

9

Question #3 (a):

Four connections  
(10 kbps, 100 kbps, 1 Mbps and 10 Mbps)  
are multiplexed together. .... ?

Answer:

a) The duration of 1 bit before  
multiplexing.

$\Rightarrow$  The duration of 1 bit as for  
10 kbps as follows.

$$\frac{\text{Unit bit}}{\text{individual connection}} = \text{multiplexing}$$

So,

$$\frac{1}{10 \text{ kbps}}$$

$$= \frac{1}{10,000 \text{ bps}}$$

$$= 0.0001$$

$$= \boxed{1 \text{ ms}}$$