5.4. Ideal gas and Gaseous law

1. Vander waal's equation may be written as (Chatt JE-08)

a) $\left(P+\frac{a}{V}\right)(V-b)=RT$ b) $\left(P+\frac{a}{V^2}\right)(V-b)=RT$ c) $\left(P+\frac{a}{V}\right)(V^2-b)=RT$

d) $\left(P+\frac{a}{V^2}\right)(V^2-b)=RT$

2. The gas constant R equal to (Chatt-JE-08)

a) Sum of two specific heats b) difference of two specific heats

c) Product of two specific heat d) Ratio of two specific heat

3. According to which law, all perfect gases change in volume by $\frac{1}{273^{rd}}$ of their original volume at 0° for every 1°c change in temp. when pressure Remains constant (SSC JE-07)

a) Joule's law b) Boyle's law c) Gay-Lussac law d) Charle's law

4. Properties of substance like pressure, temp and density in thermodynamic coordinate are. (SSC JE-07)

a) Path fu^n b) Point fu^n c) cyclic fu^n d) Real fu^n

5. For which of the following substance, the internal energy and enthalpy are the fu^n of temp^r only (SSCJE-07)

a) Any gas b) Saturated steam c) Water d) Perfect gas

6. Characteristic eq^n of gas is. (SSC JE-08)

a) $PV=RT$ b) $PV=mRT$ c) $Pv^n=C$ d) $Pv^{\gamma}=C$.

7. What will be the volume of air at 327°C if its volume at 27°C is $1.5m^3$. (UKOJE-13)

a) $3m^3$ b) $1.5m^3$ c) $6m^3$ d) $10m^3$

8. A gas in a container A is in thermal equilibrium with another gas of the same mass in container B. If the corresponding pressure and volume are denoted by suffixes A and B, then which of the following statement is true. (SSCJE-14)

a) $P_A \neq P_B$, $V_A = V_B$ b) $P_A = P_B$, $V_A \neq V_B$

c) $\frac{P_A}{V_A}=\frac{P_B}{V_B}$ d) $P_A V_A = P_B V_B$.

1-b 3-d 5-d 7-a
2-b 4-b 6-b 8-d

9. For an ideal gas the compressibility factor is. (SSC JE-14)

a) 1 b) ∞ c) 0 d) None

10. Which gas among the following has the highest value of adiabatic Index. (SSC JE-14)

a) Oxygen b) methane c) Helium d) Nitrogen

11. The Process in which no heat enters or leaves the System is called as (SSCJE-14)

a) isochoric b) isothermal c) isentropic d) isobaric

12. For Ideal gas, the value of R is .280 KJ/kgK and γ is 1.375 Then Value of Cp & Cv in KJ/kgK (SSCJE-14)

a) 1.111, .66 b) 1.2, .70 c) 1.25, .8 d) 1.0267, .7467

13. In case of Boyle's law, If Pressure Increase by 1%. the Percentage decrease in volume is. (SSCJE-12)

a) $\frac{100}{101}$ % b) $\frac{1}{100}$ % c) 0% d) $\frac{1}{101}$ %

14. The molecular KE of a gas is Proportional to (SSCJE-12)

a) $T^{3/2}$ b) T^2 c) T d) $T^{1/2}$

15. The Internal energy of a perfect gas debend on (SSCJE-12)+ (MP-11)

a) Temp, entropy and specific heat b) temp. only

c) temp, Pressure and specific heat d) temp, enthalpy and specific hea

16. Which one of the following is law of Perfect gases. (MP-16)

a) Boyle's law b) Gay-Lussac's law c) Charles' law d) All

17. An ideal gas as compaired to Real gas at very high Pr occupies (MP-16)

a) more volume b) unpredict volume c) same volume d) very less volume

18. Which gas obey the KE theory Perfectly. (MP-16)

a) Real gas b) Perfect gas c) Pure gas d) None

19. The application of gas law are limited to. (MP-16)

a) gas and liquid b) steam and liquid c) gas alone d) gas and vapou

20. mean sauare molecular speed is. (UPRVUNLAE-

9-a	11-c	13-a	15-b	17-a	19-c
10-c	12-d	14-c	16-d	18-a	20-d

a) directly Proportional to density b) Inversely Proportional to Density
c) directly Proportional to the Sq^r Root of Density
d) Inversely proportional to the sq^r Root of Density

21. Gas laware least valied in the case of (UPRVUNLJE-15)
a) mono-atomic gases b) Real gas c) vabour d) mixture of gas

22. ACC. to K.E Theory of gas, The absolute zero temp^r is when (UP-JE-15)
a) Vol^m of gas is 0 b) Pressure of gas is 0.
c) KE of molecules is 0 d) mass of gas is 0

23. An ideal gas as compair to Real gas at very high Pressure occubies. (UPJE-16)
a) less Volume b) more Volume c) same Volume d) None

24. The Value of universal gas constant is (Raj-16)
a) 8.314 KJ/kg mol°K b) 8.314 J/kg-mol°K/
c) .8314 KJ/kg mole°K d) 83.14 J/kg mole°K

25. At Tribble Point (SSC-JE-16)
a) 3 Thermal properties b) three state in equilibrium
c) ~~Three~~ 3 or more mode of energy Transfer d) 3 D.O.F

26. Which one is correct
a) $H = \Delta U + W$ b) $\Delta U = H + W$ c) $W = H + \Delta U$ d) $H = \frac{W}{\Delta U}$

21-c 24-a 26-
22-c 25-b
22-b