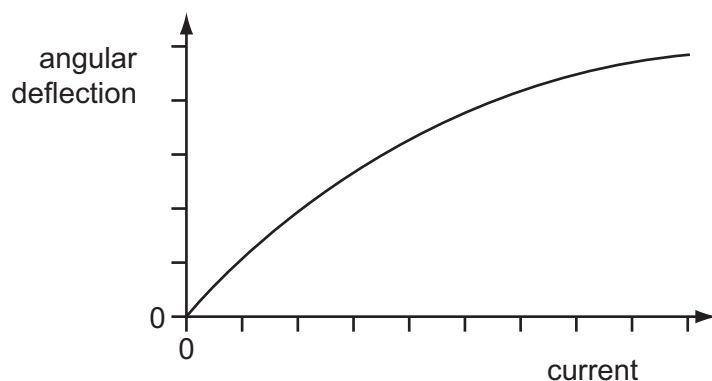
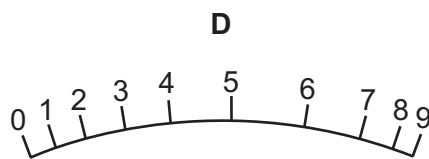
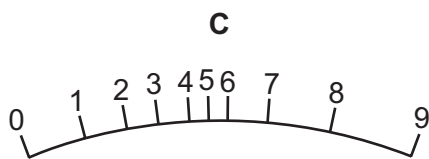
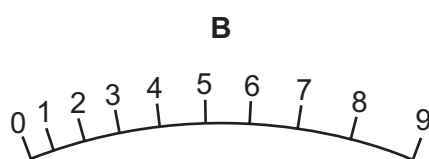
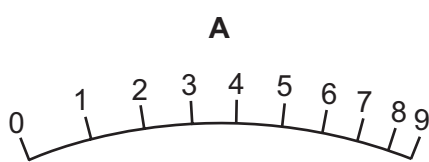


- 5 The angular deflection of the needle of an ammeter varies with the current in the ammeter as shown in the graph.



Which diagram could represent the appearance of the scale on this meter?



- 6 The strain energy  $W$  of a spring is determined from its spring constant  $k$  and extension  $x$ . The spring obeys Hooke's law and the value of  $W$  is calculated using the equation shown.

$$W = \frac{1}{2} kx^2$$

The spring constant is  $100 \pm 2 \text{ N m}^{-1}$  and the extension is  $0.050 \pm 0.002 \text{ m}$ .

What is the percentage uncertainty in the calculated value of  $W$ ?

- A** 6%                      **B** 10%                      **C** 16%                      **D** 32%