

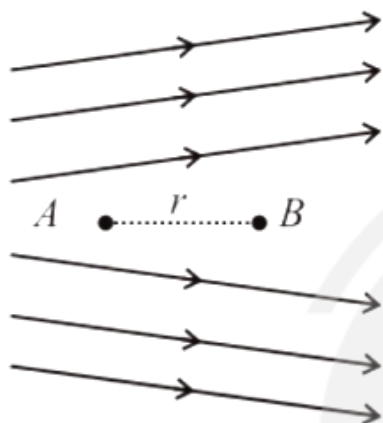
## Parishram (2025)

## Physics

DPP : 5

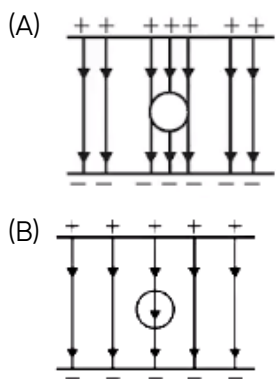
## Electric Charges and Fields

- Q1** Figure shows the electric lines of force emerging from a charged body. If the electric field at A and B are  $E_A$  and  $E_B$  respectively and if the displacement between A and B is  $r$  then

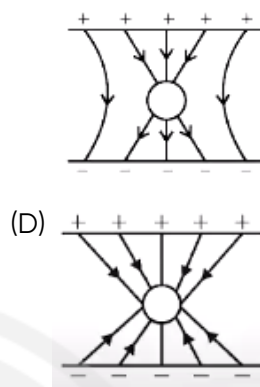


- (A)  $E_A > E_B$                       (B)  $E_A < E_B$   
 (C)  $E_A = \frac{E_B}{r}$                       (D)  $E_A = \frac{E_B}{r^2}$

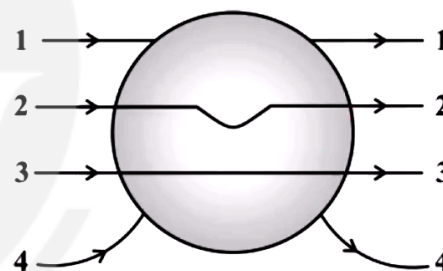
- Q2** An uncharged sphere of metal is placed inside a charged parallel plate capacitor. The lines of force look like.



(C)

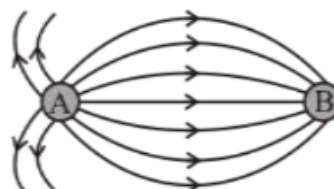


- Q3** A metallic solid sphere is placed in a uniform electric field. The lines of force follow the path(s) shown in figure as



- (A) 1                      (B) 2  
 (C) 3                      (D) 4

- Q4** The spatial distribution of the electric field due to charges (A, B) is shown in figure. Which one of the following statement is correct?

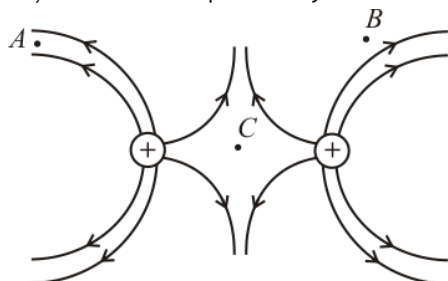


- (A) A is +ve and B is -ve;  $|A| > |B|$   
 (B) A is -ve and B is +ve;  $|A| = |B|$



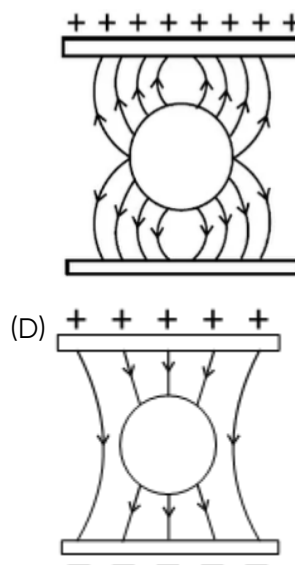
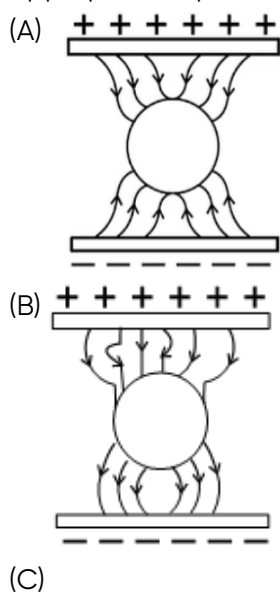
- (C) Both are +ve but  $A > B$   
 (D) Both are -ve but  $A > B$

**Q5** The figure below shows the electric field lines due to two positive charges. The magnitude  $E_A$ ,  $E_B$  and  $E_C$  of the electric field at point  $A$ ,  $B$  and  $C$  respectively are related as:

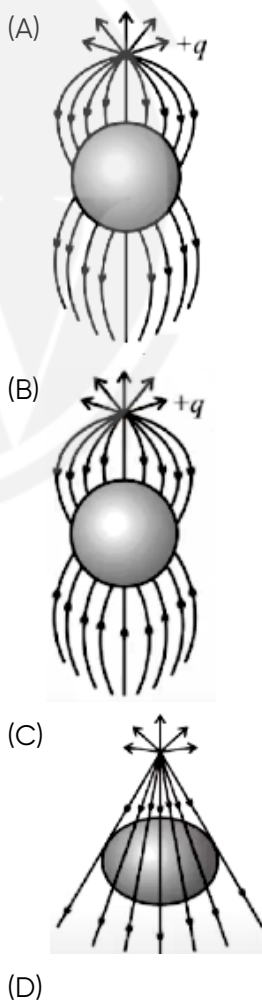


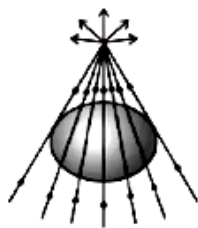
- (A)  $E_A > E_B > E_C$   
 (B)  $E_B > E_A > E_C$   
 (C)  $E_A = E_B > E_C$   
 (D)  $E_A > E_B = E_C$

**Q6** A metallic sphere is kept in between two oppositely charged plate. The most appropriate representation of the field lines is



**Q7** A point positive charge is brought near an isolated conducting sphere. The electric field is best given by





**Q8** One of the following is not a property of electrostatic field lines:

(A) field lines are continuous curves without any breaks

- (B) two field lines cannot cross each other
- (C) field lines start at positive charges and end at negative charges
- (D) they form closed loops

**Q9** Electric lines of force due to negative point charges are:

- (A) circular, anticlockwise
- (B) circular, clockwise
- (C) radial, inward
- (D) radial, outward



## Answer Key

Q1 (A)  
Q2 (C)  
Q3 (D)  
Q4 (A)  
Q5 (A)

Q6 (D)  
Q7 (A)  
Q8 (D)  
Q9 (C)



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