2. x-component of angular momentum of the rigid body is

(a) $I_{xx} w_x + I_{xy} w_y + I_{xz} w_z$

(b) $I_x w_x + I_y w_y + I_z w_z$

(c) $I (w_x + w_y + w_z)$

(d) $I_z w_z + I_x w_y + I_z w_z$

Generalized force 'Q' acting on each particle of a [illegible] coupled oscillator is

(a) $-\left(\frac{\partial V}{\partial p_j}\right)_0$ (b) $-\left(\frac{\partial V}{\partial \dot{q}_j}\right)_0$

(c) $-\left(\frac{\partial V}{\partial q_j}\right)_0$ (d) $-\left(\frac{\partial V}{\partial \dot{p}_j}\right)_0$

By MB statistics

(a) $\frac{g_i}{e^{(\alpha - \beta t_i)}} = n_i$ (b) $\frac{g_i}{\left(e^{(\alpha+\beta t_i)} - 1\right)} = n_i$

(c) $\frac{g_i}{\left(e^{(\alpha+\beta t_i)} + 1\right)} = n_i$ (d) $\frac{g_i}{e^{(\alpha+\beta t_i)}} = n_i$

5. FD-gas is

(a) highly degenerate

(b) condense to ground state at $T = 0$

(c) composed of indistinguishable particles

(d) existing in a phase space whose volume not known

Fill in the blanks :

6. For conservative system, Hamilton's characteristic function is identified as ————————.

7. Number of generalised co-ordinates needed to fix the configuration of the body are ————————.

8. Number of identical frequencies of a tirple pendulum are ————————.

9. Mean speed $\bar{c}$ is given by ————————.

10. At high temperature BE approaches No change statistics.

Match the following :

11. Generating function 'F' (a) Nutation,

12. Top (b) Infinite number of modes and frequencies