IV/IV B.E. DEGREE EXAMINATION.

First Semester

Mechanical Engineering

Elective III – COMPUTER NUMERICAL CONTROL AND COMPUTER AIDED MANUFACTURING

(Effective from the Admitted Batch of 2006–2007)

Time : Three hours   Maximum : 70 marks

Answer any FIVE questions.

1.   (a)   What is APT? What are the different APT statements? Explain them briefly.

     (b)   Differentiate between computer aided part programming and manual part programming.

2.   (a)   Explain the Opitz system of part coding with suitable example.

     (b)   What are the benefits and limitations of Group Technology?

3.   (a)   Define CAPP. Discuss briefly the different types of CAPP systems.

     (b)   Explain the computer aided production planning and control system.

4. (a) What are the factors to be considered to integrate the automatic storage systems?

   (b) Briefly discuss the applications of the industrial robots?

5. (a) Write the features of AGV'S in material handling system in automated plants.

   (b) What is MRP-l? How does it benefit the management of a factory?

6. (a) How to use sensor technologies for inspection in manufacturing industries?

   (b) Explain the various non- contact inspection methods.

7. (a) Describe the construction of operation and programming of CMM.

   (b) What is FMS layout? Explain any one layout with a neat sketch.

8. (a) Explain different computer control system architectures of FMS.

   (b) Write the benefits of computer integrated manufacturing system in mass production.