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Q 1.   What is equivalent capacitance of circuit between points A and B?
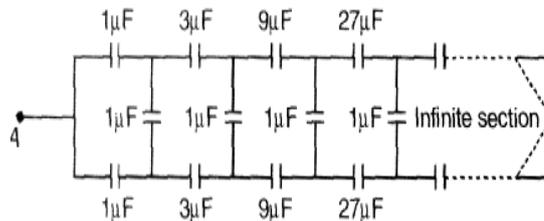
(a) 2/3 μF
(b) 4/3 μF
(c) Infinite
(d) $(1 + \sqrt{3})$μF

Q 2.   Two parallel plate capacitors with same area of cross-section but different distance between plates are connected as shown in figure.
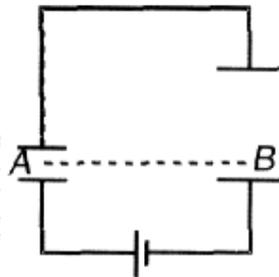
(a) $E_A > E_B$ (b) $E_A = E_B$
(c) $V_A > V_B$ (d) $V_A < V_B$

Q 3.   The figure shows a circuit of four capacitors. The effective capacitance between X and Y is
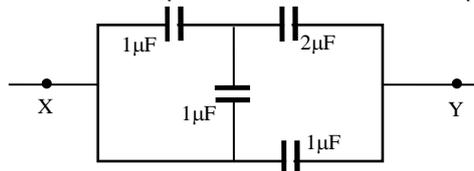
(a) 2 μF   (b) 1 μF
(c) 3 μF   (d) 1.5 μF

Passage (Q.4 TO Q.6)
The V verses x plot for six identical metal plates of cross-sectioned area A is shown. The plates are placed with separation d
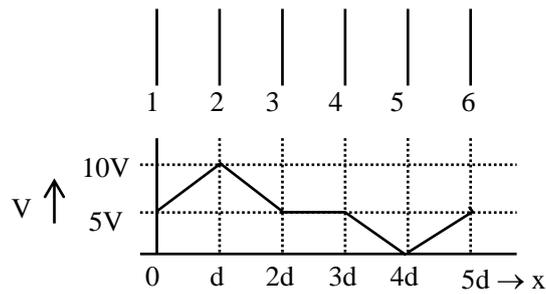
Q 4. Equivalent capacitance between 2 & 5 is-

(A) $\frac{2\varepsilon_0 A}{d}$

(B) $\frac{\varepsilon_0 A}{d}$

(C) $\frac{3\varepsilon_0 A}{d}$

(D) $\frac{4\varepsilon_0 A}{d}$

Q 5. Total charge on plate 2 is –

(a) $\frac{10\varepsilon_0 A}{d}$

(b) $\frac{5}{3}\frac{\varepsilon_0 A}{d}$

(c) $\frac{4}{3}\frac{\varepsilon_0 A}{d}$

(d) None of these

Q 6. Ratio of charge on plate 2 to plate 5 is $| Q_2 : Q_5 |$ is -

(a) 2 : 1   (b) 3 : 1

(c) 1 : 1   (d) None of these

Q 7. In the circuit diagram shown below :
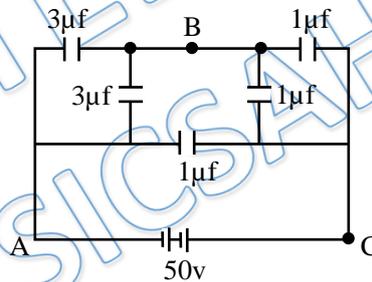
(a) The effective capacity between A and C is $\frac{3}{2}$µf

(b) The effective capacity between A and C is $\frac{5}{2}$µf

(c) The potential difference between A and B in steady state is $\frac{75}{2}$ volt

(d) The potential difference between B and C in steady state is $\frac{75}{2}$ volt

Q 8. The equivalent capacitance between point A and B is –
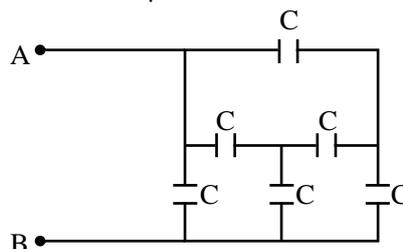

(a) C/4   (b) C/2

(c) C   (d) 2C

Q 9.   In the arrangement shown, all plates have equal area. The amount of spacing between plates is mentioned. Find the equivalent capacitance of the system between A and B if $C = \frac{\varepsilon_0 A}{L}$
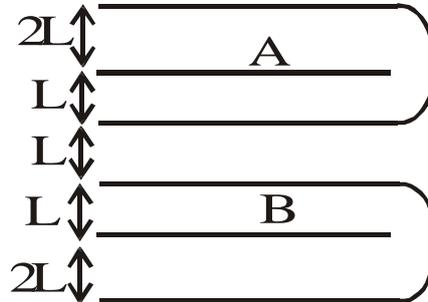

(A) 5C/7
(B) 3C/7
(C) C/7
(D) None of the above

Q 10.   Four metallic plates each with a surface area of one side A are placed at a distance d from each other. The plates are connected as shown in the circuit diagram. Then the capacitance of the system between a and b is
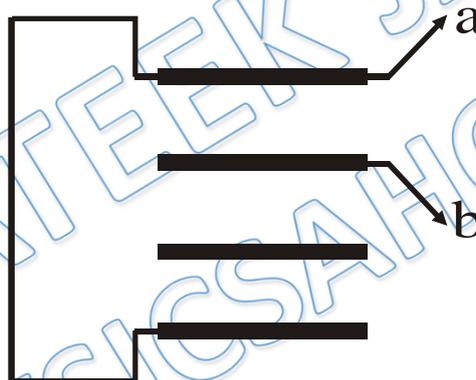
(a) $\frac{3\varepsilon_0 A}{d}$

(b) $\frac{2\varepsilon_0 A}{d}$

(c) $\frac{2\varepsilon_0 A}{3d}$

(d) $\frac{3\varepsilon_0 A}{2d}$

Q 11.   Equivalent capacitance between A and B is
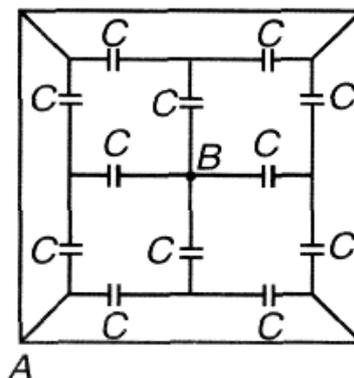
(a) 4C/3
(b) 8C/3
(c) 12C
(d) 5C/12

Q 12. Find equivalent capacitance between A and B

(a) 5 μF   (b) 4 μF   (c) 3 μF   (d) 2μF
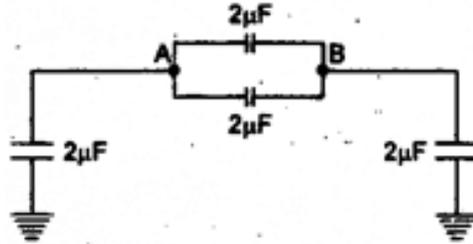
Answer Key

Q.1 b	Q.2 b, c	Q.3 a	Q.4 b	Q.5 a
Q.6 c	Q.7 b, d	Q.8 d	Q.9 b	Q.10 d
Q.11 b	Q.12 a			