

**INDIRA TECHNICAL EDUCATION SOCIETY,
NASHIK**

**CERTIFICATE COURSE
CNC PROGRAMMING (CNC)**

**EXAM SCHEME: THEORY PAPER – I - 100 MARKS – 3 HRS.
THEORY PAPER – II - 100 MARKS – 3HRS.**

PAPER - I

THEORY SYLLABUS

- * NC , CNC & DNC Machines
- * Advantage & Disadvantage of CNC machines
- * Parts suitable for CNC machine
- * Classification of CNC machines, according to number of axis, feedback control & control system features
- * Axis identification of CNC machines
- * Process planning
- * Special features of CNC machines ,machines structure, slide ways , servo motor ,Ball lead screw, ATC, Tool and work holding devices, computerized control unit
- * Key board details of computer unit and operational panel.
- * Safety precautions, operational requirements for CNC machine Tools, tools offset, jaw turning ,jaw boring etc.
- * Listing co-ordinates of job
- * CNC words
- * G codes and M codes
- * Canned cycles used in CNC as per Fanuc Control System.
- * Work zero, machine zero and zero shift.

GUIDELINE FOR PAPER SETTER : PAPER – I

Q. 1. : Compulsory Objective cover all syllabus 20 Marks

Q. 2. To Q. 8 solve any five question each questions carry equal marks 16 Marks

Note : No Programming problems should be asked in P-I Only Theory base questions.



(CNC - PAPER – II)

THEORY SYLLABUS

- * Part of Programming in CNC words with programming Format.
- * Co-ordinate Systems
- * Preparatory Functions and Programming formats of them
- * Miscellaneous functions (M codes)
- * Use of M codes in programming
- * Simple Programming examples of drilling ,milling and lathe machines
- * Use of G40, G41 and G42 codes
- * Study and use of Canned cycles in CNC lathe and milling machine as per Fanuc Controls
- * Programming using Canned cycles in lathe machines
- * Programming using canned cycles in milling and drilling machines
- * Main Programs and sub- Programs
- * Examples on Programming
- * Introduction to Computer Aided Programming
- * Advantages of Computer Aided Programming

GUIDELINE FOR PAPER SETTER : PAPER – II

- Q. 1. : Compulsory Objective cover all syllabus 20 Marks
Q. 2. To Q. 8 solve any five question each questions carry equal marks 16 Marks

Reference Book : Shri. Avinash Ladge.

