



## Manufacturing Engineering - I (1040)

P. Pages : 2

Time : Three Hours

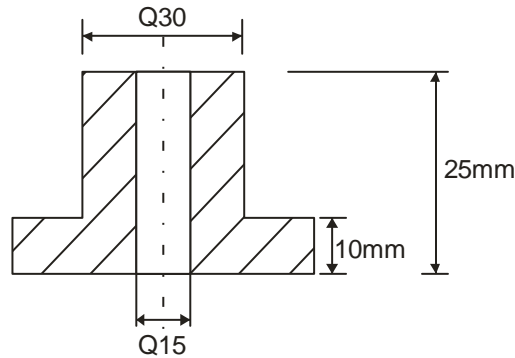
Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicate full marks.
6. Draw neat sketches wherever necessary.

1. Solve **any two**.

- a) Enumerate different types of pattern. Out of various types identify the metal pattern and describe it. **10**
- b) For a given casting drawing below, Draw the sketch of pattern and mould and describe its manufacturing route. **10**



- c) With the help of neat sketches describe the steps involved in Investment casting process. **10**

2. Solve **any two**.

- a) i) Differentiate between Hot working and Cold working process. **5**
- ii) Describe the manufacturing method to produce tubes and pipes. **5**

- b) Describe any five sheet metal working operations. 10
- c) Describe various steps of operations of closed die forging to manufacture a connecting rod ? 10
- 3. Solve any two.**
- a) Describe the Gas welding process along with its equipment and also describe various Gas flames. 10
- b) With the help of neat sketch explain working principle, advantages and limitations of Thermit welding. 10
- c) Write short notes on. 10
- i) TIG welding.
- ii) Spot welding.
- 4. Solve any two.**
- a) Describe the Gear shaping operation of Rack and Pinion gear method of gear generating process. 10
- b) Describe two methods of Thread Milling process. 10
- c) Write short notes on. 10
- i) Gear Grinding.
- ii) Thread Grinding.
- 5. Solve any two.**
- a) With the help of neat sketch describe following operations. 10
- i) Shaping.
- ii) Milling.
- b) Describe various tool holding devices of Capstan and turret lathe. 10
- c) Differentiate between screw type and swiss type Automatic machine. 10

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