

D 11989

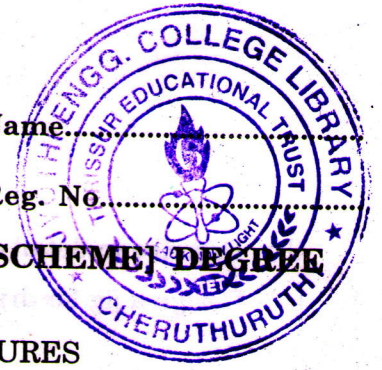
(Pages : 2)

Name.....

Reg. No.....

**SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE
EXAMINATION, NOVEMBER 2016**

ME 09 706 L14—DESIGN OF JIGS AND FIXTURES



Time : Three Hours

Maximum : 70 Marks

Part A

*Answer all questions.
Each question carries 2 marks.*

1. Specify the purpose of conical locator.
2. Which type of joint is suitable to connect the clamping pad with clamping screw ?
3. Why mild steel is used to produce parts of jig and fixture ?
4. List the elements in jig.
5. Define modular fixture.

(5 × 2 = 10 marks)

Part B

*Answer any four questions.
Each question carries 5 marks.*

6. Illustrate the working principle of sighting location.
7. Explain the process of self-locking system.
8. Explain the working principle of quick action clamps and give any *two* examples.
9. Mention the importance of slip bush.
10. Classify the types of mandrels.
11. Describe the elements of fixture.

(4 × 5 = 20 marks)

Part C

*Answer all questions.
Each question carries 10 marks.*

12. (a) Sketch and explain the locating methods for plane surface and cylindrical surface work pieces.

Or

- (b) Explain any *two* types of VEE- locators with neat sketch.

Turn over

13. (a) Explain the working principle of swinging clamps.

Or

(b) Describe in detail about vacuum clamping and magnetic clamping.

14. (a) Design a jig for drilling 10 mm. diameter holes on the given work piece as shown in figure 1.

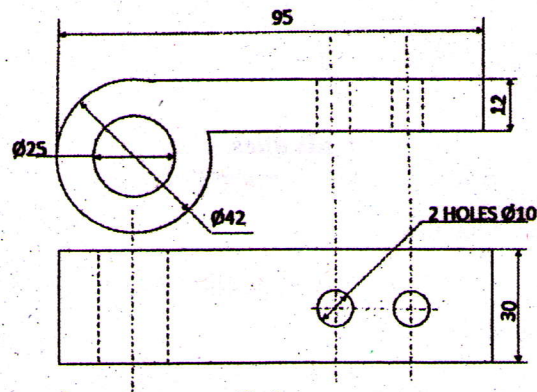


Fig. 1

Or

(b) Explain the operating principle of sandwich jig and state its purpose.

15. (a) Design a gang milling fixture to cut 3×3 mm. slot in a mild steel component for 5 work pieces given in figure 2.

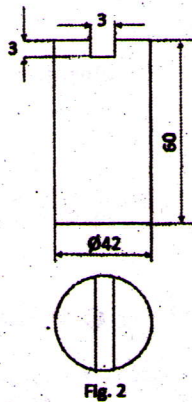


Fig. 2

Or

(b) Describe the construction and operation of welding fixture with an example.

(4 × 10 = 40 marks)