Roll No.	1	6	0	2	-	2	0	-	7	3	3	-			

	VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS-CBCS) DEPARTMENT OF MECHANICAL ENGINEERING **B.E. I – SEMESTER, 2021-22**	**CSE-A**
SHEET 04b	**UI21ES030CE :: BASIC ENGINEERING DRAWING** **TRACES OF STRAIGHT LINES - II**	

OUTCOME: At the end of the **Sheet-4b**, the student will be able to ::

- draw the projections of straight lines inclined to both the reference planes
- determine the true length and inclinations w.r.t. to principal projection planes HP & VP
- locate the traces of straight lines

4.11	A line AB, inclined at *40º* to the VP, has its ends *20 mm* and *50 mm above* the HP. The length of its front view is *65 mm* and its *VT* is *10 mm above* the HP. Determine the *true length* of AB, its *inclination* with the HP and its *HT*.
4.12	The end A of a line AB is in the HP and *25 mm behind* the VP. The end B is in the VP and *50 mm above* the HP. The distance between the end projectors is *75 mm*. Draw the *projections* of AB and determine its *true length*, *traces* and *inclinations* with the reference planes.
4.13	The front view of a line AB measures *65 mm* and makes an angle of *45º* with *x-y*. A is in the HP and the *VT* of the line is *15 mm below* the HP. The line is inclined at *30º* to the VP. Draw the *projections* of AB and find its *true length* and *inclination* with the HP. Also locate its *traces*.
4.14	The projectors drawn from the *HT* and the *VT* of a straight line AB are *80 mm* apart while those drawn from its ends are *50 mm* apart. The *HT* is *35 mm in front* of the VP, the *VT* is *55 mm above* the HP and the end A is *10 mm above* the HP. Draw the *projections* of AB & determine its *true length*, *inclinations* with the reference planes.
4.15	The projectors of the ends of a line *PQ* are *90 mm* apart. P is *20 mm above* the HP while Q is *45 mm behind* the VP. The *HT* and the *VT* of the line coincide with each other on the *x-y* line, between the end projectors and *35 mm* away from the projector of the end P. Draw the *projections* of PQ and determine its *true length* and *inclinations* with the reference planes.
4.16	The end A of a line AB is *20 mm above* the HP and *35 mm in front* of the VP. The *VT* of the line is *15 mm below* the HP. The front view of the line is *70 mm* long and is inclined at *40º* with the *x-y* line. Draw the *projections* of the line AB and determine its *traces* and the *true inclinations* with the reference planes.
4.17	A line AB, *75 mm* long, is inclined at *30º* to the HP and *45º* to the VP. Its end A is *20 mm above* the HP and *30 mm in front* of the VP. Draw the *projections* of AB and determine the *traces*.
4.18	A *75 mm* long straight line AB is inclined at *30º* with the HP and *60º* with the VP. The end A is *20 mm above* the HP and *30 mm in front* of the VP. Draw its *projections* and determine the *traces*.

Source: Engineering Drawing, **N.D. Bhatt** :: Exercise **10(b)**
