

NEW STANDARD ACADEMY

Marks: 60

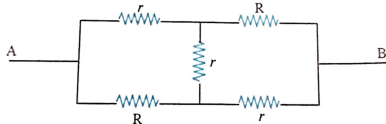
Date : 24-06-24

CLASS : 12TH NEET

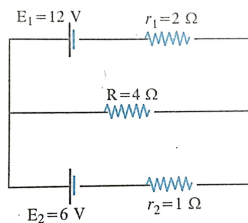
Time: 3 HRS

PHYSICS

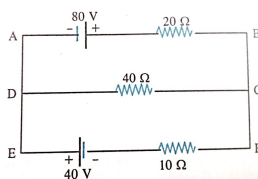
- The charge flowing through a conductor beginning with time $t=0$ is given by the formula $q = 2t^2 + 3t + 1$ (coulomb). Find the current at the end of the 5th seconds:
- In a conductor, 4 coulombs of charge flows for 2 seconds. The value of electric current will be
- Calculate the equivalent resistance between points A and B of the network shown



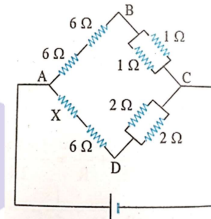
- Twelve wires each having a resistance of $r \Omega$ are connected to form a cube. Find the resistance of the cube between two corners of same edge
- Find the potential difference across each cell in R.



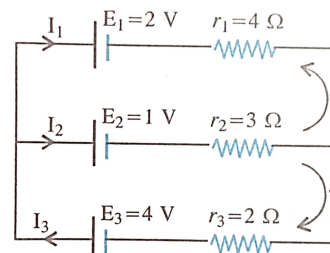
- Using kirchhoff's laws/rules, calculate the current through the 40Ω and 20Ω resistors in the following circuit.



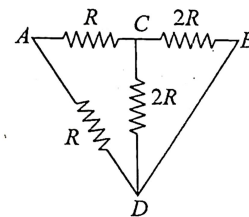
- In the given circuit calculate the value of X so that potential difference between B and D is zero.



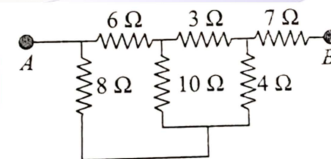
- Use Kirchoff's rules to write the expression for currents I_1, I_2 and I_3 in the circuit diagram.



- The effective resistance between A and B is ?



- The equivalent resistance between A and B is?



CHEMISTRY

1. Why Zn^{2+} ions are colourless while Ni^{2+} ions are green and Cu^{2+} ions are Blue coloured?
 2. Why do transition metal cation's have high enthalpy of hydration
 3. Use Hund's rule to derive the Electronic configuration of Ce^{3+} ion calculate its magnetic moment on the of spin formula only.
 4. Compare the general characteristics of The First transition series. metals with those of the second and third series metals In the respective Vertical columns Give special emphasis on the following points
(i) Electronic configuration (ii) oxidation states

(iii) ionisation enthalpy (iv) Atomic size
 5. Compare the stability of +2 oxidation states for the elements of the first transition series
 6. Which of the 3d series of the transition metals exhibits the largest number of oxidation states and why?
 7. Give the reasons for the following
(i) E^0 value of (Mn^{2+}/Mn) is negative where as (Cu^{2+}/Cu) is positive
(ii) Actinoids show irregularities in their Electronic configuration
 8. How would you account for the fact that the actinoids.
Exhibit a large number of oxidation states than corresponding lanthanoids?
 9. Give reasons for the following
(i) Mn_2O_3 is Basic whereas Mn_2O_7 is acidic
(ii) Transition metals form alloys.
 10. $La(OH)_3$ is more basic than $Lu(OH)_3$.
Explain
4. (i) Name the group of virus responsible for causing AIDS in humans. Why are these virus so, named?
(iii) List any two ways of transmission HIV infection in humans other than sexual contact?
 5. What is cancer? Give the example .
 6. How are morphine and heroin related? Mention the effect each one of them has on the human body?
 7. (i) Name and explain giving reason, the type of immunity provided to the newborn by the colostrum and vaccinations
(ii) Name the type of antibody Which present in colostrum.
 8. A patient is down with amoebiasis. List the symptoms that confirm this infection. Name the causative pathogen.
 9. At what stage is Plasmodium picked up by the female Anopheles? Describe the life cycle of the parasite in this insect.
 10. (a) Name the causative agents of pneumonia and common cold.
(b) How do these differ in their Symptoms?
(c) Mention two symptoms

BIOLOGY

1. How do interferons protect us?
2. Name the host and the site, where the following occur in the life cycle of a malarial parasite.
(i) Formation of gametocytes.
(ii) Fusion of gametocytes.
3. How is an allergic reaction caused by allergen? Name the drug that can reduce the symptoms of allergy?