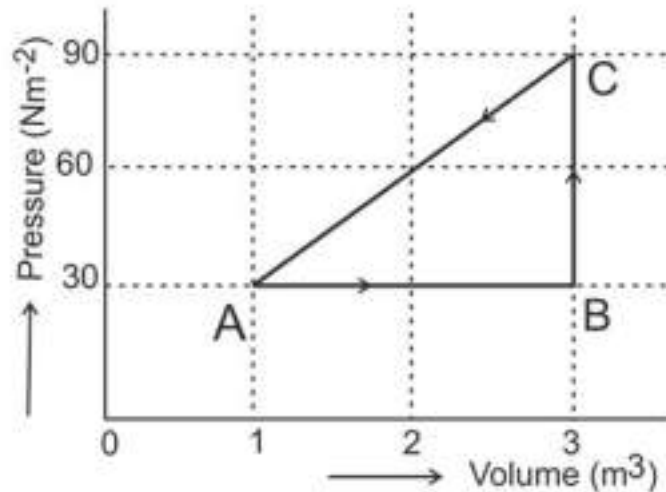


**EXAMPLE:** The adjacent figure shows the changes in the thermodynamic system in going from an initial state A to a state B and C and returning to the state A. If  $U_A = 0$ ,  $U_B = 30\text{J}$  and the heat given to the system in the process

$B \rightarrow C = 50\text{J}$ , then determine: (i) internal energy of the system in the state C



(ii) heat given to the system in the process  $A \rightarrow B$ , (iii) heat given to the system or taken out from the system in the process  $C \rightarrow A$ , (iv) net work done in the complete cycle.

**EXAMPLE:** 1000 cal of heat was given to a system. 418 J work was done by the system and 100 cal heat was destroyed. What was the change in internal energy of the system?