Daily Tutorial Sheet-14	Level-3

153.(B) $P_{gas} = P_{dry\,gas} + P_{moisture}$ at T K

or $P_{dry} = 830 - 30 = 800$

Now at $T_2 = 0.99\,T_i$;

at constant volume $\frac{P_1}{T_1} = \frac{P_2}{T_2}$

$$P_{dry} = \frac{800 \times 0.99\,T}{T} = 792\,mm$$

$\therefore \quad P_{gas} = P_{dry} + P_{moisture} = 792 + 25 = 817\,mm$

154.(AC) At low P and high temperature, gas behaves as an ideal gas.

$\therefore$ PV = constant and $\frac{PV_m}{RT} = 1$

155.(ACD) Correct statements :

- μ_{rms} changes on changing the temperature
- On expansion of a gas above its inversion temperature, heating effect is observed.
- The correct order of molecular velocities is : $\mu_{rms} > \mu_{av} > \mu_{mp}$

156.(B) For ideal gases, $Z = 1$

For real gases,

At low pressure, $Z < 1$

At high pressure, $Z > 1$

157.(D) **158.(A)**