

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**M.Tech. Summer 2017 - 18 Examination**

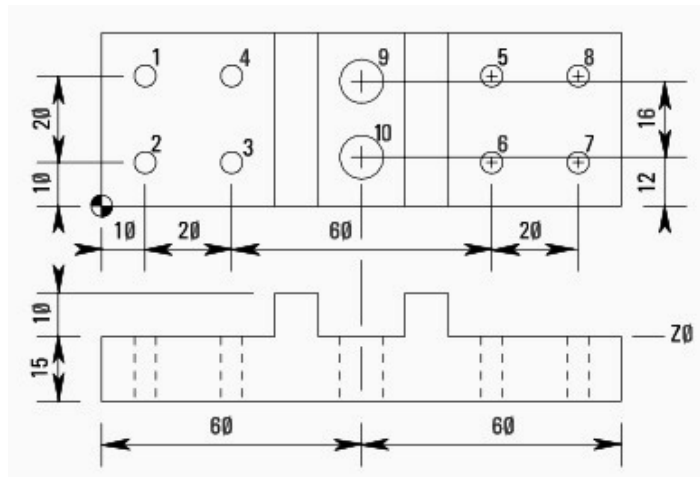
**Semester: 2**  
**Subject Code: 03208153**  
**Subject Name: CNC Technology**

**Date: 23/05/2018**  
**Time: 02.00 pm to 4.30 pm**  
**Total Marks: 60**

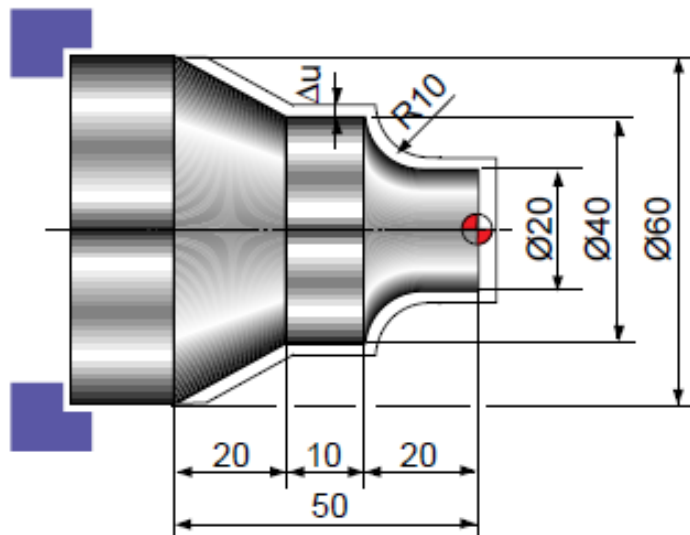
**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A) Explain open and closed loop control system with neat sketch. **(05)**  
 B) Explain Absolute and Incremental system with neat sketch. **(05)**  
 C) Explain Tool length compensation with neat sketch. **(05)**
- Q.2** Answer the following questions. (Attempt any three) (Each five mark) **(15)**  
 A) What are the basic components of CNC system? Briefly discuss each of them  
 B) Types of cutting tool materials explain any two.  
 C) Write a short note on recirculating ball screw used in CNC machines with sketch.  
 D) Explain Torque transmission elements.
- Q.3** A) Write a milling part program for given sketch. **(07)**  
 Diameter = 6 (1 to 8 Hole) – Depth = 15mm  
 Diameter = 10 (9 to 10 Hole) – Depth = 15mm



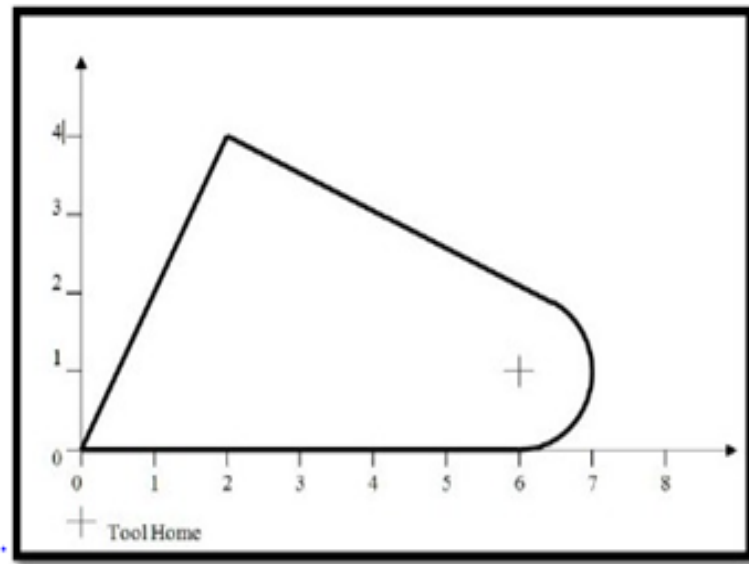
- A) Write a Turning part program for given sketch. **(08)**



**OR**

B) Write a part program by using APT Language for given sketch.

**(08)**



**Q.4** A) Explain various sensors and actuators used in robots.

**(07)**

**OR**

A) Sketch and explain cylindrical and SCARA configuration of industrial robot.

**(07)**

B) Explain commonly used robot programming language with illustration. Discuss various applications of robots.

**(08)**