

17991

16117

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Use of Non-programmable Electronic Pocket Calculator is permissible.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

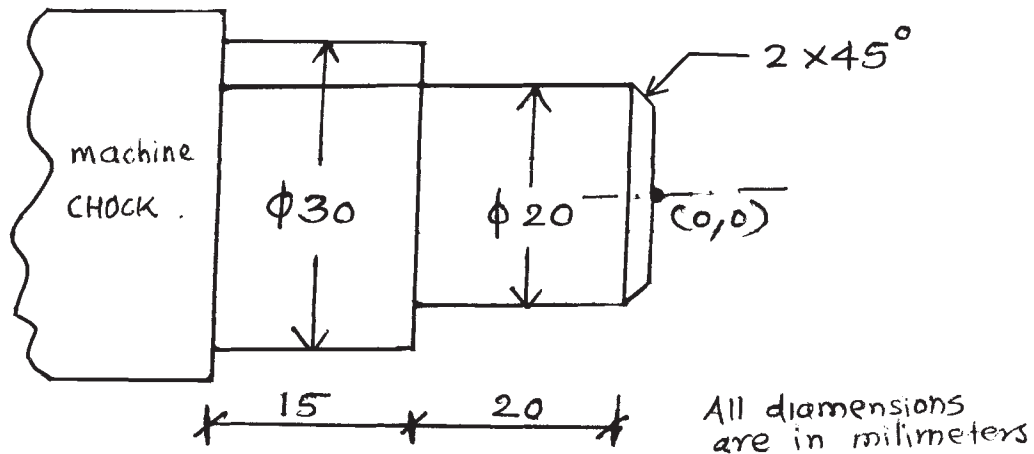
1. **Attempt any FIVE of the following:** **20**
- a) Classify different non-traditional machining processes.
 - b) State the functions of dielectric fluid in EDM process.
 - c) State the significance of following code in part programming.
 - (i) G 03
 - (ii) G 95
 - (iii) M 06
 - (iv) M 09
 - d) State the tool holders used in capstan and turret lathe.
 - e) State the types of milling machines.
 - f) Compare dressing and truing operation in grinding. (at least four points)
 - g) State the importance of maintenance activity in industry.

P.T.O.

2. Attempt any TWO of the following:

16

- Explain LBM process with neat sketch. Also state its advantages and disadvantages.
- Write the part program for the job shown in Figure No. 1. Assume suitable data whenever necessary. Blank size $\phi 30 \times 45\text{mm}$.

Fig. No. 1

- What is pinion cutter gear shaping. State advantages and disadvantages.

3. Attempt any FOUR of the following:

16

- State the advantages of water jet machining.
- Explain absolute co-ordinate system with suitable example.
- Draw the neat sketch of boring head. State the condition under which it is used.
- Compare up milling and down milling. (Atleast four points)
- Explain compound indexing method.
- Differentiate between capstan and turret lathe. (Atleast four points)

- 4. Attempt any FOUR of the following:** **16**
- a) Explain the various cutting parameters in milling operation.
 - b) Explain the principle of operation of broaching with neat sketch.
 - c) Draw a neat sketch of any two standard milling cutters.
 - d) State the advantages and limitations of gear hobbing.
 - e) State the applications of W-EDM (Atleast four)
 - f) State the advantages of CNC machines.
- 5. Attempt any FOUR of the following:** **16**
- a) Explain with neat sketch construction of planomiller.
 - b) Explain the centreless grinding operation with neat sketch.
 - c) Identify the following grinding wheel
51 A 36 L 5 V 23
 - d) State the applications of honing. State its advantages.
 - e) State the advantages and limitations of broaching process.
 - f) State the maintenance procedure for bearing.
- 6. Attempt any FOUR of the following:** **16**
- a) Explain preventive maintenance with suitable example.
 - b) What safety precautions to be taken in CNC?
 - c) Explain tool and cutter grinder with neat sketch.
 - d) Explain repair cycle analysis.
 - e) What is MRR? State the factors affecting MRR in EDM.
 - f) Index 61 divisions by compound indexing.
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