Register Number .....

DEGREE EXAMINATIONS: NOVEMBER 2009

Fifth Semester

MECHANICAL ENGINEERING

U07ME505: Design of Jigs, Fixtures and Press Tools

Maximum Marks: 100

Answer ALL the Questions:-

PART A (10 x 1 = 10 Marks)

causes time variation in the measurand

nvironment error b) calibriation error

Dynamic error d) Random error

pe of clamps are mostly used for machining horizontal surfaces

) Latch clamp b) Side clamp c) Hinged clamp d) Swing plate clamp

type of jigs are used perticulary relatively large components are to be clamped

a) Hydraulic operated jigs b) Air operated jigs

c) Mechanical operated jigs d) Pneumo-hydraulic operated jigs

t is the other name of post jigs

a) Angle plate jigs b) Table type jigs c) Pot jigs d) Solid jigs

mechanical dial gauge act as an _____ fixtures

a) Mobile fixtures b) Universal fixtures

c) Inspection fixtures d) Special purpose fixtures

Which part of the milling foxture should absorb the cutting force during machining

a) Base b) Tenon strips c) Setting block d) Locating element

7. What type of process is used for reducing wall thickness and lengthening of cup?

a) Redrawing b) Direction drawing

c) Blank holding d) Ironing

8. What is another name for "fixed stripper"?

a) Spring loaded stripper b) Channel Stripper

c) Stock stop d) Knock out

9. What type of operation is used for producing cylinders or shell shaped components by appling Forces?

a) Blanking b) Drawing c) Forming d) Punching

10. Which is used for making curved apex of an internal angle?

a) Draft angle b) Parting lines c) Fillet d) Hammer die

PART B (10 x 2 = 20 Marks)

11. Define "Principle of mutually perpendicular planes".
12. State various locating elements used in jigs and fixtures
13. Specify the condition of using plain and flanged bushes in jigs.
14. What are the main advantages of turnover jigs?
15. List out the various locators used in fixtures?
16. What are the important elements of inspection fixtures?
17. State any two advantages and disadvantages of progressive dies.
18. List out the various cutting operations.
19. List out the various types of forming dies.
20. What are the factors affecting drawing?

PART C (5 x 14 = 70 Marks)

21. (a) Explain briefly with neat sketch cylindrical and adjustable locators.

(OR)

(b) Explain any four types of mechanical actuation clamp with neat sketch.

22. (a) Explain the working principle of rack and pinion operated drill jigs.

(OR)

(b) Briefly explain the following jigs with neat sketch.

i) Box Jigs ii) Post Jigs

23. (a) Explain in detail the construction and working of milling fixtures.

(OR)

(b) Define broaching and explain the types of broaching fixtures with neat sketches.

24. (a) Explain briefly the functions of following parts in press tool.

i) Stripper ii) pilots iii) shedder

(OR)

(b) Explain briefly type of presses.

25. (a) How to calculate bending allowance, bending forces in bending process? Explain.

(OR)

(b) Write short notes on types of forming dies. Explain any four types of forming dies with sketches.

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