

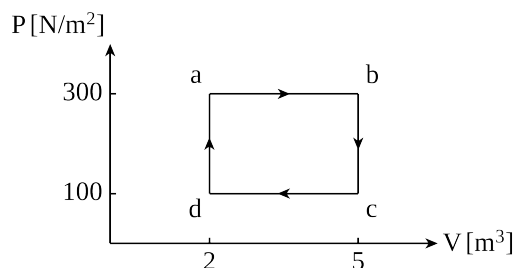
NEET THERMODYNAMICS (PHYSICS) — CYCLIC PROCESSES AND P-V DIAGRAM — PYQS

Max. Marks: 28

Questions: 7

Section A (MCQ) — 7 questions

- Q.1** One mole of an ideal monatomic gas undergoes a cyclic process as shown in the figure. The total heat supplied to the gas is: [RE-NEET (UG) 2026]

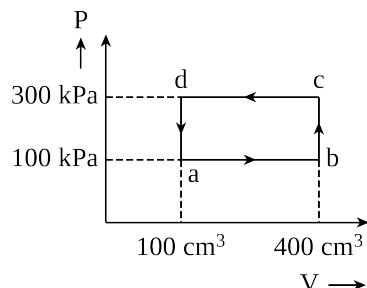


- (1) 800 J (2) 400 J (3) 500 J (4) 600 J

Scan or tap for the full solution



- Q.2** A thermodynamic system is taken through the cycle abcda. The work done by the gas along the path bc is: [NEET (UG) 2024]

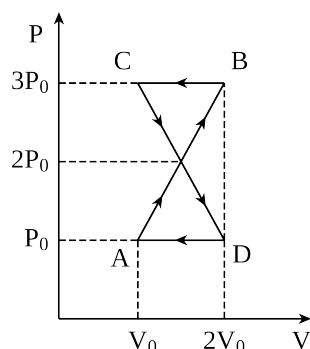


- (1) Zero (2) 30 J (3) -90 J (4) -60 J

Scan or tap for the full solution



- Q.3** A thermodynamic system undergoes cyclic process ABCDA as shown in figure. The work done by the system in the cycle is [AIPMT 2014]

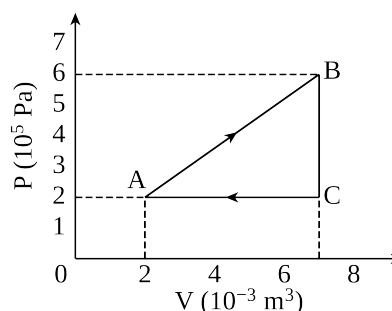


- (1) P_0V_0 (2) $2P_0V_0$ (3) $\frac{P_0V_0}{2}$ (4) zero

Scan or tap for the full solution



- Q.4** A gas is taken through the cycle $A \rightarrow B \rightarrow C \rightarrow A$, as shown. What is the net work done by the gas? [NEET 2013]

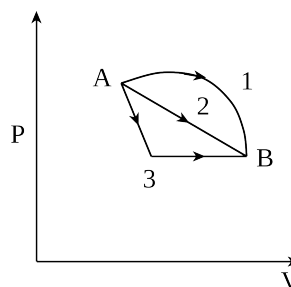


- (1) Zero (2) -2000 J (3) 2000 J (4) 1000 J

Scan or tap for the full solution



- Q.5** An ideal gas goes from state A to state B via three different processes as indicated in the P-V diagram.



If Q_1 , Q_2 , Q_3 indicate the heat absorbed by the gas along the three processes and ΔU_1 , ΔU_2 , ΔU_3 indicate the change in internal energy along the three processes respectively, then

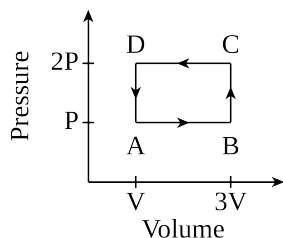
[AIPMT 2012 (Mains)]

- (1) $Q_1 > Q_2 > Q_3$ and $\Delta U_1 = \Delta U_2 = \Delta U_3$
 (2) $Q_3 > Q_2 > Q_1$ and $\Delta U_1 = \Delta U_2 = \Delta U_3$
 (3) $Q_1 = Q_2 = Q_3$ and $\Delta U_1 > \Delta U_2 > \Delta U_3$
 (4) $Q_3 = Q_2 = Q_1$ and $\Delta U_1 > \Delta U_2 > \Delta U_3$

Scan or tap for the full solution



- Q.6** A thermodynamic system is taken through the cycle ABCD as shown in figure. Heat rejected by the gas during the cycle is [AIPMT 2012 (Prelims)]



- (1) $2PV$ (2) $4PV$ (3) $\frac{1}{2}PV$ (4) PV

Scan or tap for the
full solution



Q.7 If Q , E and W denote respectively the heat added, change in internal energy and the work done in a closed cyclic process, then [AIPMT 2008]

- (1) $E = 0$ (2) $Q = 0$
(3) $W = 0$ (4) $Q = W = 0$

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7				
Ans.	4	1	4	4	1	1	1				