

### GATE 2011 Physics (PH)

The following Boolean expression

$$Y = A \bullet \overline{B} \bullet \overline{C} \bullet \overline{D} + \overline{A} \bullet B \bullet \overline{C} \bullet D + \overline{A} \bullet \overline{B} \bullet C \bullet D + \overline{A} \bullet B \bullet C \bullet D + \overline{A} \bullet B \bullet C \bullet \overline{D} + A \bullet \overline{B} \bullet \overline{C} \bullet D \quad (1)$$

can be simplified to

(A)  $\overline{A} \bullet \overline{B} \bullet C + A \bullet \overline{D}$

(B)  $\overline{A} \bullet B \bullet \overline{C} + A \bullet \overline{D}$

(C)  $A \bullet \overline{B} \bullet \overline{C} + \overline{A} \bullet D$

(D)  $A \bullet \overline{B} \bullet C + \overline{A} \bullet D$

**Answer:** (D)  $A \bullet \overline{B} \bullet C + \overline{A} \bullet D$