

NEET CURRENT ELECTRICITY — CELLS, EMF AND INTERNAL RESISTANCE — PYQS

Max. Marks: 40
Questions: 10

Section A (MCQ) — 10 questions

- Q.1** A resistor is connected to a battery of 12 V emf and internal resistance $2\ \Omega$. If the current in the circuit is 0.6 A, the terminal voltage of the battery is :

[NEET (UG) 2026]

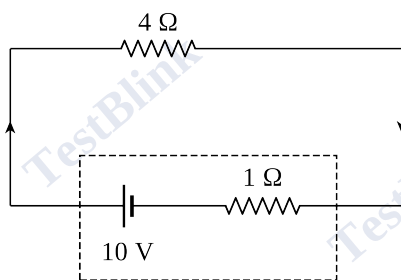
- (1) 12 V (2) 1.2 V (3) 10 V (4) 10.8 V

Scan or tap for the full solution



- Q.2** The terminal voltage of the battery, whose emf is 10 V and internal resistance $1\ \Omega$, when connected through an external resistance of $4\ \Omega$ as shown in the figure is:

[NEET (UG) 2024]



- (1) 4 V (2) 6 V (3) 8 V (4) 10 V

Scan or tap for the full solution



- Q.3** A cell of emf 4 V and internal resistance $0.5\ \Omega$ is connected to a $7.5\ \Omega$ external resistance. The terminal potential difference of the cell is

[NEET (UG) 2022 (Phase 2)]

- (1) 0.375 V (2) 3.75 V (3) 4.25 V (4) 4 V

Scan or tap for the full solution



- Q.4** A set of n equal resistors, of value R each, are connected in series to a battery of emf E and internal resistance R . The current drawn is I . Now, the n resistors are connected in parallel to the same battery. Then the current drawn from battery becomes $10I$. The value of n is

[NEET 2018]

- (1) 10 (2) 11 (3) 20 (4) 9

Scan or tap for the full solution



- Q.5** The internal resistance of a 2.1 V cell which gives a current of 0.2 A through a resistance of $10\ \Omega$ is

[NEET 2013]

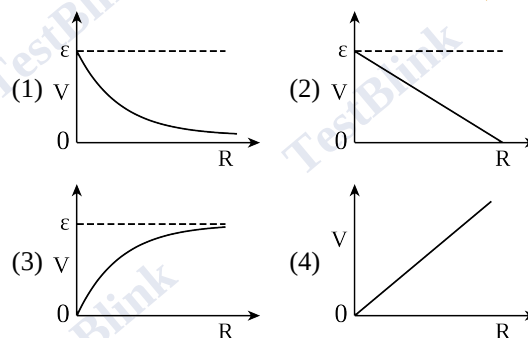
- (1) $0.8\ \Omega$ (2) $1.0\ \Omega$ (3) $0.2\ \Omega$ (4) $0.5\ \Omega$

Scan or tap for the full solution



- Q.6** A cell having an emf ϵ and internal resistance r is connected across a variable external resistance R . As the resistance R is increased, the plot of potential difference V across R is given by

[AIPMT 2012 (Mains)]



Scan or tap for the full solution



- Q.7** A current of 2 A flows through a $2\ \Omega$ resistor when connected across a battery. The same battery supplies a current of 0.5 A when connected across a $9\ \Omega$ resistor. The internal resistance of the battery is

[AIPMT 2011 (Prelims)]

- (1) $0.5\ \Omega$ (2) $1/3\ \Omega$ (3) $1/4\ \Omega$ (4) $1\ \Omega$

Scan or tap for the full solution



- Q.8** A student measures the terminal potential difference (V) of a cell (of emf ϵ and internal resistance r) as a function of the current (I) flowing through it. The slope, and intercept, of the graph between V and I , then respectively, equal

[AIPMT 2009]

- (1) $-r$ and ϵ (2) r and $-\epsilon$ (3) $-\epsilon$ and r (4) ϵ and $-r$

Scan or tap for the full solution



Q.9 For a cell terminal potential difference is 2.2 V when circuit is open and reduces to 1.8 V when cell is connected to a resistance of $R = 5 \Omega$. Determine internal resistance of cell (r) [AIPMT 2002]

- (1) $\frac{10}{9} \Omega$ (2) $\frac{9}{10} \Omega$ (3) $\frac{11}{9} \Omega$ (4) $\frac{5}{9} \Omega$

Scan or tap for the full solution



Q.10 A car battery of emf 12 V and internal resistance $5 \times 10^{-2} \Omega$, receives a current of 60 amp, from external source, then terminal potential difference of battery is [AIPMT 2000]

- (1) 12 V (2) 9 V (3) 15 V (4) 20 V

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	
Ans.	4	3	2	1	4	3	2	1	1	3	