Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VII SEMESTER B. TECH (IP ENGG.) END SEMESTER

MAKE UP EXAMINATIONS, DECEMBER 2018

SUBJECT: **TOOL ENGINEERING AND DESIGN [MME 4111]**

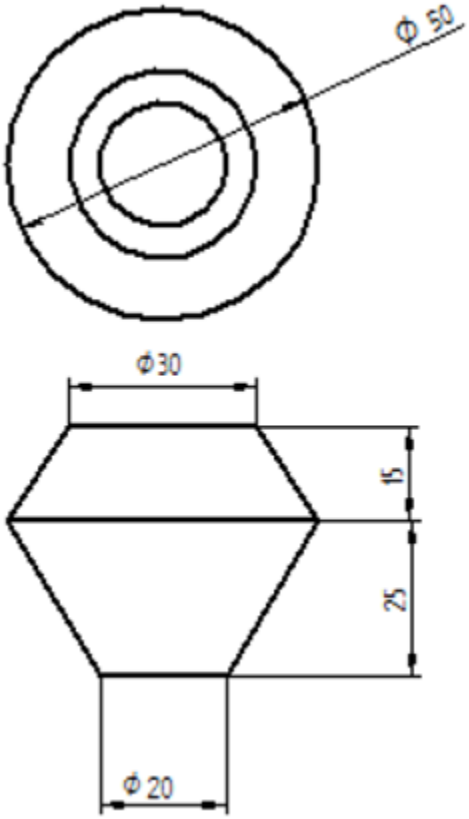
REVISED CREDIT SYSTEM

Time: 3 Hours MAX. MARKS: 50

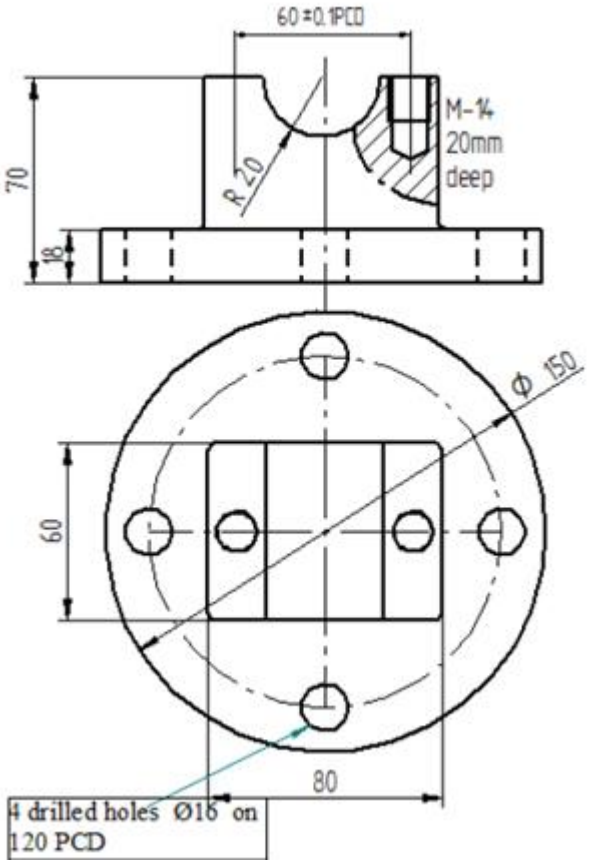
Instructions to Candidates:

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

1A.	Sketch single-point tool geometry indicating all the angles with sectional views, wherever necessary.	**04**
1B.	Explain any three types of wear mechanisms.	**04**
1C.	Derive Taylor's tool life equation.	**02**
2A.	With neat sketches explain chip formation mechanism	**04**
2B.	Design a circular form tool for the component shown in the FIGUREQ 2B. Assume a rake angle of 20^0 and clearance angle of 10^0. Mention all the assumptions made and adopt graphical method.	**04**
2C.	Explain with neat sketch 3-2-1 locating principle.	**02**
3A.	With a neat sketch explain crater and flank wear.	**04**
3B.	What are the different types of drilling jigs, Sketch any two.	**04**
3C.	Differentiate between orthogonal cutting and oblique cutting.	**02**
4A.	Design and draw a jig for producing one M-16 holes at the component shown in the FIGUREQ4A.	**04**
4B.	Explain any two types of clamping systems with the help of neat sketches.	**04**
4C.	Differentiate between jigs and fixtures.	**02**
5A.	A Brass component 30 x 80 mm is to be made from a 4 mm thick sheet. Sketch Scrap strip layout. Also determine the percentage of stock used.	**04**
5B.	Sketch simple drawing and deep drawing dies.	**04**
5C.	Write a short note on die materials.	**02**



FIGUREQ 2B.



FIGUREQ 4A.