8 A linac is a particle accelerator. It consists of drift tubes of increasing length with potential differences (p.d.) applied between them.

Which of the following is the reason the drift tubes are of increasing length?

⊠ **A** So that the p.d. can have a constant frequency.

⊠ **B** So that the particle gains the same amount of energy in each tube.

⊠ **C** So that the p.d. between the tubes increases for each successive tube.

⊠ **D** So that the time spent in each successive tube increases.

(Total for Question 8 = 1 mark)