Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III Remedial Examination May 2011

Subject code: 131903 Subject Name: Manufacturing Process - 1

Date: 20-05-2011 **Time: 10.30 am – 01.00 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)** Draw simple sketch of engine lathe. List main parts of it and state functions of each part. **07**

(b) Explain with neat sketch up milling and down milling process. Describe its advantages and limitations. **07**

Q.2 **(a)** State classification of grinding machine. Explain working of reciprocating and rotary table surface grinding machines. **07**

(b) Draw neat sketch of radial drilling machine and name its parts, explain its working. **07**

OR

(b) Draw a neat schematic diagram of upright drill machine. Describe deep hole drilling. **07**

Q.3 **(a)** List the methods of taper turning on lathe machine. State limitations of each method. Describe any two method of taper turning. **07**

(b) Explain with neat sketch working of horizontal boring machine. State its advantages and limitations. **07**

OR

Q.3 **(a)** Explain following lathe operations with sketch. **07**

(i) Facing. (ii) Grooving. (iii). Knurling.
(iv) Boring. (v) Parting off.

(b) What do you mean by precision boring machine? Explain their characteristics features. **07**

Q.4 **(a)** Draw neat sketch of column & knee type milling machine. Label the main parts. State functions of each part. **07**

(b) Explain with neat sketch working of crank and slotted link quick return mechanism of shaper. **07**

OR

Q.4 **(a)** List milling operations and explain following milling operations. **07**

i. Plain milling operation.
ii. Straddle milling operation.
iii. Angular milling operation.
iv. Face milling operation.
v. Helical milling operation.

Q.4	**(b)**	State comparison of shaper and planer. What are advantages and disadvantages of shaping and planning as compared to other operations?	**07**
Q.5	**(a)**	Explain working of universal and plain center type cylindrical grinding machines.	**07**
	(b)	Sketch a typical broach tooth profile and name its elements. Explain working of pull type and push type broaching.	**07**

OR

Q.5	**(a)**	Explain standard marking system of grinding wheels. Discuss about its abrasive type and bond type.	**07**
	(b)	List the principal types of metal cutting saws. Describe working of reciprocating and circular sawing machine.	**07**

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