

22664

21222

3 Hours / 70 Marks

Seat No.

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15 minutes extra for each hour

- Instructions* – (1) All Questions are *Compulsory*.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data, if necessary.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) Define product analysis with suitable example.
- b) State any four roles of process engineering department.
- c) State the basic elements of part drawing.
- d) Define the term "Bill of Material."
- e) State the information required for process planning.
- f) Define the term "product cycle" in manufacturing.
- g) List basic requirements for the coding system.
- 2. Attempt any THREE of the following: **12****
- a) Explain functions of production engineering department.
- b) Explain tolerance analysis.
- c) Describe any two methods of eliminating operations.
- d) Explain Group Technology.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- Explain the concept of "Design For Machining" (DFM).
 - Describe process planning procedure.
 - Describe Auxiliary and supporting process operations in process planing.
 - Prepare the sequence of operations for hexagonal headed bolt.
- 4. Attempt any THREE of the following:** **12**
- Define the term component family. State the types in component families.
 - Explain functional and Group/Cell layouts.
 - List the applications of 3D scanner in process plan.
 - Explain the concept of Computer aided process planning (CAPP).
 - Differentiate Generative types and Variient type CAPP.
- 5. Attempt any TWO of the following:** **12**
- Explain
 - Material Selection
 - Material requirement calculations.
 - Prepare tool layout for the component shown in Fig. (assume suitable units)

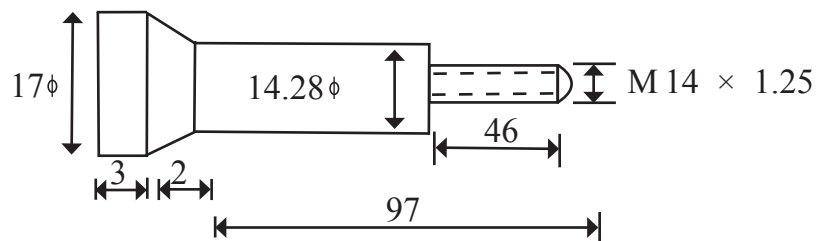


Fig. No. 1

- Compare between LISP and PRO LOG of CAPP software.

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[3]

Marks

6. Attempt any TWO of the following:

12

- a) Describe the steps to develop the relevant coding system and prepare a component family with example.
 - b) Prepare process flow chart for changing Refill of ball point pen.
 - c) Prepare bill of material for simple bicycle.
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