A Report on
A Two-Day Staff Development Programme on
"CNC PROGRAMMING: HANDS-ON EXPERIENCE"

…For Lab Technicians

04th – 05th March, 2016
(Under TEQIP-II)

Manufacturing has gone through tremendous changes over the past few decades. The developments in computer open new vistas for extensive developments in every area of manufacturing. Computer Numerical Control (CNC) is a technology that combines electronic hardware with software programs to perform various operations in the machine tool industry. The present generation of CNC machine tools is designed to meet the requirements of high productivity, flexibility and high reliability to produce components of consistently high quality and accuracy combined with reduction in manufacturing cost. So it becomes essential to update the knowledge of academicians in the area of CNC Technology.

With this objective, a two-day staff development programme on "CNC Programming : Hands-on Experience" was organized for the lab technicians of various engineering colleges during 4-5 March, 2016.

Inauguration of two-day staff development programme

Dr. Sanjeev Reddy K. Hudgikar, Professor and Principal, LingarajAppa Engineering College, Bidar, Karnataka State and Dr.K.C.Varaprasad, Professor and Head of the Department of Mechanical Engineering, Sree Vidyanikethan Engineering College, acted as resource persons for the two days.

Dr. Sanjeev Reddy K. Hudgikar during his inaugural address notified that faculty are sound in theoretical aspects whereas technical staff are sound in practical knowledge. As the technology is continuously updating, training is required for lab technicians to tune themselves with the advanced machines.

Dr. Sanjeev Reddy K. Hudgikar in his key note address detailed that Computer Numerical Control part programming is the procedure by which the sequence of processing steps to be performed on the CNC machine is planned and documented. The said programme outlines the development of few manual part programs for complex contour. These are user friendly programs involving the terminology of G and M codes.

Dr. K.C.Varaprasad explained that a part program is a set of encoded information giving co-ordinate values and other details to achieve a desired machining. It contains all the information for machining of the component, which is fed to the CNC systems. He illustrated through hands-on experience on graph sheets the types of coordinate systems and representation of the coordinates.
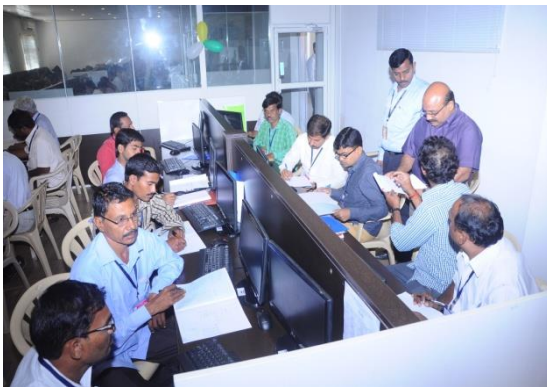
Hands-on Experience on the Machine Simulator

On 5th March, 2016, a complete hands-on experience was provided to the participants on simulation of programs pertaining to CNC lathe machine. In the afternoon session, demonstration was given on CNC lathe operation. The delegates

also operated the machine and components were manufactured on CNC lathe machine. Mr. E. Radhakrishnan, Mr. G. Dileep Kumar, Mr. K. Vinod Kumar and Mr. D. Madhusudan Reddy of Department of Mechanical Engineering, Sree Vidyanikethan Engineering College assisted the participants during hands-on sessions for the two days.

Hands-on Experience on the CNC Lathe Machine

During the valedictory function, Dr. K.C.Varaprasad explained the role to be played by the lab technicians during the laboratory sessions and their importance for the development of students. Dr. Sanjeev Reddy elucidated that computer allows economical programming for machining of complex parts which could not be manually programmed easily.

Dr. Sanjeev Reddy and Dr.K.C.Varaprasad distributed the soft copy of the material and the certificates to the participants.

Distribution of Certificates to the participants during the Valedictory Function