

NEET ELECTROSTATIC POTENTIAL AND CAPACITANCE — COMBINATION OF CAPACITORS — PYQS

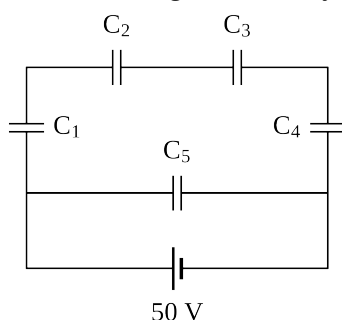
Max. Marks: 36

Questions: 9

Section A (MCQ) — 9 questions

Q.1 Five capacitors of capacitances

$C_1 = C_2 = C_3 = C_4 = 10 \mu\text{F}$ and $C_5 = 2.5 \mu\text{F}$ are connected as shown, along with a battery of 50 V.



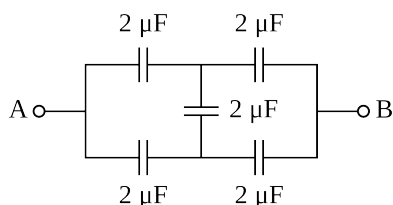
The equivalent capacitance and the charges on each capacitor respectively are : [NEET (UG) 2026]

- (1) $4 \mu\text{F}$, $250 \mu\text{C}$ on C_1 to C_4 and $125 \mu\text{C}$ on C_5
 (2) $5 \mu\text{F}$, $250 \mu\text{C}$ on all capacitors
 (3) $5 \mu\text{F}$, $125 \mu\text{C}$ on C_1 to C_4 and $25 \mu\text{C}$ on C_5
 (4) $5 \mu\text{F}$, $125 \mu\text{C}$ on all capacitors

Scan or tap for the full solution



Q.2 In the following circuit, the equivalent capacitance between terminal A and terminal B is : [NEET (UG) 2024]

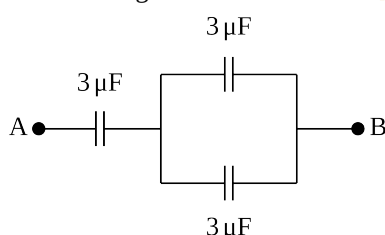


- (1) $2 \mu\text{F}$ (2) $1 \mu\text{F}$ (3) $0.5 \mu\text{F}$ (4) $4 \mu\text{F}$

Scan or tap for the full solution



Q.3 The equivalent capacitance of the system shown in the following circuit is: [NEET (UG) 2023]



- (1) $3 \mu\text{F}$ (2) $6 \mu\text{F}$ (3) $9 \mu\text{F}$ (4) $2 \mu\text{F}$

Scan or tap for the full solution



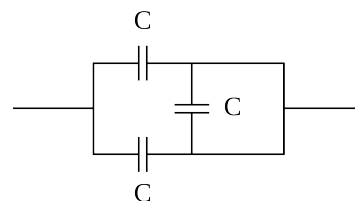
Q.4 The effective capacitances of two capacitors are $3 \mu\text{F}$ and $16 \mu\text{F}$, when they are connected in series and parallel respectively. The capacitance of two capacitors are : [NEET (UG) 2022 (Phase 2)]

- (1) $1.2 \mu\text{F}$, $1.8 \mu\text{F}$ (2) $10 \mu\text{F}$, $6 \mu\text{F}$
 (3) $8 \mu\text{F}$, $8 \mu\text{F}$ (4) $12 \mu\text{F}$, $4 \mu\text{F}$

Scan or tap for the full solution



Q.5 The equivalent capacitance of the combination shown in the figure is : [NEET (UG) 2021]



- (1) $3C/2$ (2) $3C$ (3) $2C$ (4) $C/2$

Scan or tap for the full solution



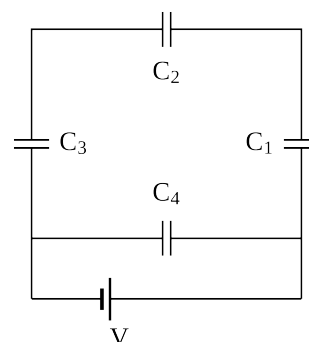
Q.6 Three capacitors each of capacitance C and of breakdown voltage V are joined in series. The capacitance and breakdown voltages of the combination will be [AIPMT 2009]

- (1) $3C$, $\frac{V}{3}$ (2) $\frac{C}{3}$, $3V$ (3) $3C$, $3V$ (4) $\frac{C}{3}$, $\frac{V}{3}$

Scan or tap for the full solution



Q.7 A network of four capacitors of capacity equal to $C_1 = C$, $C_2 = 2C$, $C_3 = 3C$ and $C_4 = 4C$ are connected to a battery as shown in the figure. The ratio of the charges on C_2 and C_4 is [AIPMT 2005]



- (1) $4/7$ (2) $3/22$ (3) $7/4$ (4) $22/3$

Scan or tap for the
full solution



Q.8 Three capacitors each of capacity $4\ \mu\text{F}$ are to be connected in such a way that the effective capacitance is $6\ \mu\text{F}$. This can be done by

[AIPMT 2003]

- (1) connecting all of them in series
 (2) connecting them in parallel
 (3) connecting two in series and one in parallel
 (4) connecting two in parallel and one in series

Scan or tap for the
full solution



Q.9 A capacitor of capacity C_1 charged up to V volt and then connected to an uncharged capacitor of capacity C_2 . The final potential difference across each will be

[AIPMT 2002]

- (1) $\frac{C_1 V}{C_1 + C_2}$ (2) $\frac{C_2 V}{C_1 + C_2}$
 (3) $\left(1 - \frac{C_2}{C_1}\right)V$ (4) $\left(1 + \frac{C_2}{C_1}\right)V$

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9		
Ans.	4	1	4	4	3	2	2	3	1		