Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VI SEMESTER B.TECH. (AUTOMOBILE ENGINEERING)

MAKEUP EXAMINATIONS, JUNE 2017

SUBJECT: COMPUTER INTEGRATED MANUFACTURING [AAE 4008]

REVISED CREDIT SYSTEM
(20/06/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A. Explain the concept of work cell control and interlock in robotics. **(03)**

1B. Explain the advantages and limitations of NC machines when compared to conventional machines **(04)**

1C. Explain the role of human labor and computer in CIM system. **(03)**

2A. Explain the principle of working of adaptive control constraint system with sketch. **(05)**

2B. Write a CNC program for machining the component as shown in fig. 2B on Vertical Machining center. Take thickness of work-piece as 15 mm. **(05)**

3A. Explain the general classification of CNC systems. **(02)**

3B. Define a part family and explain the various techniques of creating the part families. **(04)**

3C. Explain the different methods of programming a robot. **(04)**

4A. Write a part program to obtain the model shown in figure Fig.4A, from the workpiece of size (90 x 365) mm. **(05)**

4B. Write a CNC part program for the workpiece as shown in Fig.4B by using mirroring feature. **(05)**

5A. With neat sketch Compare process type layout and group technology layout **(04)**

5B. Explain the role of the following in FMS system. **(04)**

(i) Material Handling

(ii) Human labor

5C. What is the purpose of material handling systems used in industries? List any 4-material transport equipment's. **(02)**

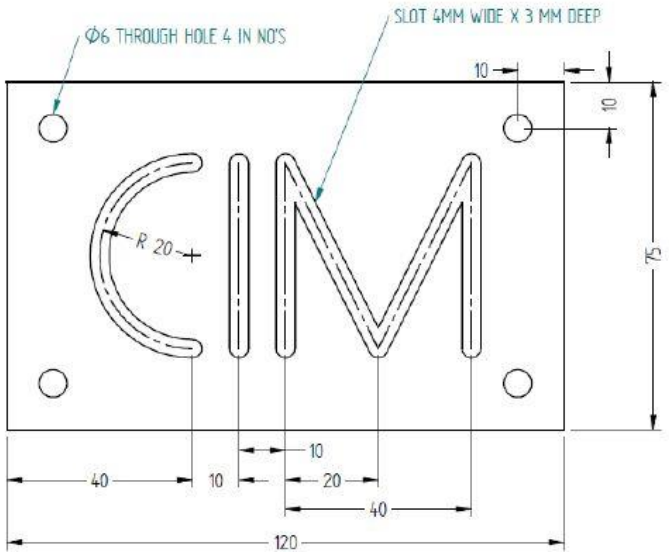

Fig: 2B

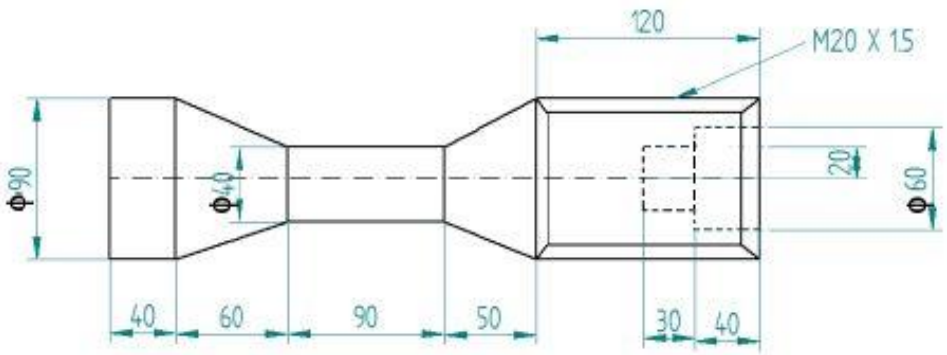

Fig: 4A

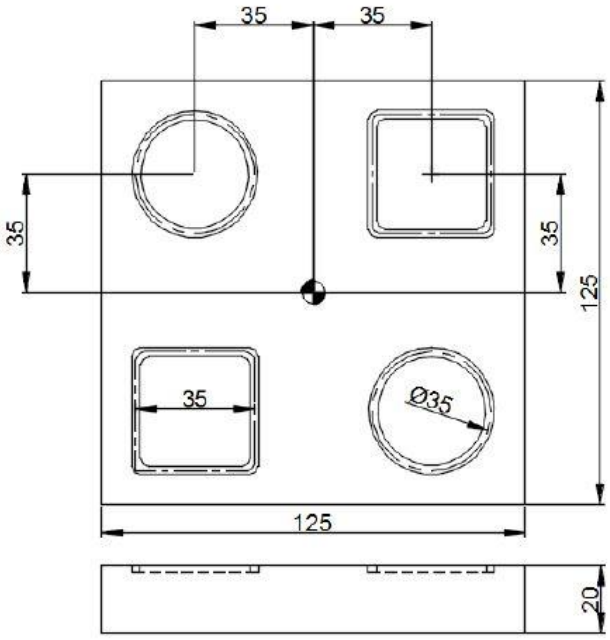

Fig: 4B