1. Draw crystallographic direction for:

      (i) [110]
      (ii) [123]

2. Determine the Miller indices for following plane:
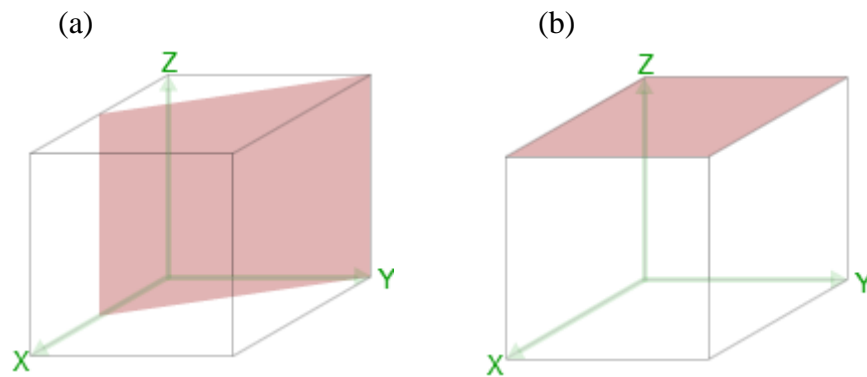
      (a)   (b)

Figure 1

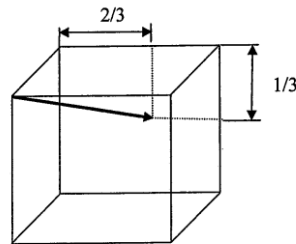3. What is the notation for vector direction in the cubic crystal in Figure 2?

Figure 2

(a) [321]   (b) [231]

(c) $[\bar{2}3\bar{1}]$ (d) $[\bar{3}2\bar{1}]$

4. What is the notation for vector direction in the cubic crystal in Figure 3?

Figure 3

(a) [301]   (b) $(\overline{21}3)$

(c) [213]   (d) $(30\overline{1})$

5. Draw direction vector in unit cubic for the following cubic direction:
(i) [221]
(ii) [112]

6. Determine Miller indices of the planes shown in the following unit cell:

Figure 4

7. Draw the vector direction and Miller index plane of:
(i) [313]   (ii) [121]
(iii) (421)   (iv) (111)