

In question (b) where candidates were required to calculate the monthly charge for electricity consumption, most candidates failed to convert the power consumed in kilowatts which is the standard unit for charging power.

### Question 9

Figure 2 shows a typical transistor characteristic curve.

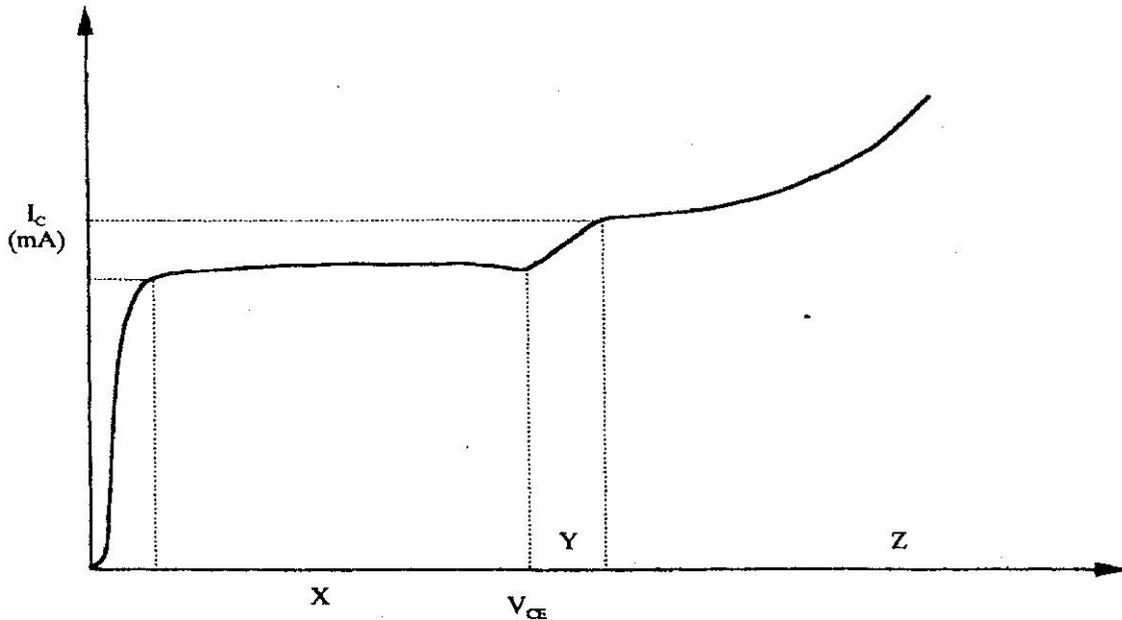


Figure 2

Name the regions marked X, Y and Z and explain the shape of the curve for each region. (4½ marks)

This question required the candidates to recognize the given diagram as representing a transistor characteristics curve and identify the three distinct regions and explain what happens in each region.

In their responses, candidates should have identified X as the active region where current increased proportionally with  $V_{CE}$  while Y is the saturation region where the current remains constant with large increases of  $V_{CE}$ . The third region is called avalanche where the transistor breaks down and is destroyed.