



# VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

[Central Technological Institute, Maharashtra State]

Matunga, Mumbai-400 019

SEMESTER EXAMINATION

SEMESTER & PROGRAM

*B.Tech Mechanical Engg.*

TIME ALLOWED

*3 HRS.*

COURSE (CourseCode) :

*Manufacturing process-II*

DATE OF EXAM

*16-7-11*

TIME

*2.30 to 5.30 pm*

MARKS

*100*

- Instructions
1. All questions are compulsory.
  2. Figures to the right indicate full marks.

Q.1 Answer the followings 20

- a) Discuss Taylor's relationship for cutting speed tool life.
- b) Differentiate between lapping and honing.
- c) In what ways the measuring instruments are classified? Discuss the two lengths standard.
- d) What are the purposes of cutting fluids? State the types of cutting fluids.

Q.2 Answer any four of the followings: 16

- a) Explain the construction and working of clinometers.
- b) What are the various methods for measuring pitch diameter of the screw? Explain toolmaker's microscope in brief.
- c) Explain orthogonal and oblique cutting with neat sketches.
- d) Write a short note on;
  - i) Principle of Vernier calipers
  - ii) Use of slip gauges
- e) i) Differentiate between Drilling and Reaming.  
ii) What is the function of flutes in cutting tool?

Q.3 a) Define precision and accuracy. Also write down the type of errors. 4

b) What are the types of tool designation system? Explain anyone with neat sketch. 6

c) Discuss the various types of chips produced during metal machining process. 6

Q.4. a) What is meant by Run-out in gear? Write a short note on pitch measurement with respect to gear. 4

b) What are the various types of tool wear? Discuss flank and crater wear with neat sketches. 6

c) Explain the process of gear shaping. List the advantages and limitations of gear shipping. 6

*(P.T.O.)*



- Q.5 Answer the followings
- Give the flow chart of materials is used for jig and fixture for high temperature application 05
  - Explain material removal rate of ECM machining process with reference to abrasive jet machining 05
  - Compare Water jet machining process with other process in term of advantages, disadvantages and limitation of process. 06
- Q.6 Answer any four of the followings: 16
- Draw the sketch of plain milling cutter with elaborating nomenclature
  - What are the factors that are affecting surface roughness? Explain Stylus probe type instrument to measure the surface roughness.
  - Draw the neat sketch of single point cutting tool and show its elements.
  - Explain the properties of cutting tool materials.
  - In a turning operation, it was observed that the tool life was 100 min. and 50 min. at cutting speed of 25 m/min and 100 m/min respectively. Find out the tool life at 200 m/min under the same cutting operations.