

# 17527

11819

**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) Illustrate your answers with neat sketches wherever necessary.
- (4) Assume suitable data, if necessary.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) **Attempt any THREE of the following:** **12**
- (i) Give any four examples where traditional manufacturing can't used and task is completed by non traditional manufacturing process.
- (ii) State any six advantages of CNC.
- (iii) List the basic parts of horizontal broaching machine and state their functions.
- (iv) Explain EDM with a neat sketch.
- b) **Attempt any ONE of the following:** **6**
- (i) Explain Plasma Arc Machining with neat sketch. State its process parameters.
- (ii) Describe open loop and closed loop control system.

P.T.O.

2. Attempt any **FOUR** of the following:

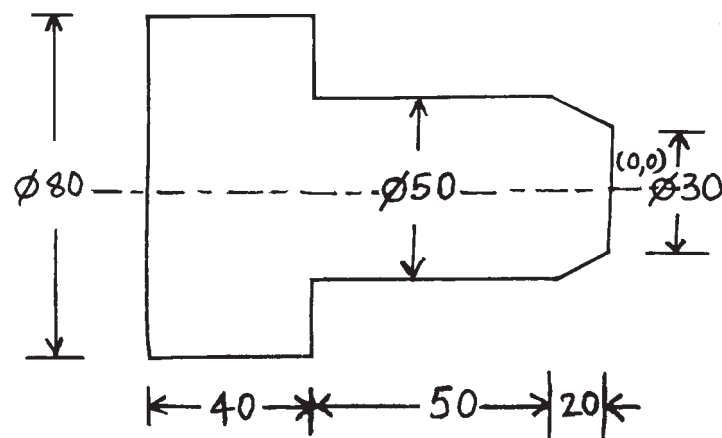
16

- Draw a neat sketch of Abrasive Jet Machining and give its two applications.
- State the function of following codes in CNC programming.  
G01, G41, M08, M12
- Differentiate between up milling and down milling process with neat sketch.
- State different milling operations and draw a neat sketch of any one of it.
- State the classification of grinding machines.

3. Attempt any **TWO** of the following:

16

- Write CNC programme for turning a component as shown in Figure No. 1. Assume suitable data if necessary.



**Fig. No. 1**

- Explain Laser Beam Machining with a neat sketch. State its advantages and disadvantages.
- State different gear manufacturing methods. Describe any one with neat sketch. State its advantages and disadvantages.

- 4. a) Attempt any THREE of the following:** **12**
- (i) Explain lapping process. Give it's any two applications.
  - (ii) Explain various process parameters in WJM.
  - (iii) State the principle of buffing process with a neat sketch.
  - (iv) Explain basic maintenance practice for bearing.
- b) Attempt any ONE of the following:** **6**
- (i) Explain gear shaving and gear grinding operations.
  - (ii) List any six safety precautions while operating grinding machine.
- 5. Attempt any FOUR of the following:** **16**
- a) Explain basic maintenance practices for shaft.
  - b) Describe honing process with it's applications.
  - c) Explain the procedure for T slot milling.
  - d) State advantages, disadvantages and applications of gear shaping process.
  - e) Explain any two boring operations with neat sketch.
  - f) List advantages and limitations of broaching machines.
- 6. Attempt any FOUR of the following:** **16**
- a) State indexing methods used in gear cutting. Describe any one.
  - b) Differentiate between Capstan and Turret lathes. (any four)
  - c) Explain repair cycle analysis.
  - d) Describe single spindle automats.
  - e) State the need of axis identification in CNC machines.
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