

17527

16117

3 Hours / 100 Marks

Seat No.

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Instructions : (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Assume suitable data, if necessary.

(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any THREE :

12

(a) State four needs of non-traditional machining processes.

(b) Classify indexing methods in gear cutting.

(c) State advantages & disadvantages of gear shaping process.

(d) Differentiate between EDM & W-EDM.

(B) Attempt any ONE :

06

(a) Sketch milling cutters for followings :

(i) side milling

(ii) facing and

(iii) plain milling

(b) Sketch output characteristics of EDM.

2. Attempt any FOUR :

16

- List advantages & disadvantages of LBM.
- List applications of AJM & WJM process.
- Sketch any two CNC tool magazines.
- Explain with sketch honing process.
- Sketch any two broaching tools.

3. Attempt any TWO :

16

- Write CNC programme for turning a component shown in fig. no. 1. Assume suitable data if necessary.

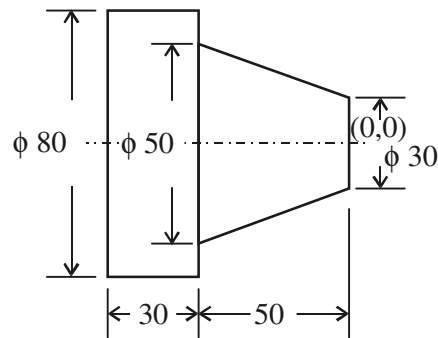


Figure 1.

- Write CNC programme for milling a component as shown in fig. no. 2 with end mill of 20 mm diameter, thickness of plate 10 mm, feed 90 mm/min, spindle rpm 450. Assume suitable data if necessary.

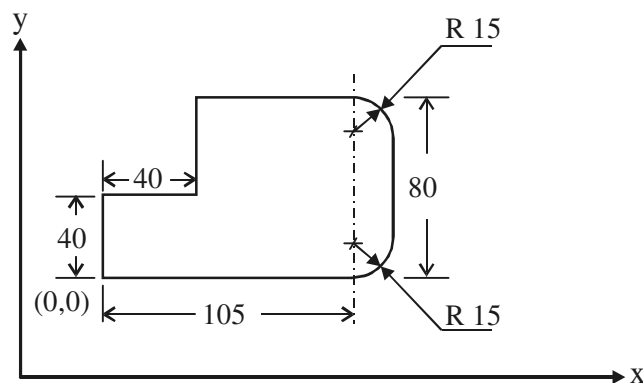


Figure 2.

- Explain PAM process with sketch along with advantages & disadvantages.

- 4. (A) Attempt any THREE :** **12**
- (a) Sketch horizontal broaching machine & label the parts.
 - (b) Differentiate between broaching & burnishing.
 - (c) Sketch a planomiller with labels.
 - (d) Sketch slitting & gang milling operation.
- (B) Attempt any ONE :** **06**
- (a) Differentiate between automats & turret lathe.
 - (b) Differentiate between end milling & facing operation.
- 5. Attempt any FOUR :** **16**
- (a) Explain construction of boring machine.
 - (b) Explain universal indexing mechanism.
 - (c) Sketch gear hobbing process.
 - (d) List gear finishing processes.
 - (e) Write advantages & applications of CNC machine.
 - (f) Explain how grinding wheel is designated.
- 6. Attempt any FOUR :** **16**
- (a) Explain centreless grinding with sketch.
 - (b) Discuss grinding wheel dressing & trueing.
 - (c) State the types of maintenance of machine tools.
 - (d) Explain the 'Maintenance Manual'.
 - (e) Discuss maintenance practice for coupling.
 - (f) State the need of maintenance record. Explain with example.
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