

**Q. 2** Biot-Savart law indicates that the moving electrons (velocity  $v$ ) produce a magnetic field  $\mathbf{B}$  such that

- (a)  $\mathbf{B}$  is perpendicular of
- (b)  $\mathbf{B}$  is parallel to  $v$
- (c) it obeys inverse cube law
- (d) it is along the line joining the electron and point of observation

### K Thinking Process

*Here use of Biot-Savart law play vital role.*

**Ans. (a)** In Biot-Savart's law, magnetic field  $\mathbf{B} \parallel \mathbf{idl} \times \mathbf{r}$  and  $\mathbf{idl}$  due to flow of electron is in opposite direction of  $\mathbf{v}$  and by direction of cross product of two vectors

$$\mathbf{B} \perp \mathbf{v}$$