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JEE MAIN THERMAL PROPERTIES OF MATTER — SPECIFIC HEAT CAPACITY AND CALORIMETRY — PYQS

Max. Marks: 12 **Questions:** 3

Section A (MCQ) — 3 questions

Q.1 A gas based geyser heats water flowing at the rate of 5.0 litres per minute from 27°C to 87°C. The rate of consumption of the gas is _____ g/s.
(Take heat of combustion of gas $= 5.0 \times 10^4$ J/g, specific heat capacity of water = 4200 J/kg·°C)

[JEE Main 2026 (Online) 21st January Morning Shift]

(1) 4.2 (2) 2.1 (3) 0.21 (4) 0.42

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Q.2 Water falls from a height of 200 m into a pool. Calculate the rise in temperature of the water assuming no heat dissipation from the water in the pool.
(Take g = 10 m/s^2, specific heat of water = 4200 J/(kg K))

[JEE Main 2025 (Online) 8th April Evening Shift]

(1) 0.36 K (2) 0.23 K (3) 0.48 K (4) 0.14 K

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Q.3 Match **List - I** with **List - II**.

List - I		List - II	
A.	Heat capacity of body	I.	J kg^{-1}
B.	Specific heat capacity of body	II.	J K^{-1}
C.	Latent heat	III.	J kg^{-1} K^{-1}
D.	Thermal conductivity	IV.	J m^{-1} K^{-1} s^{-1}

Choose the correct answer from the options given below : [JEE Main 2025 (Online) 2nd April Evening Shift]

(1) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
(2) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
(3) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
(4) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)

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ANSWER KEY

Ques.	1	2	3								
Ans.	4	3	4								