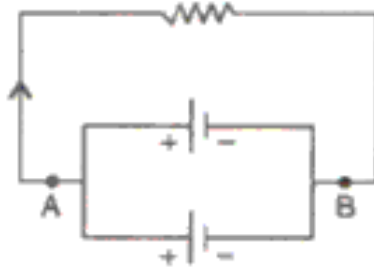


Question 10

- (a) A glass rod is rubbed with a silk cap. Describe the observations when [4]
- The rod is brought near the cap of a neutral gold leaf electroscope and then, it is removed without touching the cap.
 - Keeping the glass rod near the cap of the neutral electroscope; the cap is touched with the figure momentarily while the rod is near it. The rod is then removed.
 - The cap is touched with the rod and the rod is then removed.
- Explain each observation on the basis of the movement of free electrons.

- (b) In the given circuit diagram two cells are connected in parallel. Answer the following: [3]



- What is the potential difference between points A and B if e.m.f. of each cell is 1.5 V?
 - How does the effective voltage of the two cells connected in series compare to their arrangement in parallel?
 - Are the cells in a conventional flash light connected in series or in parallel?
- (c) You are given following three bars exactly similar in size and shape: [3]
- A permanent magnet
 - A bar of soft iron
 - A bar of non-magnetic substance.
- Describe how you will identify each of the bars if only a piece of thread is supplied to you as the extra piece of apparatus.