

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018****Subject Code:2161909****Date:27/11/2018****Subject Name:Production Technology****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
<b>Q.1</b>	(a) Draw Single point cutting tool geometry with nomenclatures.	<b>03</b>
	(b) Explain Orthogonal and Oblique Cutting with suitable example	<b>04</b>
	(c) Describe various types of Chips formed during machining process.	<b>07</b>
<b>Q.2</b>	(a) Define cutting tool life and tool wear.	<b>03</b>
	(b) Enlist significance of Rake and clearance angle.	<b>04</b>
	(c) Illustrate Merchant's Circle Diagram along with assumptions.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(c) Explain Taylors tool life equation, $VT^n = \text{constant}$	<b>07</b>
	(a) What is cutting fluid? Explain with suitable example.	<b>03</b>
	(b) Explain characteristics of Cutting Fluid.	<b>04</b>
	(c) Illustrate Locating 3-2-1 principle of Jigs and Fixtures.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Define Clamping device used in Jigs and fixtures.	<b>03</b>
	(b) List out various types of drill bushes and its application.	<b>04</b>
	(c) Explain Box jig and Angle Jig with a neat sketch.	<b>07</b>
<b>Q.4</b>	(a) Give classification of Dies.	<b>03</b>
	(b) Define the terms: Clearance, Piercing, Notching and balnking.	<b>04</b>
	(c) Describe progressive die with suitable sketch along with it application.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Explain cutting action of dies and punch assembly.	<b>03</b>
	(b) Illustrate Strip layout related to press work.	<b>04</b>
	(c) Describe methods of reducing cutting forces in press operations.	<b>07</b>
<b>Q.5</b>	(a) Define; Jig, Fixture and drill bushes.	<b>03</b>
	(b) Differentiate between Die electric fluid and Electrolyte Fluid used in machining process.	<b>04</b>
	(c) Illustrate USM machining process along with its application and disadvantages.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Explain piezoelectric Transducers.	<b>03</b>
	(b) Describe in brief Abrasive Jet Machine.	<b>04</b>
	(c) Explain the principle of ECM machine and discuss its advantages and disadvantages.	<b>07</b>