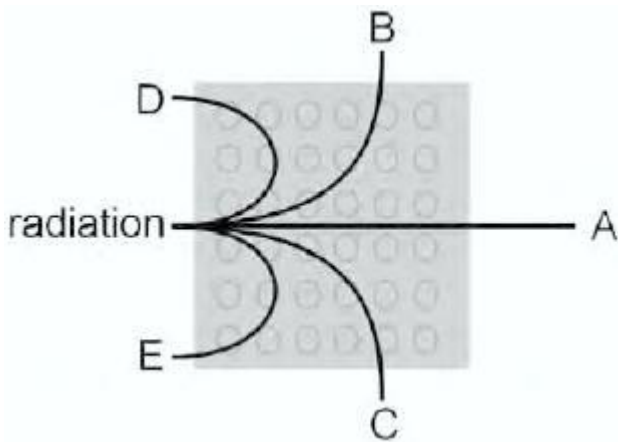


Which line shows the path of alpha radiation in a magnetic field?

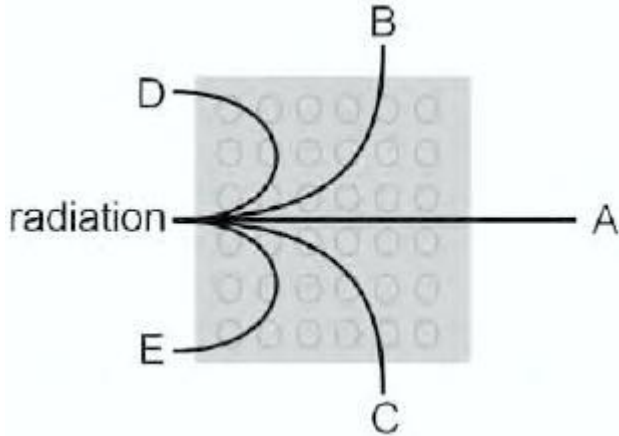
- A. A
- B. B
- C. C
- D. D
- E. E



Which line shows the path of beta radiation in a magnetic field?

- A. A
- B. B
- C. C
- D. D

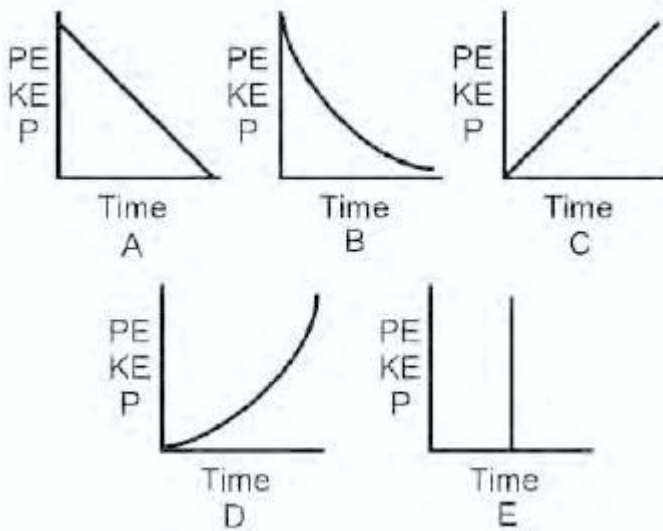
E. E



3.

Which line shows the path of gamma radiation in a magnetic field?

- A. A
- B. B
- C. C
- D. D
- E. E



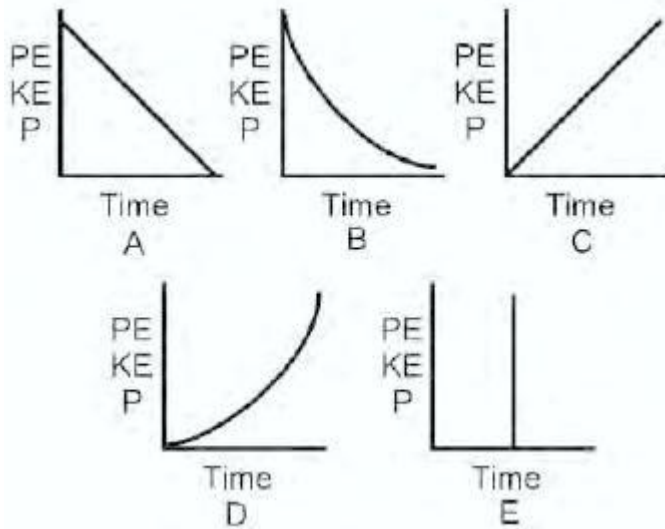
4.

An object free falls 15m from the top of a ladder. Select the graph that best describes the following quantities during the fall.

The potential energy of the object

- A. A

- B. B
- C. C
- D. D
- E. E

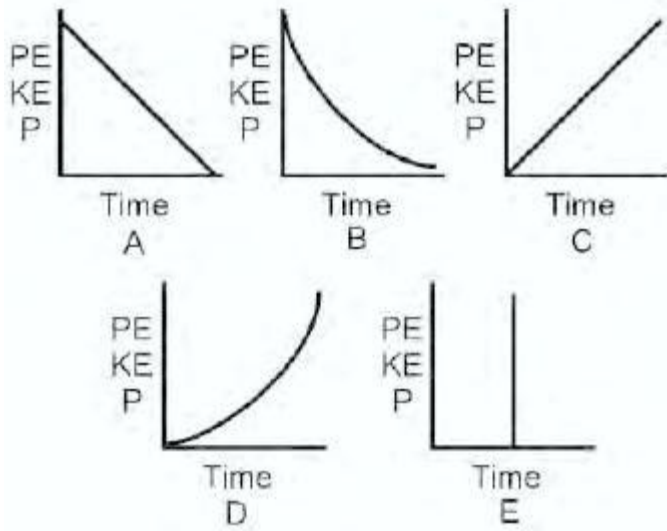


5.

An object free falls 15m from the top of a ladder. Select the graph that best describes the following quantities during the fall.

The kinetic energy of the object

- A. A
- B. B
- C. C
- D. D
- E. E



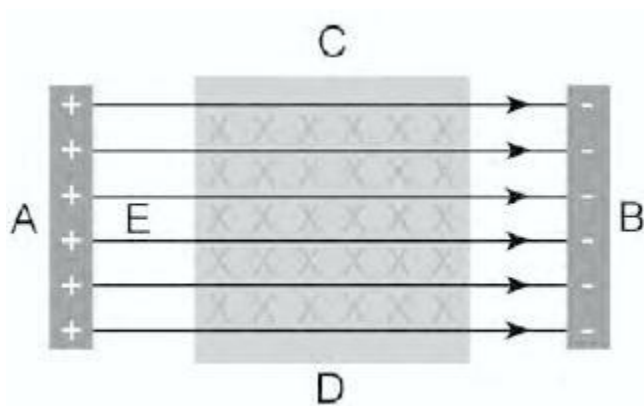
6.

An object free falls 15m from the top of a ladder. Select the graph that best describes the following quantities during the fall.

The momentum of the object

- A. A
- B. B
- C. C
- D. D
- E. E

7. This question relates to particles placed in the electric field shown below.

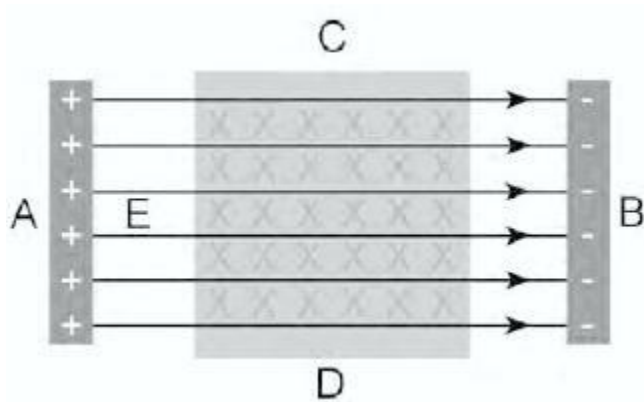


A particle is placed into the electric field (E), which has a magnetic field superimposed on it as shown. Where in the electric field will the three particles named below be located after a short period of time if they start at Point E?

The particle is a proton.

- A. A
- B. B
- C. C
- D. D
- E. E

8. This question relates to particles placed in the electric field shown below.

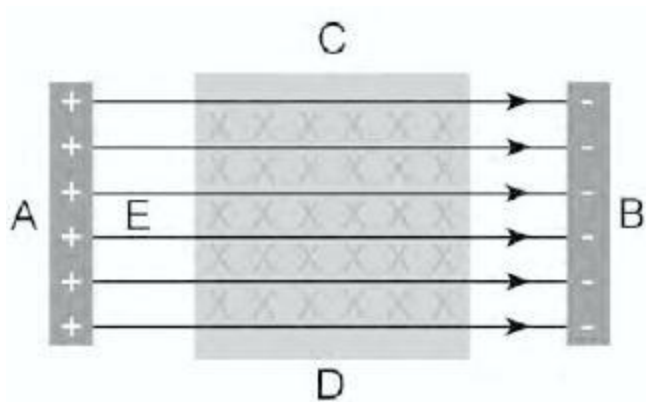


A particle is placed into the electric field (E), which has a magnetic field superimposed on it as shown. Where in the electric field will the three particles named below be located after a short period of time if they start at Point E?

The particle is a neutron.

- A. A
- B. B
- C. C
- D. D
- E. E

9. This question relates to particles placed in the electric field shown below.



A particle is placed into the electric field (E), which has a magnetic field superimposed on it as shown. Where in the electric field will the three particles named below be located after a short period of time if they start at Point E?

The particle is an electron.

- A. A
- B. B
- C. C
- D. D
- E. E

10. This question relates to the electron energy level diagram below. The questions are about a hydrogen electron located at E_3 .

$-0.38eV$	_____	$n = 6$
$-0.54eV$	_____	$n = 5$
$-0.85eV$	_____	$n = 4$
$-1.52eV$	_____	$n = 3$
$-3.39eV$	_____	$n = 2$
$-13.6eV$	_____	$n = 1$

What is the emission energy when it moves to E_2 ?

- A. $+66eV$
- B. $+98eV$
- C. $-1.87eV$
- D. $-10.2eV$

E. +12.08eV

11. This question relates to the electron energy level diagram below. The questions are about a hydrogen electron located at E_3 .

-0.38eV	_____	$n = 6$
-0.54eV	_____	$n = 5$
-0.85eV	_____	$n = 4$
-1.52eV	_____	$n = 3$
-3.39eV	_____	$n = 2$
-13.6eV	_____	$n = 1$

What is the absorbed energy when it moves to E_5 ?

A. +66eV

B. +.98eV

C. -1.87eV

D. -10.2eV

E. +12.08eV

12. This question relates to the electron energy level diagram below. The questions are about a hydrogen electron located at E_3 .

-0.38eV	_____	$n = 6$
-0.54eV	_____	$n = 5$
-0.85eV	_____	$n = 4$
-1.52eV	_____	$n = 3$
-3.39eV	_____	$n = 2$
-13.6eV	_____	$n = 1$

What is the emission energy when it moves to E_1 ?

A. +66eV

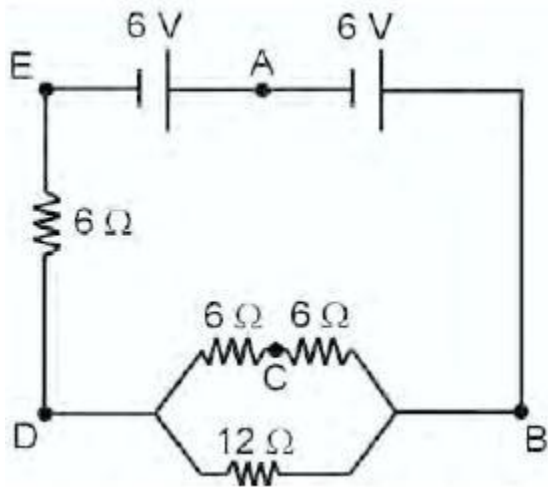
B. +.98eV

C. -1.87eV

D. -10.2eV

E. +12.08eV

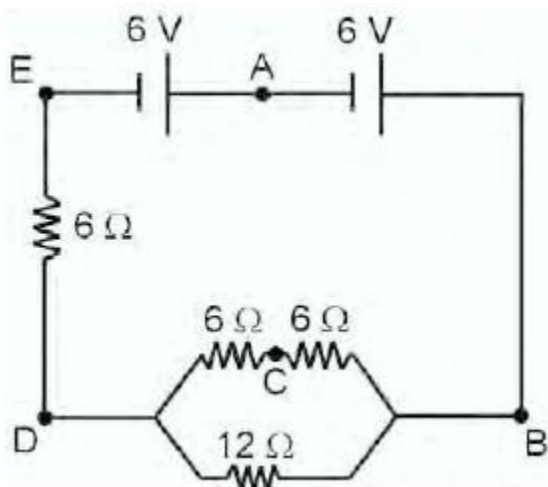
13. This question relates to the electric circuit below



Through which point does half the total current pass?

- A. A
- B. B
- C. C
- D. D
- E. E

14. This question relates to the electric circuit below

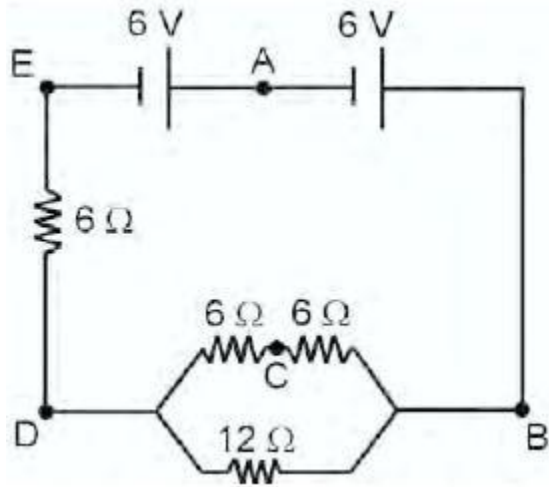


At which point is all the voltage in the circuit dropped to zero?

- A. A
- B. B

- C. C
- D. D
- E. E

15. This question relates to the electric circuit below



At which point is the voltage halved?

- A. A
- B. B
- C. C
- D. D
- E. E