



VII SEMESTER B.TECH (I&P ENGG.) END SEMESTER MAKE-UP EXAMINATIONS, DECEMBER 2017

SUBJECT: TOOL ENGINEERING AND DESIGN [MME 4111]

REVISED CREDIT SYSTEM (MAKE-UP)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

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| 1A. | What are the purpose and advantages of jigs and fixtures. | 4 |
| 1B. | Derive an expression with sketch for parallel type in built chip breaker and Clamped type chip breaker. | 4 |
| 1C. | Explain 3-2-1 locating principle. | 2 |
| 2A. | Explain mechanisms of tool wear. | 4 |
| 2B. | Sketch the nomenclature of twist drill bit and milling cutter | 4 |
| 2C. | Explain the variables affecting forming operation. | 2 |
| 3A. | Design a die and punch for press working operations | 4 |
| 3B. | Explain with sketch Rake angle and Clearance angle for single point cutting tool. | 4 |
| 3C. | Write a short note on the abrasive wear. | 2 |
| 4A. | Sketch graphical method of representing circular form tool. | 4 |
| 4B. | Sketch single point tool geometry and machine reference system. | 4 |
| 4C. | With a sketch explain clearance between punch and die. | 2 |
| 5A. | Sketch plate fixtures for locating flat parts | 4 |
| 5B. | Design a Jig for six equi-spaced through holes | 4 |
| 5C. | What are the factors affecting Broaching operation | 2 |