 | 2 | 15 | 25 | 20 | 40 | - |
| | | | | | | | | | | | | | |
| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
| Elective 5 | 1 | C&I 5302 | Minor Project | Elective | 3 | 0 | 0 | - | - | 40 | - | - | 60 |
| | 2 | C&I 5304 | Computer Communication & Control | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 3 | C&I 5306 | Analog Filter Design | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 4 | C&I 5308 | Optimal Control Theory | | 3 | 3 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 5 | C&I 5310 | Digital Image Processing | | | | | | | | | | |
| | S.No. | Course Code | Course Name | Type/Area | Cr | L | T | P | CWS | PRS | MTE | ETE | PRE |
| Elective 6 | 1 | C&I 5202 | Nature Inspired Algorithms | Elective | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 2 | C&I 5204 | Machine Learning | | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 3 | C&I 5206 | Adaptive Signal Processing | | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |
| | 4 | C&I 5208 | Special Topics in Control Systems | | 2 | 2 | 0 | 0 | 20 | - | 30 | 50 | - |

