

# PYQSide

## NEET THERMODYNAMICS (PHYSICS) — REFRIGERATORS AND HEAT PUMPS — PYQS

Max. Marks: 20

Questions: 5

### Section A (MCQ)

- Q.1** A Carnot engine having an efficiency of  $\frac{1}{10}$  as heat engine, is used as a refrigerator. If the work done on the system is 10 J, the amount of energy absorbed from the reservoir at lower temperature is

[NEET 2017]

- (1) 90 J (2) 99 J (3) 100 J (4) 1 J

Scan or tap for the full solution



- Q.2** A refrigerator works between  $4^\circ\text{C}$  and  $30^\circ\text{C}$ . It is required to remove 600 calories of heat every second in order to keep the temperature of the refrigerated space constant. The power required is (Take  $1 \text{ cal} = 4.2 \text{ Joules}$ )

[NEET 2016 (Phase 1)]

- (1) 236.5 W (2) 2365 W (3) 2.365 W (4) 23.65 W

Scan or tap for the full solution



- Q.3** The temperature inside a refrigerator is  $t_2^\circ\text{C}$  and the room temperature is  $t_1^\circ\text{C}$ . The amount of heat delivered to the room for each joule of electrical energy consumed ideally will be

[NEET 2016 (Phase 2)]

- (1)  $\frac{t_1}{t_1 - t_2}$  (2)  $\frac{t_1 + 273}{t_1 - t_2}$   
(3)  $\frac{t_2 + 273}{t_1 - t_2}$  (4)  $\frac{t_1 + t_2}{t_1 + 273}$

Scan or tap for the full solution



- Q.4** The coefficient of performance of a refrigerator is 5. If the temperature inside freezer is  $-20^\circ\text{C}$ , the temperature of the surroundings to which it rejects heat is

[AIPMT 2015]

- (1)  $11^\circ\text{C}$  (2)  $21^\circ\text{C}$  (3)  $31^\circ\text{C}$  (4)  $41^\circ\text{C}$

Scan or tap for the full solution



- Q.5** A Carnot engine, having an efficiency of  $\eta = \frac{1}{10}$  as heat engine, is used as a refrigerator. If the work done on the system is 10 J, the amount of energy absorbed from the reservoir at lower temperature is

[AIPMT 2015 (Cancelled)]

- (1) 90 J (2) 1 J (3) 100 J (4) 99 J

Scan or tap for the full solution



### ANSWER KEY

| Ques. | 1 | 2 | 3 | 4 | 5 |  |  |  |  |  |  |
|-------|---|---|---|---|---|--|--|--|--|--|--|
| Ans.  | 1 | 1 | 2 | 3 | 1 |  |  |  |  |  |  |