Sample questions Physics

S. No	Questions	Answer	Marks	Chapter
1.	A carnot engine working between 300K has a work output of 800J per cycle. The amoun of heat energy supplied to the engine in each cycle is a) 800J b) 1600J c) 3200J d) 6400J	B	1	
2.	For hydrogen gas $C_p-C_v=a$ and for oxygen gas $C_p-C_v=b$. The relation between a and b is a) $a=16b$ b) $a=b/16$ c) $a=4b$ d) $a=b$	D	1	
3.	The equation of state corresponding to 8 g of O_2 is (assume O_2 to be an ideal gas) a) $PV=8RT$ b) $PV=RT/4$ c) $PV=RT$ d) $PV=RT/2$	B	1	
4.	When an ideal monoatomic gas is heated at constant pressure, the fraction of heat energy supplied which increases the internal energy of the gas is a) 2/5 b) 3/5 c) 3/7 d) 3/4	B	1	
5.	At zero Kelvin, which of the following properties of a gas will be zero? a) Kinetic energy b) Potential energy c) Mass d) Density	A	1	
6.	By exerting a certain amount of pressure on an ice block, you a) Lower its melting point b) Make it melt at 0^0C only c) Make it melt at a faster rate d) Raise its melting point	A	1	
7.	If 110J of heat is supplied to a gaseous system, its internal energy changes by 40J. The amount of external work done is a) 150J b) 70J c) 110J d) 40J	B	1	
8.	A body cools from 50.0^0C to 49.9^0C in 5s. How long will it take to cool from 40.0^0C to 39.9^0C? Assume the temperature of the surroundings to be 30.0^0C and Newton's law of cooling to be valid. a) 2.5s b) 10s c) 20s d) 5s	B	1	

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9.	The critical temperature of CO_2 is 31.1^0C and the room temperature is 40^0c, then CO_2 behaves as a a) Gas b) Vapour c) Gas and vapour d) Liquid	A	1	
10.	One mole of a monoatomic gas is mixed with one mole of a diatomic gas. What will be the value of γ for the mixture? (a) 1.5 (b) 1.54 (c) 1.4 (d) 1.45	A	1	