If the probability for A to fail in an examination is 0.2 and that for B is 0.3, then the probability that either A or B fails is 0.5.

(1989 - 1 Mark)

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$
$$= P(A) + P(B) - P(A)\,P(B)$$
[$\because$ A and B are independent events]
$$= 0.2 + 0.3 - 0.2 \times 0.3 = 0.5 - 0.06 = 0.44 \neq 0.5$$

$\therefore$ The statement is false.