Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Semester -III Examination January- 2010

Subject code: 335501 **Subject Name: Mechanical Technology**

Date: 21 / 01 / 2010 **Time: 11.00 am – 1.30 pm**

Total Marks: 70

Instructions:

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

Q.1 **14**

(a) Define the term " MACHINE TOOL ". List different basic machine tool used in general engineering workshop. Explain **any one**.

(b) Explain types of chip formation in machine tool.

Q.2

(a) Draw a neat sketch of engine lathe and show different parts on it. Explain its working. **07**

(b) List lathe operation. Explain any three with neat sketch. **07**

OR

(b) Explain characteristics of ideal cutting tool material. List different tool materials. **07**

Q.3

(a) Draw a neat sketch of radial drilling machine and show its parts. Explain its working. **07**

(b) Compare shaper and planner. Write specification of both. **07**

OR

Q.3 (a) List different types of millling machine and explain working of any one with neat sketch. **07**

(b) Draw neat sketch of seven different types of milling cutters and describe its working. **07**

Q.4

(a) Explain in detail methods of indexing in milling machine. **07**

(b) Explain in detail truing, dressing, balancing & self sharpening of grinding wheel. **07**

OR

Q. 4 (a) Describe sequential steps of casting process giving suitable example. **07**

(b) Define the term pattern and explain color coding system of pattern as per BIS. **07**

Q.5

(a) Explain mechanical working of metal. Compare hot working and cold working of metals. **07**

(b) Write brief note on following with neat sketch and state its application. **07**

1. metal extrusion
2. metal spinning

OR

Q.5 (a) Explain with neat sketch different types of molds. **07**

(b) Explain in detail hot rolling of metals and different types of rolling mills. **07**

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