

# Concept of magnetic field on the axis of a circular current loop(continued)

## CLASS-XII

**SUBJECT : PHYSICS**

**CHAPTER NUMBER: 04**

**CHAPTER NAME : MOVING CHARGES AND MAGNETISM**

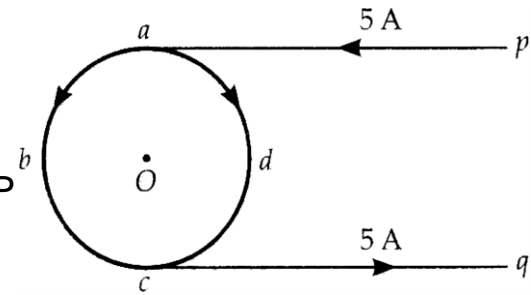
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**CHANGING YOUR TOMORROW**

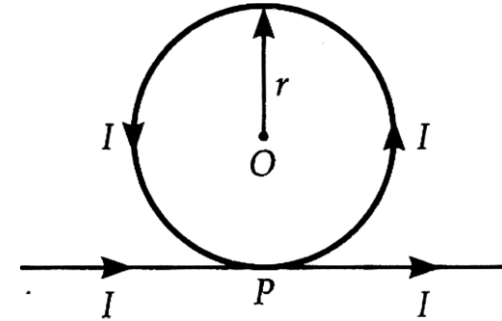
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# HOME ASSIGNMENT

**Question1:** In figure abcd is a circular coil of the non-insulated thin uniform conductor. Conductors pa and qc are very long straight parallel conductors tangential to the coil at the points a and c. If a current of 5 A enters the coil from P to a, find the magnetic induction at O, the center of the coil. The diameter of the coil is 10cm.

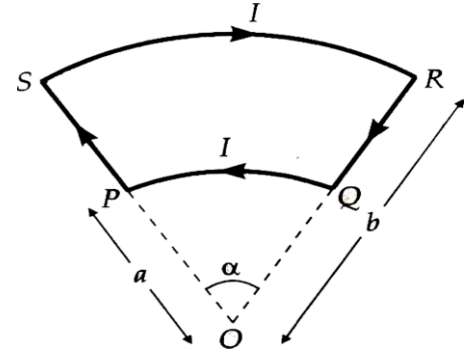


**Question2:** A long wire is bent as shown in the figure. What will be the magnitude and direction of the field at the center O of the circular portion, if a current I is passed through the wire? Assume that the various portions of the wire do not touch at point P



## Numerical

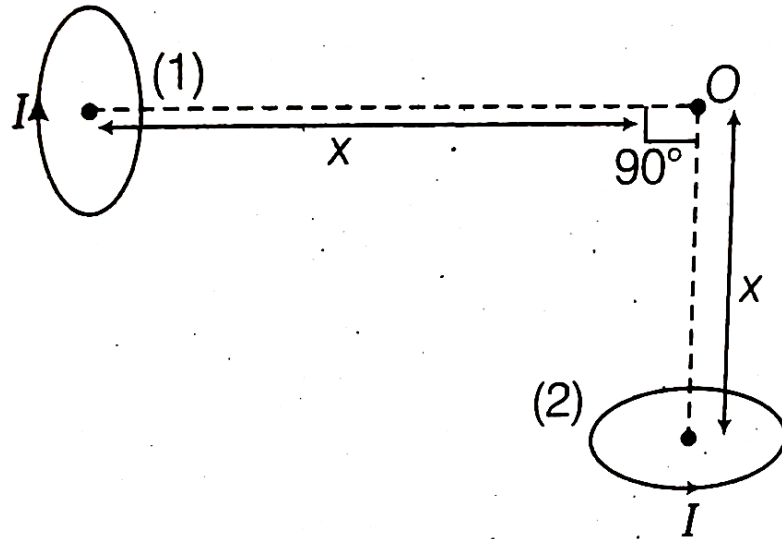
**Question3:** Figure shows a current loop having two circular segments and joined by two radial lines. Find the magnetic field at the center O.



**Question4:** Two identical circular coils, P and Q each of radius R, carrying currents  $1A$  and  $\sqrt{3}A$  respectively, are placed concentrically and perpendicular to each other lying in the XY and YZ planes. Find the magnitude and direction of the net magnetic field at the centre of the coils.

## Home Assignment

**Question5:** Two very small identical circular loop (1) and (2) carrying equal current  $I$  are placed vertically (with respect to the plane of the paper) with their geometrical axes perpendicular to each other as shown in the figure. Find the magnitude and direction of the net magnetic field produced at the point  $O$ .



**THANKING YOU**  
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