Physics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	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
2	A typical four stroke petrol engine undergoes how many successive processes in each cycle	A. one B. two C. three D. four
3	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
4	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
5	The unit of thermodynamical scale is	A. centigrade B. fahrenheit C. kelvin D. none of them
6	The absolute temperature of the tripple point of water is	A. 100°C B. 4°C C. 373 K D. 273.16 K
7	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
8	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
9	Generally a temperature scale is established by	A. one fixed point B. two fixed point C. three fixed point D. four fixed point
10	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
11	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
12	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%
13	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
14	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
15	Which of the following can become a good temporarily magnet	A. iron B. steel C. both of them D. none of them
16	Which of the following can become a good permanent magnet	A. iron B. steel C. both of them D. none of them
17	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
18	Within each domain, the magnetic field of all the spinning electrons are	A. parallel B. antiparallel C. perpendicular D. all of them
19	The size of the domain is such that they can contain	A. 10²to 10⁴atoms B. 10⁴ to 10⁸atoms C. 10⁸to 10¹²atoms D. 10¹²to 10¹⁶atoms
20	The domains are of macroscopic size of the order of	A. centimeters B. meters C. millimeters D. nanomneters
21	Recent studies of ferromagnetism have shown that there exists in ferromagnetic substances small regions called	A. tiny regions B. domains C. vectors D. none of them
22	The substance in which atoms cooperate with each other in such a way so as to exhibit a strong magnetic effect, are called	A. diamagnetic substances B. ferromagnetic substances C. paramagnetic substances D. all of them
23	The substance in which atoms are so oriented that the field produced by spin and orbital motion of the electrons might add up to zero,are called	A. diamagnetic substances B. ferromagnetic substances C. paramagnetic substances D. all of them
24	The substances in which, atom are so oriented that their fields support each other and the atoms behave like tiny magnets, are called	A. diamagnetic substances B. ferromagnetic substances C. paramagnetic substances D. all of them
25	The charged nucleus of an atom itself spins its magnetic field	A. equal to the field produced by orbital electrons B. greater than the field produced by orbital electrons C. much weaker than the field produced by orbital electrons D. none of these
26	An atom in which there is a resultant magnetic field, behaves like a tiny magnet and is called as	A. magnetic B. magnetic dipole C. magnetic monopole D. none of them
27	The magnetism produced by electrons within an atom can arise from	A. electrons orbiting the nucleus B. electrons posses a spin C. both motions D. none of these motions
28	Recently a complex crystalline structure known as Yetrium Barium Copper Oxide have been reported to become superconductor at	A. 125 K B. 25 K C. 263 K D. 163 K
29	Any superconductor with critical temperature above 77 K, is referred as	A. low temperature superconductor B. high temperature superconductor C. very low temperature

29	Any superconductor with critical temperature above 77 K, is referred as	C. very low temperature superconductor D. none of them
30	The critical temperature of tin is	A. 1.18 K B. 4.2 K C. 3.72 K D. 7.2 K