

**013618****May- 2023****B.Tech. - VI SEMESTER (Re- appear)****Manufacturing Technology (PCC-ME-304)****Max. Marks:75****Time: 3 Hours**

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
  2. Answer any four questions from Part -B in detail.
  3. Different sub-parts of a question are to be attempted adjacent to each other.

**PART -A**

- Q1 (a) Differentiate between Punching and Blanking. (1.5)
- (b) Define term 'fool proofing'. (1.5)
- (c) Define term 'Spring back'. (1.5)
- (d) Give reason for preference of high strength to weight ratio of forged part. (1.5)
- (e) State Taylor's Principle for Gauge design. (1.5)
- (f) What is zero line for Limit systems. (1.5)
- (g) Differentiate between standard gauge and a limit gauge. (1.5)
- (h) State the principle of operation of a comparator. (1.5)
- (i) Write the Principle of Laser beam machining (LBM). (1.5)
- (j) Define Interchangeable assembly systems. (1.5)

**PART -B**

- Q2 (a) Explain the method to reducing cutting forces in Punch. (10)
- (b) Sketch a sectional view of a blanking die, and label on it- Clearance, Straight and angular clearance. (5)
- Q3 (a) Explain and compare 'Hole basic system' and 'Shaft basic system' for fits. (10)
- (b) Determine the specification for the 'Go' and 'Not go' ends of a set of manufacturing and inspection plug gauges to be used in checking a hole with Diameter specification of  $25\text{mm}^{+0.075}_{-0.000}$ . (5)

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- Q4 Explain the considerations in assembly process. Give common applications of selective assembly and compare it with other assembly systems. (15; 5x3)
- Q5 (a) Explain principle of Ultrasonic machining process. Discuss it's important process parameters. (7)  
(b) Explain Principle of EDM non -conventional machining process with reference to Control circuits, MMR and surface finish. (8)
- Q6 (a) Explain the principle and applicability of Dial Indicator. (7)  
(b) What is difference between Jigs and Fixtures. Explain the principle of micrometer. (3+5 =8)
- Q7 Write short notes on (5)  
(a) Explain Principle of Sine Bar (5)  
(b) function of dielectric fluid in EDM (5)  
(c) 3-2-1 Principle of Location
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