Physics ICS Part 1 Chapter 11 Online Test

Sr	Questions	Answers Choice
1	The curve representing an adiabatic process is called.	A. An adiabatic B. An isotherm C. Both of these D. None of these
2	In reversible process the entropy of system.	A. Remain constant B. Decrease C. Increase D. Becomes zero
3	Temperature of a gas is increased from 27 oC to 127 oC. The ratio of its mean K.E. will be	A. 3/4 B. 9/16 C. 4/3 D. 10/9
4	The molecules of an ideal gas exert	A. Force on each other B. No force on each other C. Large force on each other D. Pressure on each other
5	The temperature of human body on Kelvin scale is	A. 210K B. 310K C. 410K D. 510K
6	The entropy of the universe with passage of time is.	A. Increases B. Decreases C. Remain constant D. Increases and decreases
7	In thermodynamics system internal energy decrease by 100 J and 100 J of work done on the system then heat lost will be.	A. Zero B. 100 J C. 200 J D. -200 J
8	If heat engine absorb 400 J and rejects 200 J heat energy, its efficiency will be.	A. 25% B. 50% C. 70% D. 100%
9	If the temperature of sink is absolute zero then the efficiency of heat engine engine should be.	A. 100% B. 50% C. Infinite D. zero
10	The efficiency of any heat engine can never be	A. +ve B. 100% C. -ve D. None of these
11	The ideal gas law is.	A. PV =NVk B. P = NkT C. PV =nRT D. P=nRT
12	The mean kinetic energy of gas is at.	A. 0 ^oC B. -273 ^oC C. 100 K D. 100 ^oC
13	the change in internal energy is defined as	A. Q - W B. Q-T C. Q + P D. Q - P
14	Which is an example of irreversible process.	A. Explosion B. Evaporation C. Slow compression D. A chemical explosion
15	Carnot cycle consists of.	A. Two steps B. Three steps C. Four steps D. Five steps

16	For working of heat engine, there must be.	A. A source B. A sink C. either of these D. Both of these
17	For a diatomic gas Cv= 5R/2 then gamma for this gas is.	A. 5/7 B. 4/35 C. 7/5 D. 35/4
18	A Carnot engine has an efficiency of 50% when its sink temperature is at 27 ^{o}C. The temperature of source.	A. 273^oC B. 300 ^oC C. 327 ^oC D. 373 ^oC
19	Unite of thermodynamics scale of temperature is.	A. Centigrade B. Fahrenheit C. Kelvin D. Celsius
20	A finite volume of gas consists of	A. Small no. of molecules B. Large no. of molecule C. Average no. of molecule D. None of these
21	Cloud formation in atmosphere is an example of.	A. Isothermal process B. Isochoric process C. Adiabatic process D. Isobaric process
22	During adiabatic process, which factor remains constant.	A. Entropy B. Pressure C. Momentum D. Power
23	Not change in entropy of a system after one complete Carnot cycle is.	A. Positive B. Negative C. Zero D. None of these
24	The number of spark plug needed in diesel engine is	A. 0 B. 2 C. 3 D. 4
25	The internal energy of a piece of lead when beaten by hammer will.	A. Increase B. Decrease C. Remains constant D. Increases and then decrease
26	Which remains constant in an adiabatic process.	A. Volume B. Pressure C. entropy D. temperature
27	No spark plug is needed in the	A. Petrol engine B. Diesel engine C. Gas engine D. Water engine
28	Which one is true for isothermal process.	A. Q = 0 B. W = 0 C. Q = W(D) Delta U = 0 D. None of these
29	Efficiency of steam locomotive is.	A. 8% B. 10% C. 9% D. 7%
30	The difference between tow molar capacities is equal to.	A. Plank's constant B. General gas equation C. Molar gas constant D. Boltzmann constant
31	Size of the molecules is much smaller as compared to the	A. Mass of the molecules B. Distance between the molecules C. Density of the molecules D. Volume of the molecules
32	An ideal heat engine can only be 100% efficient if its cold temperature reservoir is at.	A. 0 K B. 0 ^oC C. 100 K D. 100 ^oC
33	Transformation of heat other forms of energy is discussed in	A. Thermal physics B. Thermodynamics C. Atomic physics

		D. Nuclear physics
34	The efficiency of diesel engine is about	A. 25% to 30% B. 35% to 40% C. 40% to 50% D. 50% to 60%
35	First law of thermodynamics can be defined by the equation	
36	Efficiency of a heat engine working between 27 ^{o}C and 32 ^{o}C will be.	A. 50% B. 90% C. 40% D. 62%
37	Mercury is used as a thermometric substance because	A. It is opaque B. Does not stick to glass C. Has low specific heat D. All of these
38	The internal energy of system does not depend on	A. Temperature B. Pressure C. Path D. Final and initial state
39	A system does 600 J of work and at the same time has its internal energy increased by 320 J. How much heat has been supplied.	A. 28o J B. 920 J C. 600 J D. 200 J
40	The kinetic energy of molecules of an ideal gas at absolute zero is	A. Very low B. Very high C. Zero D. First increases then decreases
41	The unit o pressure of gas is	A. Nm⁻² B. Pascal C. Atmosphere D. All of these
42	The actual efficiency of property turned petrol engine is.	A. 20% to 30% B. 30% to 35% C. 40% to 45% D. 25% to 30%
43	Which is the process in which temperature of the system remains constant.	A. Adiabatic process B. Isochoric process C. Isothermal process D. Isobaric process
44	Average translational K.E. of molecules for an ideal gas is given as	A. 1/2 KT B. KT C. 2/3 KT D. 3/2 KT
45	Boltzman constant 'k' has same unit as.	A. Temperature B. Energy C. Entropy D. Pressure
46	The difference between two molar capacities is equal to.	A. Plank's constant B. General gas constant C. Molar gas constant D. Boltzmann constant
47	The SI unit of product of pressure and volume is.	A. _{Watt} B. Joule C. Pascal D. Newton
48	Which of following is irreversible process	A. Slow compression of an elastic spring B. Slow evaporation of substances in isolated vessel C. Slow expansion of a gas D. A chemical explosion E.
49	S.I Unit of pressure of gas is.	A. Nm B. N.m C. N2/m D. N3m
50	For a gas obeying Boyle's Law, if the pressure is doubled, the volume becomes.	A. Double B. Three fold C. One half D. Remains the same
		A. Maximum

51	The potential energy to the molecules of an ideal gas is considered to be.	B. Zero C. 1/2 kx² D. 1/2 kx
52	The work done is isochoric process is.	A. Constant B. Variable C. Zero D. Depend upon condition
53	The efficiency of diesel engine is about	A. 25 % to 30% B. 35% to 40% C. 40% to 50% D. 50% to 60%
54	The efficiency of heat engine whose sink is at 17 ^{o}C and source at 200 ^{o}C is.	A. 38% B. 63% C. 80% D. 90%
55	Force acting on the piston to move outward is.	A. Compressive stoke B. Power stoke C. All stoke D. Exhaust stoke
56	Value of triple point of water is given as.	A. Zero K B. 100 K C. 273.16 K D. 373.16 K
57	When temperature of source and sink of a heat engine becomes equal then the entropy change will be.	A. zero B. Minimum C. Maximum D. Negative
58	A constant temperature, if pressure of a given mass of gas is halved, then its volume becomes.	A. Halve B. Doubled C. Four time D. Constant
59	Pascal is the unit of	A. Pressure B. Force C. Tension D. Weight
60	A diatomic gas molecules has	A. Translational energy only B. Rotational energy only C. Vibrational energy only D. All translational, Rotational and vibrational energy
61	If heat is added to a system, then its entropy will.	A. Increases and positive B. Decrease and positive C. Increases but negative D. Decreases but negative
62	Pressure 'P' of a gas is defined as	A. F/A B. FA C. F/V D. F/D
63	The motion of gas molecules is	A. In the same direction B. Random C. Walls of container D. Opposite to each other
64	No of spark plugs needed in the diesel engine are.	A. 0 B. 1 C. 2 D. 3
65	A gas performs 10 J of work while expanding adiabatically. the change in its internal energy is.	A. 10 J B. -10 J C. 100 J D. -200 J
66	Environmental crisis are also known as	A. Population crisis B. Entropy crisis C. War crisis D. Mass crisis
67	The increase in thermal pollution of environment means.	A. Increase in the entropy B. Decrease in the entropy C. Entropy remains constant D. Entropy becomes zero
68	the work done in isochoric process is.	A. Constant B. Variable C. Zero D. Depend upon condition

69	In the thermodynamics process , the equation W = -delta U represents.	A. Isothermal expension B. Isothermal compression C. Adiabatic expansion D. Adiabatic compression
70	According to first law of thermodynamics the quantity which is conserved.	A. Force B. Momentum C. Energy D. Power
71	At constant temperature and pressure, if volume of given mass of a gas is doubled then density is.	A. Doubled B. 1/4 original C. 1/2 of original D. Unchanged
72	A heat engine operates between the temperature 1000 K and 400 K, Its efficiency is.	A. 100% B. 70% C. 60% D. 50%
73	Entropy of measure of.	A. Internal energy of system B. Order of system C. Disorder of system D. Potential energy of system
74	If the temperature of a gas is constant then <1/2 mv2> of the molecules of gas will be.	A. Constant B. Zero C. Increase D. Decrease
75	For working of heat engine, there must be	A. A source B. A sink C. Ether of these D. Both of them
76	The collision between the gas molecules is	A. Elastic B. Inelastic C. Both a and b D. None of these
77	A cycle of petrol engine undergoes	A. Two process B. Three process C. Four process D. single process
78	At which of the following temperature a body has maximum internal energy.	A. -273 ^oC B. 0 K C. 273 K D. -273 K
79	A device based upon the thermodynamics property of matter is called.	A. Calorimeter B. Heat engine C. thermometer D. Voltmeter
80	An ideal reversible heat engine has	A. 100% efficiency B. Highest efficiency C. 80% D. 90%
81	Entropy remains constant.	A. Isothermal process B. Adiabatic process C. Isochoric process D. Isobaric process
82	Heat is form of.	A. Power B. Momentum C. Energy D. Torque
83	The Carnot cycle can be shown by which graph	A. P - T graph B. P - V Graph C. V- T graph D. PV -T graph
84	The efficiency of a Carnot Heat Engine is 100% if temperature of sink T2 is.	A. 0 ^oC B. 0 K C. 0 ^oF D. 100 K
85	For an ideal gas, the internal energy is directly proportional to.	A. Pressure B. volume C. Mass D. Temperature
86	The energy processes, we use are	A. Efficient B. Not efficient C. Reversible

		C. Reversible D. None of these
87	The measure of hotness or coldness of a substance is.	A. Temperature B. Heat C. Internal energy D. Energy
88	When hot and cold water are mixed, the entropy.	A. Decreases B. Increases C. Remain constant D. Zero
89	The temperature scale which is independent of nature of substance is.	A. Thermodynamic scale B. Centigrade scale C. Fahrenheit scale D. Regnault scale
90	In case the work done in zero.	A. Constant pressure B. Constant volume C. Constant temperature D. Constant mass
91	The behaviour of gases is discussed by	A. Knowing their nature B. Knowing their temperature C. Kinetic theory D. Maxwell's theory
92	Almost all the raw energy is librated from	A. Heat B. Earth C. Light D. All of these