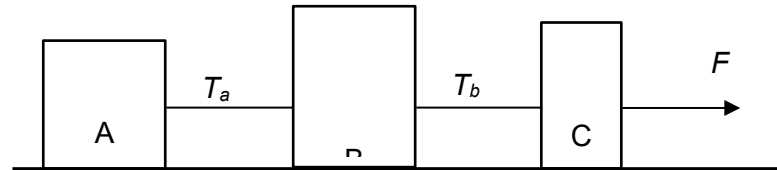


- 5 A force  $F$  is applied to pull three objects A, B and C across a frictionless horizontal surface. The three objects are connected by the strings as shown in the figure. The tensions in the strings between A and B is  $T_a$  and that between B and C is  $T_b$ .



A part of object B is chipped off such that the mass of object B is smaller. The force  $F$  remains unchanged and continues to pull the three objects. What are the changes to the tensions  $T_a$  and  $T_b$  in the strings?

- A  $T_a$  increases and  $T_b$  decreases.
- B  $T_a$  increases and  $T_b$  increases.
- C  $T_a$  decreases and  $T_b$  decreases.
- D  $T_a$  decreases and  $T_b$  increases.