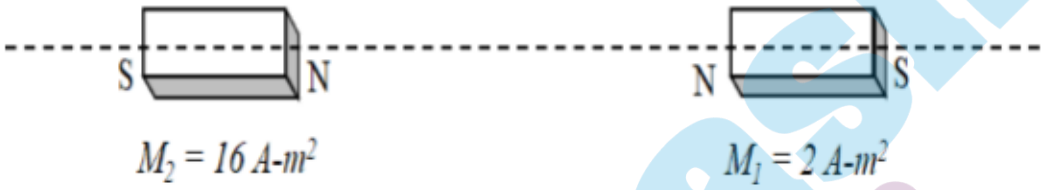
Magnetism and Matter L2

Magnetic Materials

1. Two short magnetic dipoles are arranged coaxially, as shown in the diagram. At which point on their common axis, the resultant magnetic field, might be zero?



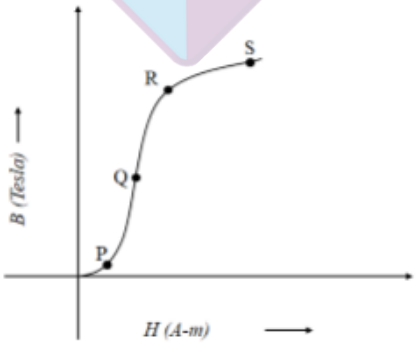
A. in a region between the two dipoles, on the common axis, closer to M_2

B. in a region to the left of both the dipoles

C. in a region between the two dipoles, on the common axis, closer to M_1

D. Such point will not exist anywhere on the common axis of M_1 and M_2

2. The magnetization curve for a ferromagnetic material is shown in the diagram. The value of relative permeability is highest at point,



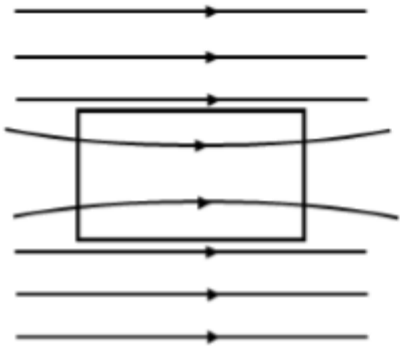
A. P

B. Q

C. R

D. Data insufficient

3. A block of certain material is placed in a uniform magnetic field. The distribution of magnetic field lines around the block is as shown in the diagram. If the temperature of the block is increased, the number of magnetic field lines passing through the block will,



A. increase

B. decrease

C. may increase or decrease depending on the final temperature

D. remain same

4. Choose the incorrect statement about the magnetic properties of soft iron and steel

A. Retentivity of soft iron is more than retentivity of steel

B. Coercivity of soft iron is less than coercivity of steel

C. Area of $B-H$ loop in soft iron is smaller than the area of $B-H$ loop for steel

D. Area of $B-H$ loop in soft iron is greater than the area of $B-H$ loop for steel

5. The correct measure of magnetic hardness of a material is,

A. permanent magnetism

B. Hysteresis loss

C. Coercivity

D. Retentivity

ANSWERS

1. C
2. D
3. B
4. D
5. C