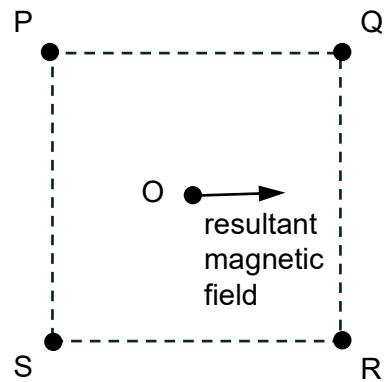


- 23** Four parallel conductors, carrying equal currents, pass vertically through the four corners of a square PQRS. In two conductors, the current is directed into the page and, in the other two, it is directed out of the page.



Due to the current in the four conductors, the resultant magnetic field at O is in the direction shown.

Which of the following must be the directions of the currents in each of the four conductors?

| | into the page | out of the page |
|----------|---------------|-----------------|
| A | P, Q | R, S |
| B | P, S | Q, R |
| C | Q, S | P, R |
| D | R, S | P, Q |