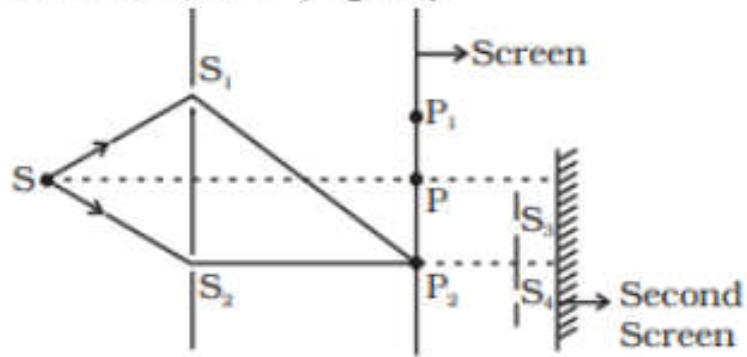


2. Figure shows a standard two slit arrangement with slits S_1 , S_2 . P_1 , P_2 are the two minima points on either side of P (Figure).



At P_2 on the screen, there is a hole and behind P_2 is a second 2-slit arrangement with slits S_3 , S_4 and a second screen behind them.

- 1) There would be no interference pattern on the second screen but it would be lighted.
- 2) There would be a regular two slit pattern on the second screen.
- 3) The second screen would be totally dark.
- 4) There would be a single bright point on the second screen.

Sol. 2) There would be a regular two slit pattern on the second screen.

As there is a hole at minima point P_2 , the hole will act as a source of fresh light for the slits S_3 and S_4 . So, there will be a regular two slit pattern on the second screen.