Department of Aeronautical and Automobile Engineering
End Sem Exam AAE 4051-PE VII
Computer Integrated Manufacturing (Scheme)

Q1. Define Production system. With the aid of a neat block diagram, explain various components of Production system (2)

Q2. Explain with a neat block diagram, functioning of Adaptive Control Machining System. Enlist various parameters considered in this system. What are the advantages of ACMS? (3)

Q3. Explain the terminology Canned Cycle. Write a CNC program to machine a component as per the given details in Fig 3 (i) (5)

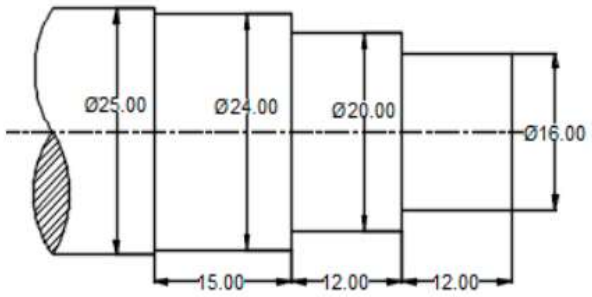

Fig 3 (i)

Given raw material: Mild Steel Rod ø 25 x 90 mm

Q4. Discuss with neat sketch five different types of joints in industrial robot (5)

Q5. Define Programmable Logic Circuit. Explain with a block diagram, design and functional details of PLC. Enlist the application and advantages of PLC (3)

Q6. Discuss with example the following terminologies w.r.t CNC Program structure: (i) Start up (ii) Body of the program (iii) End of the program (2)

Q7. Define Flexible Manufacturing System (FMS). Discuss with a neat block diagram, In – line or Progressive FMS layout. What are the benefits/ advantages of FMS system? (3)

Q8. Explain briefly, with a neat flow diagram, five important activities of Computer Aided Production Planning system (5)

Q9. Identify THREE sources of error in CNC machine. Explain one of the most critical error that affects the accuracy and efficiency of CNC machining (2)

Q10. Define the terminology Interpolation. Explain with a neat sketch three different methods of interpolation used /recommended in CNC machining. (3)

Q11. Discuss with example Material Requirement Planning (MRP). What are the Objectives of Material Requirement Planning? Explain three important inputs to MRP (5)

Q12. Explain with example difference between Contact Inspection technique and Non-contact inspection technique (2)

Q13. What is a Barcode? Explain with a suitable example functioning of a QR code type Barcode (2)

Q14. Enlist principles of material handling. Explain five important material handling equipment (5)

Q15. Differentiate with a block diagram, Process type layout with Group technology layout (3)