PROCEDURE

1. The least count (or vernier constant) of the vernier calliper is determined.

2. **Measurement of length**:
   The given hollow tube is now inserted lengthwise between the outer jaws of the calliper and held tight. The main scale reading and vernier scale divisions are noted. This process is repeated three times changing the position of the tube.

3. **Measurement of external diameter**:
   The tube is now introduced along its diameter between the outer jaws. The main scale reading and vernier scale divisions are noted. This process is repeated three times changing the positions of the tube.

4. **Measurement of internal diameter**:
   The inner jaws of the vernier calliper are introduced inside the hollow tube and pressed out till the jaws touch the walls of the tube. The main scale reading and vernier scale divisions are noted. This process is repeated three times changing the position of tube.

5. The mass of the given hollow tube is measured by using weighing balance (or digital balance).

OBSERVATIONS

1 division of main scale, $1 MSD = \ldots \ldots \ldots$cm $(= value\ of\ 1\ main\ scale\ division)$

Number of divisions in vernier calliper, $N = \ldots \ldots \ldots \ldots$

$\therefore Least\ count\ of\ vernier\ calliper, LC = \frac{1\ MSD}{N}$

$= \ldots \ldots \ldots$ cm $= vernier\ constant\ (VC)$

Mass of given test plate, $m = \ldots \ldots \ldots \ldots$

Table for length, external diameter and internal diameter:

SN		Main scale reading (M) cm	Vernier scale division (n)	Vernier scale reading ($V = n \times LC$) cm	Total ($M + V$) cm	Mean cm
1	Length					
2						$l =$
3						
1	External Diameter					
2						$d_e =$
3						
1	Internal Diameter					
2						$d_i =$
3						