Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V (NEW) - EXAMINATION – SUMMER 2016

Subject Code:2152507 **Date:06/05/2016**

Subject Name:Tool Engineering

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1		**Short Questions**	14
	1	Write Taylors Tool Life Equation.	
	2	Segmental Chips are formed During the Machining of?	
	3	Drilling is an example of? (Orthogonal/Oblique)	
	4	Cast Iron During machining Produces what type of chips?	
	5	Crater Wear mainly Occurs On?	
	6	Fixture Holds and locates the job but not?	
	7	Negative rake angle is used for?	
	8	Shear angle is the angle made by the shear plane with?	
	9	What is Stripper?	
	10	The angle between Side cutting edge and end cutting edge is known as?	
	11	A body in space has how many degrees of Freedom?	
	12	What is 18-4-1 steels	
	13	Expand CBN	
	14	A Dynamometer is the Device used for Measuring?	
Q.2	(a)	Explain Tool Signature as per ASA system	03
	(b)	What is Tool Life and State the factors Effecting Tool Life.	04
	(c)	Explain Merchant Circle Diagram with Neat Sketch, and state its assumptions.	07
		OR	
	(c)	Explain the Nomenclature of Twist Drill With Neat sketch	07
Q.3	(a)	Explain cutting ratio.	03
	(b)	State the differences between Orthogonal and Oblique cutting.	04
	(c)	State and Explain the various angles of Single point cutting tool and its significances, with neat sketch.	07
		OR	
Q.3	(a)	Mention the Characteristics that a cutting tool material Must Possess.	03
	(b)	What are the essential futures of Jigs and Fixtures?	04
	(c)	Explain simple Cutting Die With neat Sketch	07
Q.4	(a)	Write a short note on Chip Breakers	03
	(b)	Explain the Term Center Of Pressure with appropriate diagram	04

	(c)	Explain Different types of Die castings?	07
		OR	
Q.4	(a)	What is Cutting Fluid and Mention its essential Properties.	03
	(b)	Explain 6-point location principle	04
	(c)	Write a short Note on Milling Fixture, with appropriate diagrams.	07
Q.5	(a)	Explain fool proofing with neat sketch	03
	(b)	Write a short note on Bending, with neat sketches.	04
	(c)	Explain Progressive Die with Neat Sketch	07
		OR	
Q.5	(a)	Differentiate between Mechanical and Hydraulic Press	03
	(b)	Explain how Dies are classified?	04
	(c)	Explain Different Types of Clamping Devices With Neat Sketches	07

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