

NAME.....

ROLL NO.....

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

**III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS
TOOL DESIGN
(PRODUCTION ENGINEERING)**

AUG/SEP 2008

TIME-3 HOUR
MARK-80

ANSWER ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

1. (a) Clearly explain the properties of cutting tool materials.
(b) What are the major constituents in HSS? Explain the properties and applications of it.
2. What do you understand by form tools? For what applications these are used? How many types of form tools are in common use? Describe them.
3. (a) Define broaching tool and broaching operation.
(b) How do you classify broaching operations?
(c) Sketch and discuss a typical internal branch.
4. Write short notes on the following:
 - (a) Cutting action in die
 - (b) Die set materials
 - (c) Methods of punch support
 - (d) Methods of die support.
5. (a) Sketch & describe a deep drawing tool.
(b) Calculate the blank diameter to make the shells
6. (a) What is fool proofing as applied to jig and fixtures? How it can be achieved?
(b) What are the important points to watch in respect of location?
(c) What are the materials used for locating and clamping elements?
7. (a) With neat sketches describe Renewable bushings.
(b) Describe the design principles for drilling jigs.
8. (a) Explain the cam design for single spindle automatics for simple components.
(b) Explain the tool layout estimation of cycle.