

Roll No.

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Total No. of Pages : 01

Total No. of Questions : 08

**M.Tech.(PE) (Sem.-2)**  
**JIG, FIXTURES & DIE DESIGN**  
**Subject Code : PE-508**  
**Paper ID : [E0447]**

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. What is the main difference between jigs and fixtures? Explain in detail the various elements of jigs and fixtures.
2. Explain in detail the modulation design concept in process gauging.
3. What are the main elements of dies and punch, explain and also elaborate their design procedure?
4. Explain different types of loading and unloading devices.
5. What are non standard clamping devices? Explain their types.
6. Explain in detail different types of principles of clamping in jigs and fixtures.
7. What are assembly line fixtures explain?
8. Explain fits and tolerances analysis in jigs and fixtures by taking examples.