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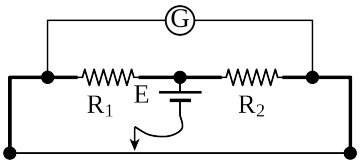
NEET CURRENT ELECTRICITY — WHEATSTONE BRIDGE AND METRE BRIDGE — PYQS

Max. Marks: 64 **Questions:** 16

Section A (MCQ) — 16 questions

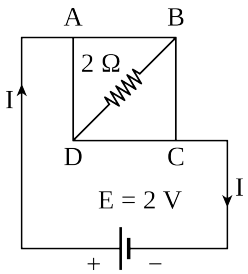
Q.1 In a metre bridge experiment (see figure), the positions of the cell, E, and galvanometer, G, are interchanged. We shall observe in the galvanometer: [NEET (UG) 2026]



(1) Only the right-sided deflection
(2) Only the left-sided deflection
(3) There will be no deflection irrespective of the position of the jockey
(4) Both right-sided and left-sided deflection and at balance point, no deflection

Scan or tap for the full solution

Q.2 A uniform metallic wire having resistance 4 Ω is bent to form a square loop (ABCD) (see figure). A resistance of 2 Ω is connected between points B and D and a battery of 2 V is connected across points A and C as shown in the figure. Now the value of current (I) is : [NEET (UG) 2026]



(1) 4 A (2) 4.5 A (3) 8 A (4) 2 A

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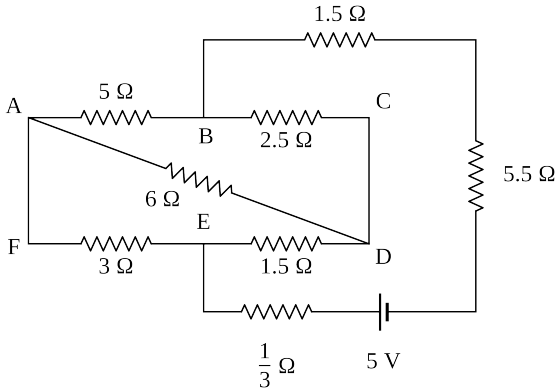
Q.3 The current passing through the battery in the given circuit, is: [NEET (UG) 2025]



(1) 2.5 A (2) 1.5 A (3) 2.0 A (4) 0.5 A

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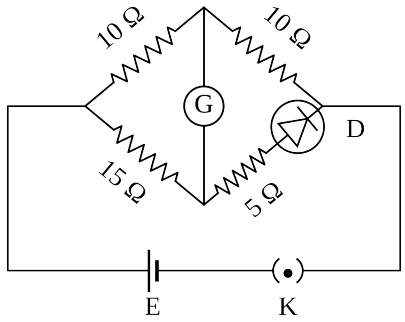
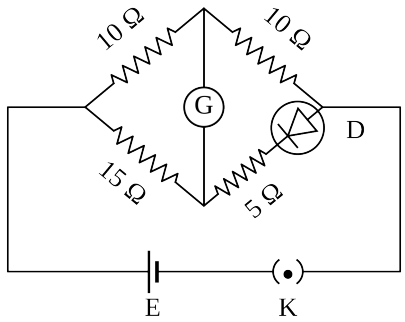
Q.4 Choose the correct circuit which can achieve the bridge balance. [NEET (UG) 2024]

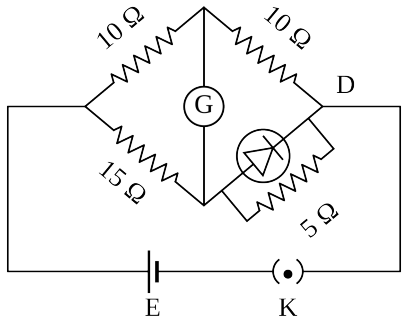
(1)



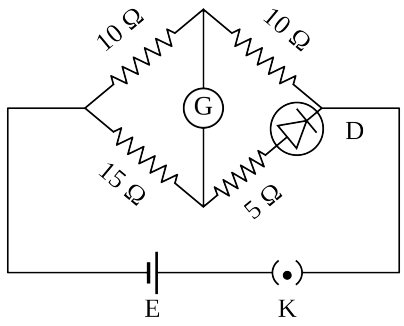
(2)



(3)



(4)



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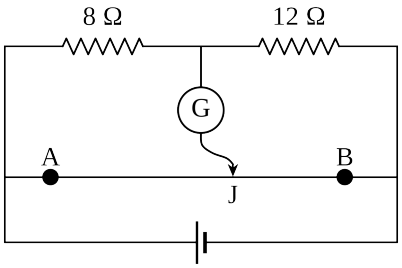
Q.5 The given circuit shows a uniform straight wire AB of 40 cm length fixed at both ends. In order to get zero reading in the galvanometer G, the free end of J is to be placed from B at: [RE-NEET (UG) 2024]



(1) 32 cm (2) 8 cm (3) 16 cm (4) 24 cm

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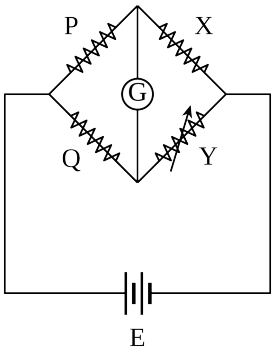
Q.6 A wheatstone bridge is used to determine the value of unknown resistance X by adjusting the variable resistance Y as shown in the figure. For the most precise measurement of X, the resistance P and Q [NEET (UG) 2022]



(1) Should be approximately equal to 2X
(2) Should be approximately equal and are small
(3) Should be very large and unequal
(4) Do not play any significant role

Scan or tap for the full solution

Q.7 A resistance wire connected in the left gap of a metre bridge balances a 10 Ω resistance in the right gap at a point which divides the bridge wire in the ratio 3:2. If the length of the resistance wire is 1.5 m, then the length of 1 Ω of the resistance wire is : [NEET (UG) 2020]

(1) 1.0×10^{-1} m (2) 1.5×10^{-1} m
(3) 1.5×10^{-2} m (4) 1.0×10^{-2} m

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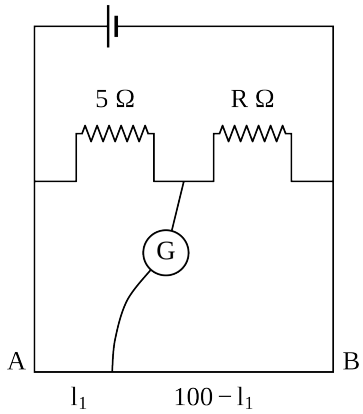
Q.8 The resistances in the two arms of the meter bridge are 5 Ω and R Ω respectively. When the resistance R is shunted with an equal resistance, the new balance point is at 1.6 l_1. The resistance R is [AIPMT 2014]



(1) 10 Ω (2) 15 Ω (3) 20 Ω (4) 25 Ω

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Q.9 The resistances of the four arms P, Q, R and S in a Wheatstone's bridge are 10 ohm, 30 ohm, 30 ohm and 90 ohm, respectively. The e.m.f. and internal resistance of the cell are 7 volt and 5 ohm respectively. If the galvanometer resistance is 50 ohm, the current drawn from the cell will be [NEET 2013]

(1) 0.1 A (2) 2.0 A (3) 1.0 A (4) 0.2 A

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Q.10 Three resistances, P, Q, R each of 2 Ω and an unknown resistance S form the four arms of a Wheatstone bridge circuit. When a resistance of 6 Ω is connected in parallel to S the bridge gets balanced. What is the value of S? [AIPMT 2007]

(1) 3 Ω (2) 6 Ω (3) 1 Ω (4) 2 Ω

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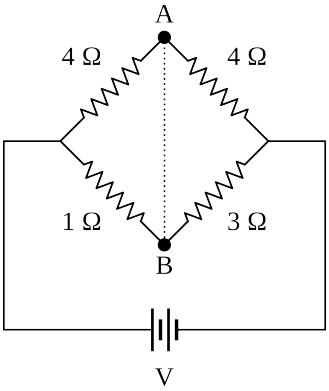
Q.11 In the circuit shown, if a conducting wire is connected between points A and B, the current in this wire will [AIPMT 2006]



(1) flow from B to A

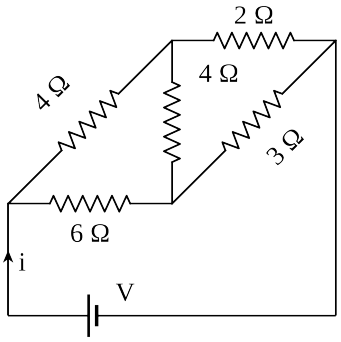
(2) flow from A to B

(3) flow in the direction which will be decided by the value of V

(4) be zero

Scan or tap for the full solution

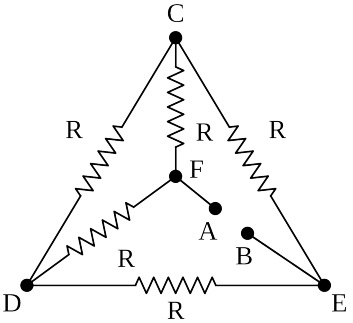
Q.12 For the network shown in the figure the value of the current i is [AIPMT 2005]



(1) $\frac{9V}{35}$ (2) $\frac{18V}{5}$ (3) $\frac{5V}{9}$ (4) $\frac{5V}{18}$

Scan or tap for the full solution

Q.13 Five equal resistances each of resistance R are connected as shown in the figure. A battery of V volts is connected between A and B. The current flowing in AFCEB will be [AIPMT 2004]



(1) $\frac{3V}{R}$ (2) $\frac{V}{R}$ (3) $\frac{V}{2R}$ (4) $\frac{2V}{R}$

Scan or tap for the full solution

Q.14 In a Wheatstone's bridge all the four arms have equal resistance R. If the resistance of the galvanometer arm is also R, the equivalent resistance of the combination as seen by the battery is [AIPMT 2003]

(1) R/4 (2) R/2 (3) R (4) 2R

Scan or tap for the full solution

Q.15 The resistance of each arm of the Wheatstone's bridge is 10 ohm. A resistance of 10 ohm is connected in series with a galvanometer then the equivalent resistance across the battery will be [AIPMT 2001]

(1) 10 ohm (2) 15 ohm (3) 20 ohm (4) 40 ohm

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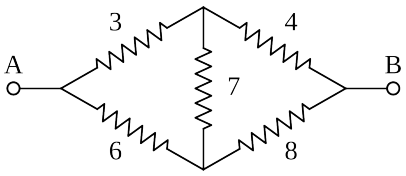
Q.16 The net resistance of the circuit between A and B is [AIPMT 2000]



(1) $\frac{8}{3}\ \Omega$ (2) $\frac{14}{3}\ \Omega$ (3) $\frac{16}{3}\ \Omega$ (4) $\frac{22}{3}\ \Omega$

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**4**	**4**	**4**	**1**	**4**	**2**	**1**	**2**	**4**	**1**	**1**
Ques.	12	13	14	15	16						
Ans.	**4**	**3**	**3**	**1**	**2**						