

## **SSDP ON “ADVANCED PROGRAMMING SKILLS IN COMPUTERISED NUMERICAL MACHINES”**

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A Student Development program on ‘Advanced Programming Skills in Computer Numerical Control’, with hands-on experience, was conducted by the Mechanical Engineering Department from 27<sup>th</sup> August to 07<sup>th</sup> September 2018, for final year students (7th Semester) of the Mechanical Engineering Department.

Mechanical Engineering branch requires Computer Numerical Control which is considered as the core of all the manufacturing Industries. G and M codes form the basis for the CNC machines which are essential in the automation of the Mechanical based industries.

At the same time, advanced coding techniques are also required to match the industry standards as well. Hence, our SSDP program focuses on the need of the industries, in the current scenario.

The SSDP was inaugurated on 27<sup>th</sup> August, in the presence of the Head of the Department, Senior Professors and all the faculty members of the Mechanical Engineering department, in Seminar Hall 06, from 3.00 pm to 5.00 pm.



**SSDP on Advanced Programming Skills in CNC Machines:** Dr. Arvind Balakrishna Dayte addressing the students of 7th Sem of the need of CNC Programming in Manufacturing Industries scheduled on 27th August 2018 at 03.00PM in the seminar hall 6.

Our students were exposed to hands-on experience in CNC programming, on live computers. Certified trainers in the Mechanical Department, Prof. P Rajesh Kumar (Associate Professor) and Prof. G Shankar (Associate Professor) were the main trainers for the event. Trained faculty members from IEM Department, Prof. Niranjana Hugar and Prof. Ravish B V, trained the students with respect to the machine setup, simulation of the program and carrying the machining operations on the specimen.

The hands-on experience was given to the students in the CNC lab (Room No. 257) from 3.00 pm to 5.00 pm, from 27<sup>th</sup> August to 07<sup>th</sup> September 2018.

53 students from 7<sup>th</sup> Semester 'A' section were trained initially in the SH6, by Prof. P Rajesh Kumar and Prof. Shankar G. They were trained on the basics of writing programs using G codes and M Codes.

A batch of 13 students was then taken to the CNC Lab for the training program on simulation of the CNC programs and the carrying out of the operations on the actual machines.

The Program was structured on the Turning and the Milling operations, with around 5-6 different programs, with industry-based commercial commands being taken into consideration.



**SSDP on Advanced programming Skills in CNC Machines:** Prof. Niranjan Hugar and lab Instructor Mr.Arun Kumar are carrying out the initial setn up of the machine in Room No 257 on 28th August 2018 at 03.30PM.



**SSDP on Advanced Programming Skills in CNC Machines:** Prof Niranjan Hugar explaining the students of drive mechanisms and the functioning of different components of the machine in Room No 257 on 28th August 2018.



**SSDP on Advanced Programming Skills in CNC Machines:** Prof. Niranjn Hugar, Lab Instructor Mr. Arun Kumar and Students monitoring the machining operation in Room No 257 on 29th August 2018.



**SSDP on Advanced Programming Skills in CNC Machines:** After the completion of the machining operation, the final machined component is being displayed by the student in Room No 257 on 30th August 2018.

The various mechanisms, including Hydraulic and Pneumatic drive systems, were explained and

the working on the different components of the CNC machine was demonstrated based on these drive mechanisms.

Initially the students were trained to set up the machines, including the back end set up such as the switching on the compressors.

The students were also briefed about the safety instructions to be followed during any emergency.

The Program was coordinated by Prof. Suhas B (Assistant Professor) and Prof. S Sindhu (Associate Professor).

**Outcome Of the Event:**

- Students of the 7<sup>th</sup> Semester 'A' section are ready for current manufacturing sector on CNC programming.
- Students of the 7<sup>th</sup> Semester 'A' section can perform industry-based CNC programming for machine components.
- Students of the 7<sup>th</sup> Semester 'A' section are now capable of trouble shooting the problems in back end set up of the machine.