# NAT I Engineering Chemistry

| Sr | Questions | Answers Choice |
|---|---|---|
| 1 | At 500 K the equilibrium constant for reaction cis-$C_2H_2Cl_2$ trans-$C_2H_2Cl_2$ is 0.6. At the same temperature the equilibrium constant for the reaction trans-$C_2H_2Cl_2$ cis-$C_2H_2Cl_2$ will be | A. 0.60<br>B. 1.67<br>C. 0.66<br>D. 2.6 |
| 2 | The effect of increasing the pressure on the following equilibrium 2A + 3B \| \| 3A + 2B is | A. Forward reaction is favoured<br>B. Backward reaction is favoured<br>C. No effect<br>D. None of the above |
| 3 | In the equilibrium<br>$N_2 + 3H_2 - 2NH_3 + 22$ kcal the formation of ammonia is favoured by | A. Increasing the pressure<br>B. Increasing the temperature<br>C. Decreasing the pressure<br>D. Adding ammonia |
| 4 | Which of the following value of ΔHf° represent that the product is least stable? | A. -94.0 kcal mol<sup>-1</sup><br>B. -231.6 kcal mol<sup>-1</sup><br>C. +21.4 kcal mol<sup>-1</sup><br>D. +64.8 kcal mol<sup>-1</sup> |
| 5 | All the naturally occurring processes proceed spontaneously in a direction which lead to | A. Decrease of entropy<br>B. Increase of enthalpy<br>C. Increase of free energy<br>D. Decrease of free energy |
| 6 | $\Delta H_{Neutralisation}$ is always | A. Positive<br>B. Negative<br>C. Zero<br>D. Positive or negative |
| 7 | The heats evolved in combustion of rhombic and monoclinic sulphur are - 70960 and - 71030 cal $mol^{-1}$ respectively what will be heat of conversion of rhombic sulphur ti monoclinic? | A. 70960 calories<br>B. 71030 calories<br>C. -70 calories<br>D. +70 calories |
| 8 | Hess's law deals with | A. Changes in heat or reaction<br>B. Rate of reaction<br>C. Equilibrium constant<br>D. Influence of pressure on volume of a gas |
| 9 | An exothermic reaction is one in which the reacting substances | A. Have more energy than the products<br>B. Have less energy than the products<br>C. Have the same energy as the products<br>D. Are at a higher temperature than the products |
| 10 | An endothermic reaction is one in which | A. Heat is converted into electricity<br>B. Heat is obsorbed<br>C. Heat is evolved<br>D. Heat is converted into mechanical work |