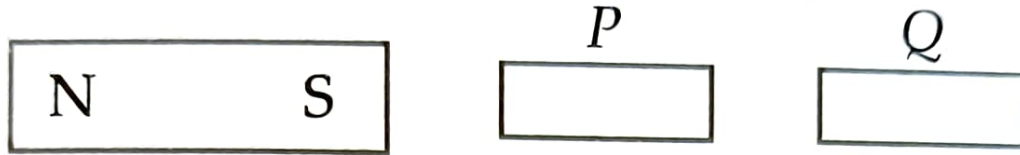


The figure shows two pieces of steel P and Q arranged in line with a bar magnet.



Which of the following is true about the magnetic forces on P and Q ?

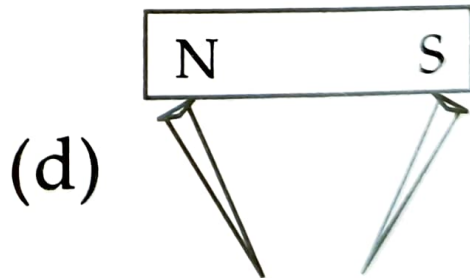
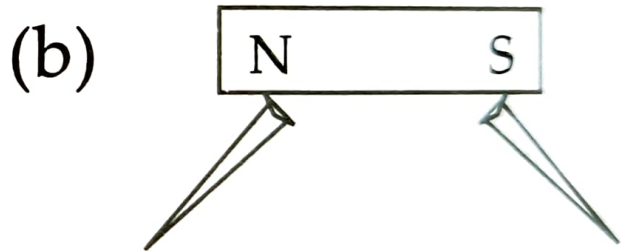
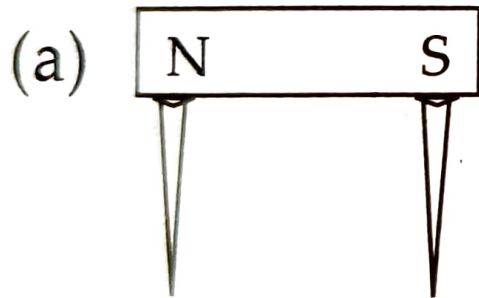
Force on P

- (a) Attractive
- (b) Attractive
- (c) Repulsive
- (d) Repulsive

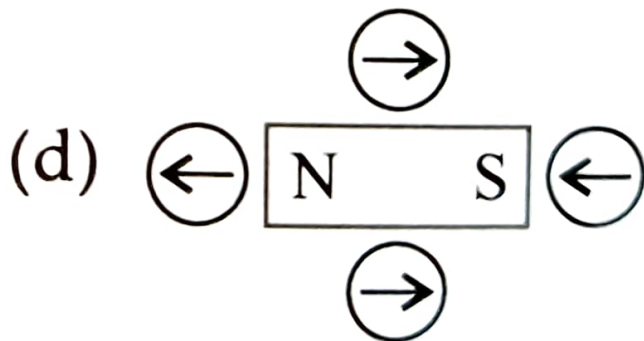
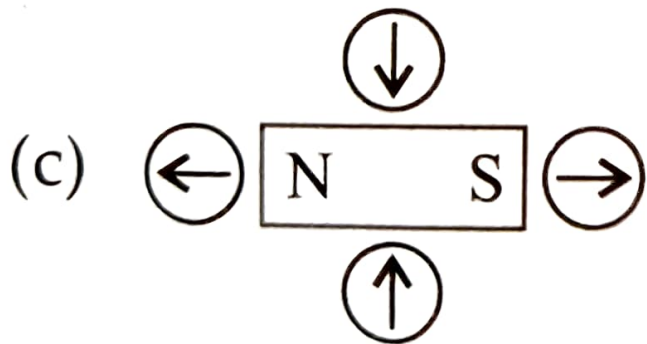
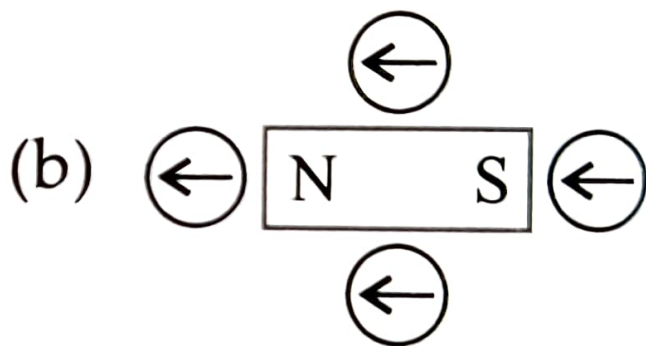
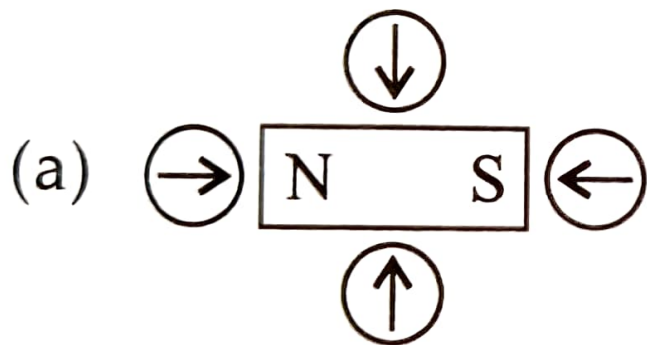
Force on Q

- Repulsive
- Attractive
- Repulsive
- Attractive

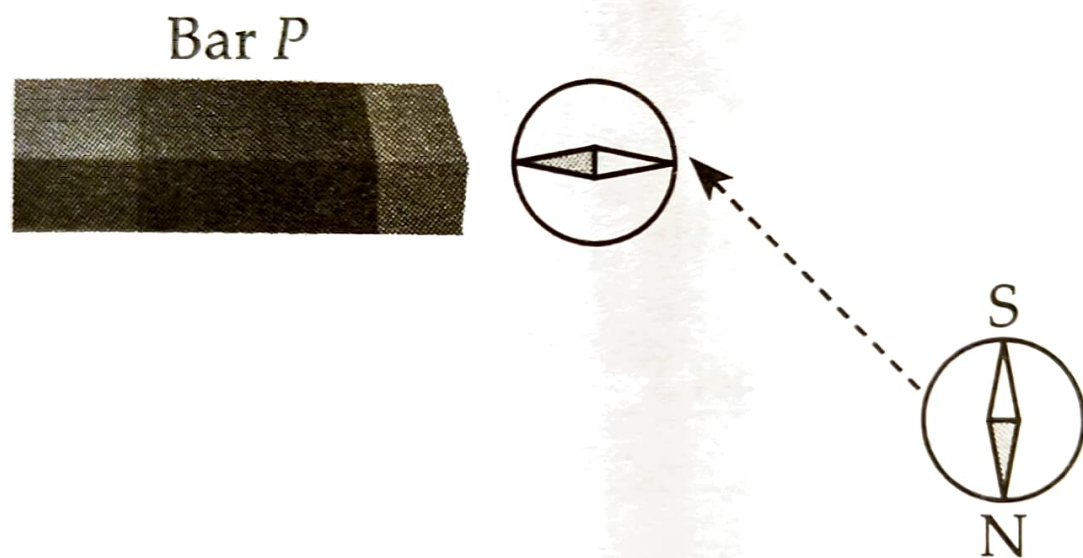
Which figure correctly shows two iron nails hanging from a bar magnet?



In the given diagrams, compasses are used to plot the magnetic field around a bar magnet with poles marked N(North) and S(South). Which of the following diagrams correctly shows the expected field pattern?



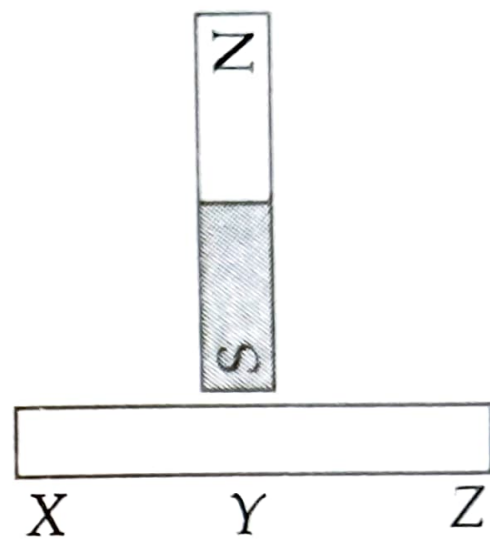
A plotting compass is moved slowly towards the metal bar P along the path shown in the figure.



What can you conclude about the metal bar P from the given figure?

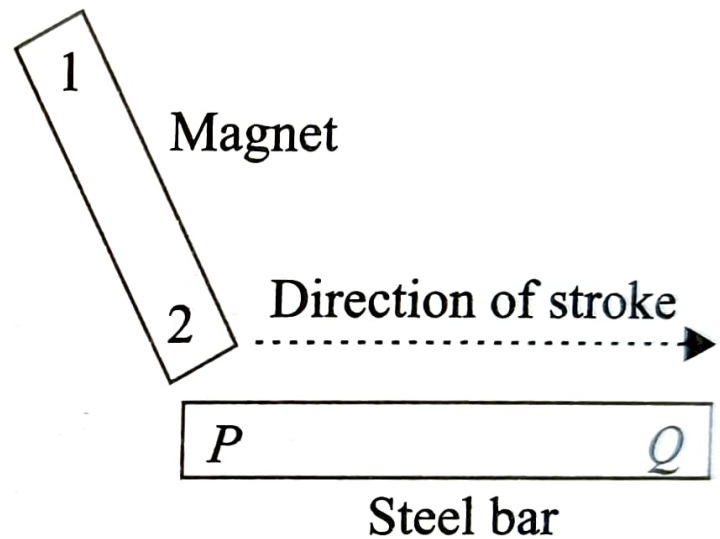
- (a) Bar P is a magnetic material.
- (b) Bar P is a magnet.
- (c) Bar P is a non-magnetic material.
- (d) Bar P is either a magnet or a magnetic material.

The diagram shows a magnet being used to pick up a steel bar. The S-pole of the magnet is close to the centre Y of the steel bar as shown. What are the poles induced in the steel bar at X, Y, and Z?



	Pole induced at X	Pole induced at Y	Pole induced at Z
(a)	N	N	N
(b)	N	S	N
(c)	S	N	S
(d)	S	S	S

Which of the following are possible sets of polarity when magnetising a steel bar PQ by the stroking method? (For magnets, N indicates north pole and S indicates south pole)



- (i) $1 = \text{N}, 2 = \text{S}, P = \text{N}, Q = \text{S}$
- (ii) $1 = \text{N}, 2 = \text{S}, P = \text{S}, Q = \text{N}$
- (iii) $1 = \text{S}, 2 = \text{N}, P = \text{S}, Q = \text{N}$
- (iv) $1 = \text{S}, 2 = \text{N}, P = \text{N}, Q = \text{S}$

(a) (i) and (ii) only

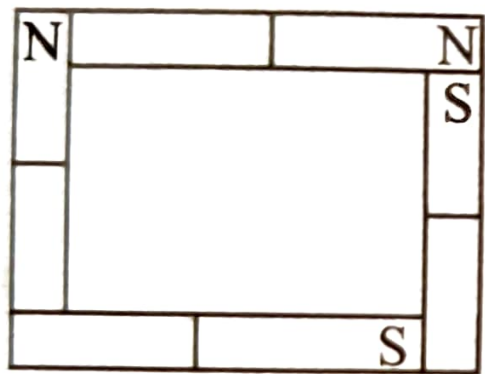
(b) (iii) and (iv) only

(c) (i) and (iii) only

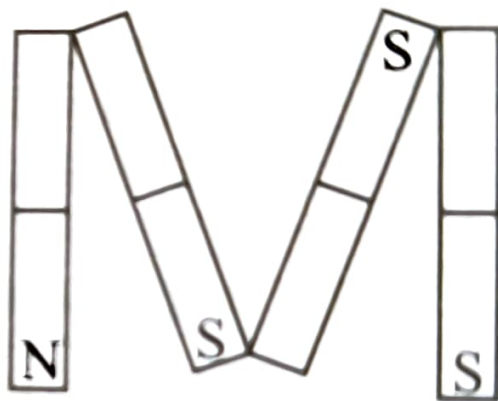
(d) (ii) and (iv) only

Which of the following arrangements of four bar magnets is not possible?

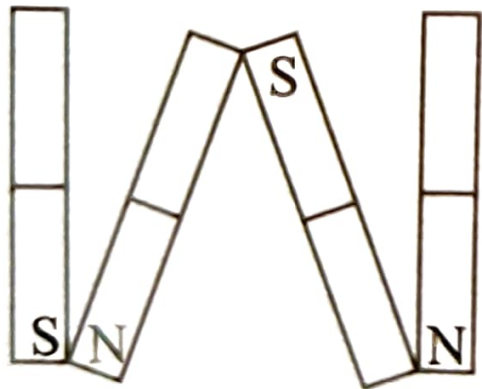
(a)



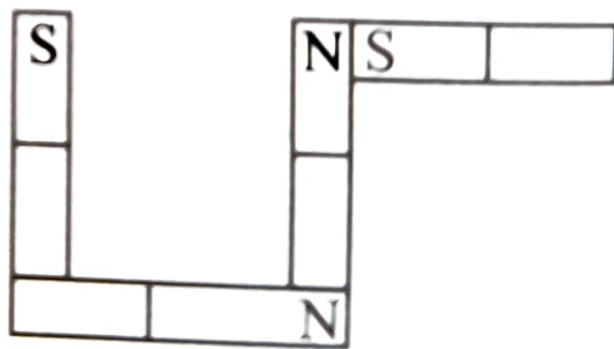
(b)



(c)



(d)

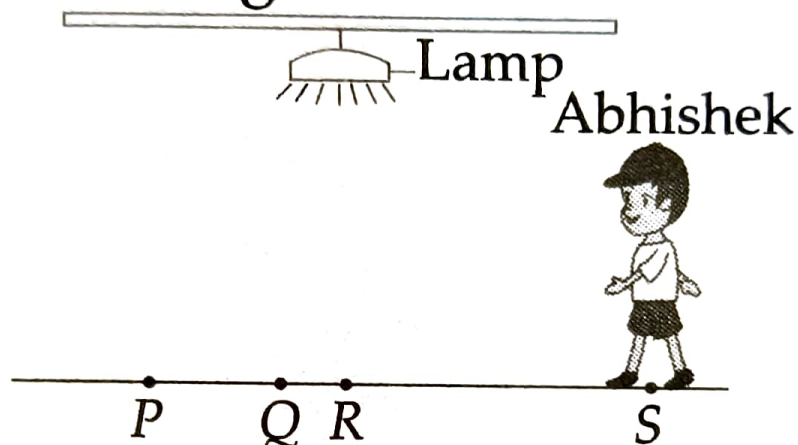


Read the given paragraph with few blanks and select the option that correctly fills these blanks. An eclipse occurs when a planet or moon gets in the way of the sun's light. If the moon is completely hidden by the shadow of the earth, it is called (i) . In solar eclipse the (ii) casts a shadow on the (iii) . Lunar eclipse occurs at (iv) and solar eclipse occurs only at (v) day.

	(i)	(ii)	(iii)	(iv)	(v)
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- | | | | | | |
|-----|---------------------|-------|-------|-----------|-----------|
| (a) | Total lunar eclipse | Moon | Earth | New moon | Full moon |
| (b) | Total solar eclipse | Sun | Moon | Full moon | New moon |
| (c) | Total solar eclipse | Earth | Moon | New moon | Full moon |
| (d) | Total lunar eclipse | Moon | Earth | Full moon | New moon |

Abhishek is walking from point S to point P as shown in the figure.



Which one of the following shows the correct order of the length of Abhishek's shadows from the longest to the shortest when he walks from point S to point P ?

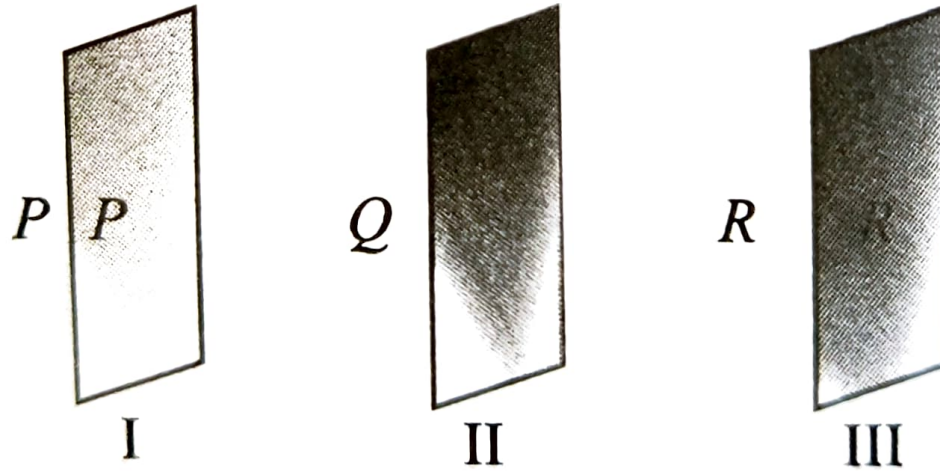
(a) S, P, Q, R

(b) P, S, R, Q

(c) P, Q, R, S

(d) S, Q, P, R

Manu placed three different types of materials I, II and III in front of letters *P*, *Q* and *R* as shown in the figure and tried to look from the other side of each.



Which of the following is correct?

- (a) Material II is frosted glass.
- (b) Material I is glass window.
- (c) Material III is wooden door.
- (d) All of these