

[03 - 4121]

IV/IV B.E. DEGREE EXAMINATION

MECHANICAL ENGINEERING

FIRST SEMESTER

Elective - III : COMPUTER NUMERICAL CONTROL AND COMPUTER AIDED MANUFACTURING

(Effective from the admitted batch of 2007-2008)

Time : 3 hours

Max. Marks : 70

Answer any FIVE questions

- 1.a. What are the basic components of NC system? Write advantage of NC machines. List out conditions where NC is most appropriate.
b. How you defined "Adaptive Control (AC)". Explain AC with suitable example of control system. Write down benefits of AC in machining.
- 2.a. Discuss the principle and advantages of group technology coding.
b. Explain the available better features in 'computer aided Process planning (CAPP)' over the 'conventional process planning approach.' How does CAPP help in selection of machine tools?
- 3.a. What do you understand by Robotic System and explain each component of a system in detail?
b. Distinguish between Direct kinematics and inverse kinematics of a robot
- 4.a. Distinguish between contact inspection and non-contact inspection methods.
b. Explain in detail about material handling systems in CIM Environment
- 5.a. Discuss various statistical tools for Quality control? Explain graphical view of a Frequency distribution curve.
b. Explain about role and development of CIM and architecture
- 6.a. Discuss the major elements of FMS.
b. What are the required considerations for designing the automated conveyer system?
7. a. what do you understand by tool management system
b. Discuss the principle and advantages of having Inventory control in the shop floor
- 8.a. Describe the advantages in the Inventory control in CIM environment
b. Discuss in detail about the quality assurance