Seat N	No.: _	Enrolment No GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE - SEMESTER- VI• EXAMINATION-SUMMER 2015	
Subject code: 161504 Date: 14/05/			05/2015
•		Name: Metal Cutting & Advanced Manufacturing Processes	
_		:30 am to 01:00 pm Total Ma	arks: 70
Instr		-	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a)	Explain with the help of neat sketch the complete geometry of a single point cutting tool.	07
	(b)	Differentiate between orthogonal cutting and oblique cutting.	07
Q.2	(a)	How are tools classified? State three examples of each.	07
	(b)	<u>-</u>	07
		OR	
	(b)	Define 'tool signature'. Explain each term of a tool designated as 8,12,10,7,0,15,1.5 mm.	07
Q.3	(a)	What do you understand by economics of metal cutting? Discuss in detail.	07
	(b)		07
		OR	
Q.3	(a)	1 1	07
	(b)	State the reasons responsible for tool failure.	07
Q.4	(a)	Explain the effect of tool geometry and cutting variables on tool life.	07
	(b)		07
Q.4	(a)	Explain the construction and use of Merchant's circle diagram.	07
	(b)	Discuss the elements of Computer Numerical Control system and also state the advantages of CNC system.	07
Q.5	(a)	Discuss working principle, process characteristics, application, and limitations of Electro-chemical machining (ECM) process.	07
	(b)	Describe Wire-cut electro discharge machining (WEDM) process.	07

OR
(a) What is explosive forming? Describe it in detail. State its advantages 07

Q.5

and disadvantages.

(b) Describe hydro forming process in detail.

07