# PPSC Physics Topic 3 Thermal Properties of Matter

| Sr | Questions | Answers Choice |
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| 1 | A fixed mass of an ideal gas absorbs 1000 J of heat and expands under a constant pressure of 20 kPa from a volume of 25 x 10-3 m3 to a volume 50 x 10-3 The change internal energy of the gas is. | A. 500 J<br>B. 1000 J<br>C. -1000 J<br>D. Zero |
| 2 | Why an even Carnot engine Carnot give 100% efficiency. | A. We cannot find ideal sources<br>B. We cannot eliminate friction<br>C. We cannot reach absolute zero temperature<br>D. We cannot remove heat |
| 3 | if temperature eon Celsius scale is 50 oC the temperature on Fahrenheit scale will be. | A. 102 <sup>o</sup>F<br>B. 108 <sup>o</sup>F<br>C. 112 <sup>o</sup>F<br>D. 122 <sup>o</sup>F |
| 4 | The pressure of a gas is directly proportions to | A. Mean velocity of the molecules<br>B. Mean square velocity of the molecules<br>C. Root mean square velocity of the molecules<br>D. Instantaneous velocity of the molecules |
| 5 | Which of the following should not change in an Isothermal process. | A. Volume<br>B. Pressure<br>C. Temperature<br>D. All of these |
| 6 | A heat engine can develop efficiency equal to 100% if the temperature of the sink is | A. Less than that of source<br>B. Equal to that of source<br>C. 0 K<br>D. 0 <sup>o</sup>C |
| 7 | A standard fixed point for calibrating a thermometer is. | A. Boiling point of water<br>B. Melting point of ice<br>C. Temperature of steam<br>D. Triple point of water |
| 8 | If we place oure hand below a lighted lamp we feel warmer due to. | A. Conduction<br>B. Convection<br>C. Radiation<br>D. None of these |
| 9 | Which law states that a change in the internal energy of a closed thermodynamic system is equal to the difference between the heat supplied to the system and teh amount of work by the system on the surrounding. | A. Zeroth law of thermodynamics<br>B. First law of thermodynamics<br>C. Second law of thermodynamics<br>D. Third law of thermodynamics |
| 10 | A heat engine with 100% efficiency would have to | A. Do no work<br>B. Be at a uniform temperature<br>C. Use no heat<br>D. Discharge at 0<sup> o</sup>C |
| 11 | For which process is the relation Delta Q = Delta V true. | A. Isothermal<br>B. Adiabatic<br>C. isobaric<br>D. Isochoric |
| 12 | If T1 and T2 are source and sink temperature respectively Carnot efficiency is. | A. T1+T2/T1<br>B. T1-T2/T1<br>C. T1+T2/T2<br>D. T1-T2/T2 |
| 13 | Law of increase of entropy is a result of | A. First law of thermodynamics<br>B. Second law of thermodynamics<br>C. Third law of thermodynamics<br>D. Zeroth law of thermodynamics |
| 14 | When the temperature of source and sink of a heat engine become equal the entropy change will be. | A. Zero<br>B. Maximum<br>C. Minimum<br>D. Negative |

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| 15 | On which parameter, the heat capacity of a material depends upon. | A. Density of the material<br>B. Specific heat of the material<br>C. Temperature of the material<br>D. Structure of the material |
| 16 | Which thermometer is called sprint thermometer | A. Alcohol thermometer<br>B. Mercury in glass thermometer<br>C. Gas thermometer<br>D. Radiation thermometer |
| 17 | The actual gas can behave like an ideal gas at | A. Low density and high pressure<br>B. High density and high pressure<br>C. Low density and low pressure<br>D. High density and low pressure |
| 18 | On which of the following the kinetic theory of gases is not applicable. | A. Water vapour<br>B. Smoke particles<br>C. Bound particles<br>D. Free electrons |
| 19 | Which kind of motion is exhibited by molecules of monoatomic gas. | A. Rotatory<br>B. Vibratory<br>C. Translatory<br>D. Random |
| 20 | The gas thermometer is taken as the primary standard because. | A. Thermometers are easily reproducible<br>B. Readings can be accurately taken<br>C. No correction are necessary<br>D. It produces he thermodynamic scale |