Reg. No.										

Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)

III SEMESTER B.TECH (MECHANICAL ENGG.) END SEMESTER

(MAKE UP) EXAMINATIONS DEC 2015/JAN 2016

SUBJECT: MANUFACTURING TECHNOLOGY [MME 2105]

REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

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

1A.	Explain how the grain fineness number of a moulding sand is determined? Also, discuss the various constituents of a moulding sand.	**4**
1B.	Explain the following special casting techniques with sketches. i) Slush casting ii) Plaster Mould casting	**3**
1C.	Discuss the working principle of Laser Beam Welding with a sketch. List the merits and demerits of this method.	**3**
2A.	Explain the following special casting techniques with sketches. i) Cold chamber die casting ii) Centrifugal Casting	**4**
2B.	Explain the following plastic processing techniques i) Blow Moulding ii) Extrusion Moulding	**3**
2C.	What is Atomic Hydrogen Arc welding? Explain with a sketch. Also, list the merits and demerits of this welding process.	**3**
3A.	With help of sketches explain the following sheet metal operations. i) Blanking and Punching, ii) Lancing, iii) Slitting and iv) Notching	**4**
3B.	With a neat sketch explain the working of electro-chemical machining.	**3**
3C.	What are the basic characteristics of the electrode materials in electric discharge machining?	**3**
4A.	Explain with a neat sketch the working of abrasive jet machining.	**4**
4B.	What are the differences between traditional and non-traditional machining?	**3**
4C.	With a neat sketch explain the construction and working of radial drilling machine.	**3**

5A.	With the use of suitable indexing methods find the indexing movement for 99, 26 and 5 divisions for three cylindrical workpieces.	**4**
5B.	With a neat sketch explain taper turning by tail stock set-over method.	**3**
5C.	Write a short note on the following bonding materials used in grinding wheels: Vitrified Bond, Silicate Bond and Rubber Bond.	**3**