ECAT Physics Online Test

Sr	Questions	Answers Choice
1	An irreversible heat flow from a hot to cold substances of a system, causes the disorder to	A. decrease B. remains the same C. increase D. any one of them
2	If a system undergoes a natural process it will go in the direction that causes the entropy of the system plus the environment to increase, this is another statement of	A. second law thermodynamics B. first law of thermodynamics C. third law of thermodynamics D. none of them
3	In all natural processes where heat flows from one system to another, there is always a net	A. decrease in entropy B. increase in entropy C. decrease or increase in entropy D. none of them
4	When heat is removed from the system	A. negative B. positive C. zero D. any one of them
5	When heat is added into the system then change in entropy is	A. negative B. positive C. zero D. any one of them
6	Which quantity is important in stating the entropy of the system	A. initial entropy B. final entropy C. change in entropy D. none of them
7	Which of the following is a state variable	A. entropy B. pressure C. volume D. all of them
8	The concept of entropy was introduced into the study of thermodynamics in	A. 1856 B. 1865 C. 1656 D. 1685
9	The efficiency of diesel engine is	A. 25% B. 25 - 30% C. 35% D. 35 - 40%
10	No spark plug is needed in	A. petrol engine B. diesel engine C. both of them D. none of them
11	The efficiency of petrol engine is usually not more than 25% to 30% because of	A. friction B. heat losses C. both of them D. none of them
12	On the exaust stroke, the outlet values opens. The residual gases are expelled and piston moves	A. outwards B. inwards C. in either way D. none of these
13	On the power stroke, a spark fires the mixtures causing a rapid increase in pressure and temperature and the burning mixture expands	A. adiabatically B. isothermally C. isochorically D. isobarically
14	On the compression stroke of the petrol engine, the inlet value is closed and the mixture is compressed	A. adiabatically B. isothermally C. isochorcally D. isobarically
15	A typical four stroke petrol engine undergoes how many successive processes in each cycle	A. one B. two C. three D. four

16	Since the absolute scale is independent of the property of the working substance, hence, can be applied at	A. very high temperature B. very low temperature C. any one of them D. none of them
17	The state in which ice, water and vapour coexists in equilibrium is called	A. zero degree celsius B. zero degree fahrenheit C. absolute zero D. 373 K
18	The unit of thermodynamical scale is	A. centigrade B. fahrenheit C. kelvin D. none of them
19	The absolute temperature of the tripple point of water is	A. 100°C B. 4°C C. 373 K D. 273.16 K
20	The basis to define a temperature scale that is independent of material properties is provided by	A. carbon cycle B. nitrogen cycle C. Carnot cycle D. irreversible cycle
21	Generally a temperature scale is established by using certain physical properties of a material which varies	A. nonlinearly with temperature B. linearly with temperature C. either of them D. none of them
22	Generally a temperature scale is established by	A. one fixed point B. two fixed point C. three fixed point D. four fixed point
23	The efficiency of carnot engine cannot be 100% or one unless cold reservoir is at	A. 100 K B. 273 K C. 0 K D. -273 K
24	Efficiency of carnot engine is independent of the	A. temperature of sink B. temperature of source C. nature of the working substances D. none of them
25	The highest efficiency of a heat engine whose low temperature is 17°C and the high temperature is 200°C is	A. 70% B. 100% C. 35% D. 38%
26	When the temperature of source and sink of a heat engine become equal entropy change will be	A. Zero B. Max C. Min D. -ve
27	During the whole carnot cycle	A. Thermal equilibrium is maintained B. mechanical equilibrium is maintained C. both the thermal and mechanical equilibriumis maintained D. both the thermal and mechanical equilibrium is not maintained
28	Which of the following can become a good temporarily magnet	A. iron B. steel C. both of them D. none of them
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30	In a soft iron, domains are	A. easily oriented along external field and do not return to original random positions B. easily oriented along external field and readily returns to originally random position C. do no oriented along external field and also do not returns to originally random position D. none of them