

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018****Subject Code: 181903****Date: 19/11/2018****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.

- Q.1** (a) Differentiate between Jigs and Fixture. Enlist different types of clamping devices. Explain any two with neat sketches. **07**  
(b) Derive various force equations can be derived using Merchant Circle diagram. **07**
- Q.2** (a) Explain 3-2-1 location principle with neat sketch. **07**  
(b) Draw neat sketch of single point cutting tool showing the six major angles. Explain the need of providing these angles. **07**
- OR**
- (b) Enumerate the factors affecting tool life. Briefly explain the effect of each factor. **07**
- Q.3** (a) Differentiate between gear forming and gear generating methods **07**  
(b) Discuss the term: (i) Fool proofing (ii) Interchangeability. **07**
- OR**
- Q.3** (a) List the various thread manufacturing processes. Explain about thread rolling process. **07**  
(b) Explain the principle of metal shearing. Why is clearance provided in shearing operation? **07**
- Q.4** (a) Differentiate between compound die, combination die and progressive die with neat diagrams. **07**  
(b) What are automatic transfer machines? Write principle, advantages and disadvantages of it. **07**
- OR**
- Q.4** (a) Explain with a neat sketch the Mechanical type of lathe tool dynamometer. **07**  
(b) Discuss the differences between Turret and Capstan lathes. **07**
- Q.5** (a) Classify the unconventional machining process and explain about electron beam machining process with neat sketch. **07**  
(b) Describe the principle of material removal in the Ultrasonic machining process. Also discuss how the following factors affect material removal (a) Grain size (b) Frequency (c) Amplitude **07**
- OR**
- Q.5** (a) Explain the difference in working of Electro chemical machining & Electro chemical Grinding. State salient applications of each. **07**  
(b) Explain methods of temperature measurement at tool-work interface. **07**

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