Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-V • EXAMINATION - SUMMER • 2014

oject	Code: 152002 Date: 13-06-2014	
ne: 1	0:30 pm to 01:00 pm Total Marks: 70	
2.	Make suitable assumptions wherever necessary.	
(a) (b)	Explain (i) cutting speed (ii) feed (iii) depth of cut for a lathe machine. Also discuss effects of them on the work piece. Find the time required on shaper machine for taking a complete cut on a plate 600 x 900 mm, if the cutting speed is 9 m/min. The return time to cutting time ratio is 1:4 and feed is 3 mm. The clearance at each end is 75 mm.	07 07
(a) (b)	Differentiate between a planar and a shaper. What alignment tests are used for a drilling machine? Explain any two of them with neat sketch.	07 07
<b>(b)</b>	How a grinding wheel is marked? Explain the system of marking.	07
(a) (b)	Briefly discuss the types of chips with neat sketches. Briefly explain the functions of the cutting fluid.	07 07
(a) (b)	With neat sketches explain how a lathe is specified.  Differentiate between a capstan and a turret lathe.	07 07
(a) (b)	Write a short note on 'Working of back geared head stock' with neat sketch Explain taper turning by setting over the tail stock center with neat sketch.	07 07
(a) (b)	(i)Enlist milling machine operations and explain any two with neat sketch. (ii)Index 83 divisions.  Explain(i) feed (ii) depth of cut (iii) machining time for drilling with neat sketch.  Also state the equations used.	04 03 07
(a) (b)	With neat sketches explain vertical boring machine operations.  Classify the broaches and explain in brief.	07 07
(a) (b)	Why alignment tests are required to be carried out for the machine tools? With neat sketches, explain any two alignment tests of shaper machine. Write a short note on shaft and hole basis system.	07 07
	(a) (b)	ne: 10:30 pm to 01:00 pm Total Marks: 70 ructions:  1. Attempt all questions.  2. Make suitable assumptions wherever necessary.  3. Figures to the right indicate full marks.  (a) Explain (i) cutting speed (ii) feed (iii) depth of cut for a lathe machine. Also discuss effects of them on the work piece.  (b) Find the time required on shaper machine for taking a complete cut on a plate 600 x 900 mm, if the cutting speed is 9 m/min. The return time to cutting time ratio is 1:4 and feed is 3 mm. The clearance at each end is 75 mm.  (a) Differentiate between a planar and a shaper.  (b) What alignment tests are used for a drilling machine? Explain any two of them with neat sketch.  OR  (b) How a grinding wheel is marked? Explain the system of marking.  (a) Briefly discuss the types of chips with neat sketches.  Briefly explain the functions of the cutting fluid.  OR  (a) With neat sketches explain how a lathe is specified.  (b) Differentiate between a capstan and a turret lathe.  (a) Write a short note on 'Working of back geared head stock' with neat sketch  Explain taper turning by setting over the tail stock center with neat sketch.  OR  (a) (i)Enlist milling machine operations and explain any two with neat sketch.  (ii)Index 83 divisions.  (b) Explain(i) feed (ii) depth of cut (iii) machining time for drilling with neat sketch.  Also state the equations used.  (a) With neat sketches explain vertical boring machine operations.  Classify the broaches and explain in brief.  OR  (a) Why alignment tests are required to be carried out for the machine tools?  With neat sketches, explain any two alignment tests of shaper machine.

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