

Section-2

Ques. 1
Ans. 1

$$I = \int_0^2 \int_0^x \int_0^y (xyz \, dx \, dy) \, z \, dz$$

$$I = \int_0^2 \int_0^x \frac{1}{2}(x \cdot dx) \cdot \underline{y^3 dy}$$

$$I = \frac{1}{8} \int_0^2 x^5 dx = \frac{1}{8} \cdot \left[\frac{x^6}{6} \right]_0^2 = \frac{1}{8} \cdot \frac{2^6}{6} = \frac{1}{8} \cdot \frac{2^6}{6} = \frac{2^6}{48} = \frac{1}{6}$$

Ans