



MIX TEST-2 [NEET]

Chapter : Thermodynamics + Some Basic Concepts Of Chemistry

Don't look back with regret. Look forward with determination.

1. Which of the following is true for an adiabatic process

- (1) $\Delta H = 0$ (3) $\Delta Q = 0$
(2) $\Delta W = 0$ (4) $\Delta V = 0$

2. Which of the following is not a state function

- (1) Internal energy (3) Work
(2) Enthalpy (4) Entropy

3. Among the intensive property is

- (1) Mass (3) Surface tension
(2) Volume (4) Enthalpy

4. At constant T and P, which one of the following statements is correct for the reaction $\text{CO(g)} + \frac{1}{2}\text{O}_2\text{(g)} \rightarrow \text{CO}_2\text{(g)}$

- (1) ΔH is independent of the physical state of the reactants of that compound (3) $\Delta E < \Delta H$
(2) $\Delta E > \Delta H$ (4) $\Delta E = \Delta H$

5. For the reaction, $\text{N}_2\text{(g)} + 3\text{H}_2\text{(g)} \rightarrow 2\text{NH}_3\text{(g)}$, $\Delta H =$

- (1) $\Delta E - RT$ (3) $\Delta E + RT$
(2) $\Delta E - 2RT$ (4) $\Delta E + 2RT$

6. During an isothermal expansion of an ideal gas is

- (1) Internal energy increases (3) Enthalpy remains unaffected
(2) Enthalpy decreases (4) Enthalpy reduces to zero

7. The internal energy of a substance

- (1) Increases with increase in temperature (4) Remains unaffected with change in temperature
(2) Decreases with increase in temperature
(3) Can be calculated by the relation $E = mc^2$

8. **Work done during isothermal expansion of one mole of an ideal gas from 10 atm to 1 atm at 300 K is (Gas constant = 2)**
- (1) 938.8 cal. (3) 1381.8 cal.
 (2) 1138.8 cal. (4) 1581.8 cal.
9. **For the reaction, $C_3H_8(g) + 5O_2(g) \rightarrow 3CO_2(g) + 4H_2O(l)$ at constant temperature, $\Delta H - \Delta E$ is**
- (1) $-RT$ (3) $-3RT$
 (2) $+RT$ (4) $+3RT$
10. **The work done by a system is 8 joule, when 40 joule heat is supplied to it. What is the increase in internal energy of system**
- (1) 25 J (3) 32 J
 (2) 30 J (4) 28 J
11. **Internal energy is**
- (1) Partly potential and partly kinetic (3) Totally potential
 (2) Totally kinetic (4) None of these
12. **The work done during the expansion of a gas from a volume of 4 dm³ to 6 dm³ against a constant external pressure of 3 atm is (1 L atm = 101.32 J)**
- (1) +304 J (3) -6 J
 (2) -304 J (4) -608 J
13. **If 10^{20} molecules are removed from 50 mg N_2O , number of moles of N_2O left is approximately**
- (1) 10^{-2} (3) 10^{-4}
 (2) 10^{-3} (4) 0.5
14. **If percentage of cobalt in a complex is 0.25% by mass, minimum molecular mass of complex will be (molar mass of Co = 59)**
- (1) 2.41×10^3 (3) 2.36×10^4
 (2) 1.25×10^5 (4) 1.20×10^4
15. **Calculate the molarity of $CaCl_2$ when it is dissolved in 250 ml of the solution and gives 3.011×10^{23} chloride ions.**
- (1) 4 M (3) 1.5 M
 (2) 2 M (4) 1 M

16. **Maximum number of oxygen atoms are present in**
- (1) 24 g O₃ (3) 32 g SO₂
(2) 11 g CO₂ (4) 8 g O₂
17. **The mole fraction of NaOH in the aqueous solution is 0.001. The molarity of NaOH solution will be (For dilute solution molality and molarity are approx. same)**
- (1) 0.056 M (3) 0.001 M
(2) 55.55 M (4) Data is insufficient
18. **Calculate the number of molecules of product formed when 100 atoms of A and 100 atoms of B are allowed to react $A(g) + B_2(g) \rightarrow AB_2(g)$**
- (1) 100 (3) 40
(2) 50 (4) 66
19. **Number of hydrogen atoms in the three moles of ethane is**
- (1) 6×10^{23} (3) 10.8×10^{24}
(2) 36×10^{23} (4) 18×10^{23}
20. **25 mL of 3 M HCl is added to 75 mL of 0.05 M HCl. The molarity of HCl in the resulting mixture is approximately**
- (1) 0.055 M (3) 0.788 M
(2) 0.35 M (4) 3.05 M
21. **3 M Na₂CO₃ is provided having density 1.5 g/cc, then the molality of the same solution will be**
- (1) 3.15 (3) 3.95
(2) 3.00 (4) 2.54
22. **$3BaCl_2 + 2Na_3PO_4 \rightarrow Ba_3(PO_4)_2 + 6NaCl$ Maximum amount of Ba₃(PO₄)₂ formed when 2 moles each of Na₃PO₄ and BaCl₂ are allowed to react is**
- (1) 4 mol (3) $\frac{1}{3}$ mol
(2) 1 mol (4) $\frac{2}{3}$ mol