BOARD OF SECONDARY EDUCATION, ASSAM
Bamunimaidam, Guwahati-781021

No.SEBA/AB/NEP/27/2020/230 Dated Guwahati the 31st May, 2024.

Corrigendum

Teacher Energized Resource Manual

Subject: Science

It is brought to the notice of all concerned that Board of Secondary Education, Assam (SEBA) has already decided to introduce "Teacher Energized Resource Manual" for Science as guidance for adopting teaching methodology for teaching Science in class X. The copies of the said manual are in transit for distribution amongst all affiliated schools of SEBA In the manual some anomalies have been brought to our notice by some learned teachers who were the resource persons in recently held training program of teachers of science. To avoid any confusion we are enclosing this corrigendum. All the teachers are hereby requested to examine the suggested corrigendum and necessary corrections required, if any are to be incorporated in the appropriate places of the manuals before imparting further training.

Further, As regards to Learning chapter wise outcomes of science, please avoid the Learning outcomes described in the aforesaid manual. Rather, all are requested to follow the chapter wise Learning outcomes described in the NCERT website vide link "learning_outcomes.pdf

Secretary,
Board of Secondary Education, Assam
Guwahati -21

Board of Secondary Education, Assam

Teacher Energized Resource Manual

Science

Class 10

Corrigendum

Chemistry Correction

1. **Page no 6, question 2**

   The image shows a balanced chemical equation of the reaction between sodium and chlorine to form sodium chloride.

   $2Na + Cl_2 \longrightarrow NaCl$

   Correction:

   The image shows a balanced chemical equation of the reaction between sodium and chlorine to form sodium chloride.

   $2Na + Cl_2 \longrightarrow \mathbf{2}NaCl$

2. **Page no 7, question 1**

   A student writes a chemical equation of the reaction between carbon monoxide and hydrogen

   $CO_2 + 2H_2 \longrightarrow CH_3OH$

   Correction:

   A student writes a chemical equation of the reaction between carbon monoxide and hydrogen

   $\mathbf{CO(g)} + 2H_2\mathbf{(g)} \xrightarrow[ZnO + Cr_2O_3]{300^oC,\ 300\ atm} CH_3OH\mathbf{(}\boldsymbol{l}\mathbf{)}$

3. **Page no 7, question 2**

   A student learns that some products are formed as a result of combining two compounds while some compounds are formed as a result of dissociation of two compounds. The image shows two reactions.

   Correction:

   A student learns that some products are formed as a result of combining two compounds while some compounds are formed a result of dissociation of **single** compound. The image shows two reactions.

4. **Page no 8, question 2, options (d)**

   (d) silver nitrate and potassium undergo double displacement reaction to form silver chloride and potassium nitrate

   Correction:

   (d) silver nitrate and potassium **chloride** undergo double displacement reaction to form silver chloride and potassium nitrate

5. **Page no 9, question 2, options (a)**

   (a)

Oxidation	Reduction
$4H_2$	3Fe

   Correction:

   (a)

Oxidation	Reduction
$4H_2$	$\mathbf{Fe_3O_4}$

6. **Page no 19, question 2 (An oxide of element P is added to an acid where…….), answer**
   Correct Answer: Option (a)
   Correction:
   Correct Answer: **Option (c)**
7. **Page no 21, question 2 (A sting from insert A has pH of 6…** ..... **), answer**
   Correct Answer: Option (b)
   Correction:
   Correct Answer: **Option (d)**
8. **Page no 22, question 1 (Which of the following is the best possible** ..... **), answer**
   Correct Answer: Option (d)
   Correction:
   Correct Answer: **Option (a)**
9. **Page no 23, question 1**
   When water of crystallization is removed from copper sulphate solution, how does the colour of the salt change?
   Correction:
   When water of crystallization is removed from **hydrated** copper sulphate **($CuSO_4.5H_2O$/blue vitriol)**, how does the colour of the salt change?
10. **Page no 30, question 6, option (d) and answer**
    (d) 1: KOH and H_2O; Beaker 2: No reaction takes place
    Correct Answer: Option (b)
    Correction:
    (d)**Beaker** 1: KOH and **H_2**; Beaker 2: No reaction takes place
    Correct Answer: **Option (d)**
11. **Page no 30, question 7, option (c)**
    (c) $Mg(NO_3)_2$ and $2H_2$
    Correction:
    (c) $Mg(NO_3)_2$ and **H_2**
12. **Page no 34, question 1 (A student notices that the iron swings…),answer**
    Correct Answer: Option (d)
    Correction:
    Correct Answer: **Option (c)**
13. **Page no 46, question 1 (a carbon compound contains two** ..... **), options**

(e) Butane	**Correction:**	**(a)** Butane
(f) Ethane		**(b)** Ethane
(g) Methane		**(c)** Methane
(h) Propane		**(d)** Propane

14. **Page no 48, question 1 (The chemical reaction shows the addition….)**

$CH_4 + Cl_4 \longrightarrow X$

Correction:

$CH_4 + \mathbf{Cl_2} \longrightarrow X$

15. **Page no 46, question 1 (A student conducts an activity where he burns methane…..),option (c)**

(c)dioxide and water

Correction:

(c)**carbon** dioxide and water

16. **Page No. 55, question no. 1 (The table lists the symbol and atomic mass of three elements.)**

Which option gives the average atomic mass of the elements that support Dobereiner's Triads?

(c) mass of lithium + mass of potassium 2

Correction:

(c) (mass of lithium + mass of potassium) $\div$ **2**

Correct answer: Option (c)

17. **Page no 55, question 1 (Newland arrange some elements in order of ……), answer**

Correct Answer: Option (c)

Correction:

Correct Answer: **Options(c)** and **Option (d)**

18. **Page no 56, question 2, option (b)**

(b) Hydrogen, Fluorine, Bromine, Cobalt, Bromine

Correction:

(b) Hydrogen, Fluorine, **Chlorine**, Cobalt, Bromine

19. **Page no 57, question 2 (A student studies about Mendeleev's periodic…..), answer**

Correct Answer: Option (a)

Correction:

Correct Answer: **Option (d)**

20. **Page no 62, question 2**

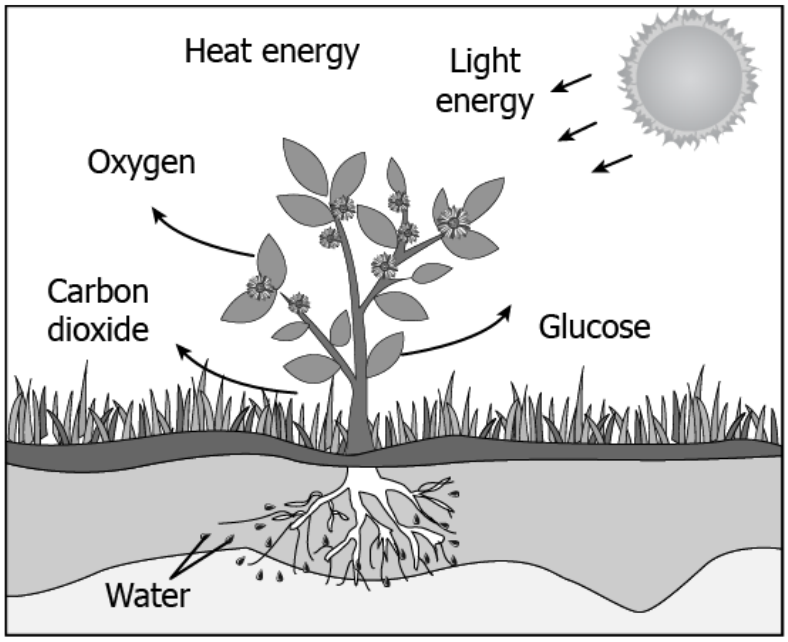
Electronegativity is defined as the ability of an element to form bonds by gaining electrons. How does the electronegativity of elements vary across the periods?

Correction:

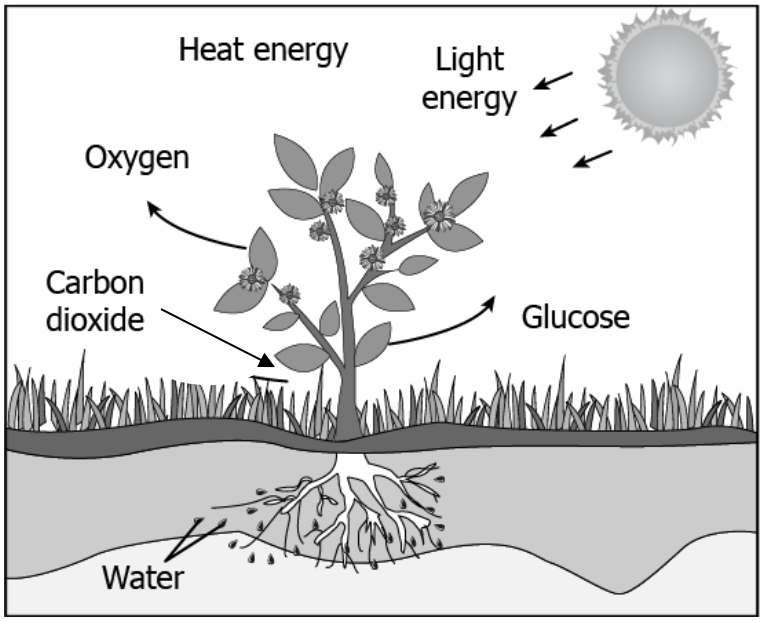
Electronegativity is defined as the ability of an element to **attract the shared pair** form bonds by gaining electrons **towards itself**. How does the electronegativity of elements vary across the periods?

Biology Correction

21. Page no 67, question 1, figure



Correction:



22. Page no 71, question 2, answer

Correct Answer: Option (b)

Correction:

Correct Answer: **Options(b)** and **Option (d)** both

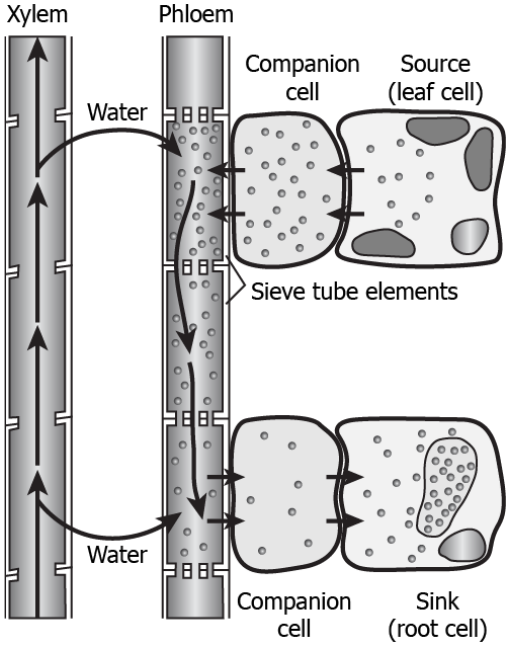
23. Page no 73, question 2 option (c)

(c) dioxide is exhaled during respiration

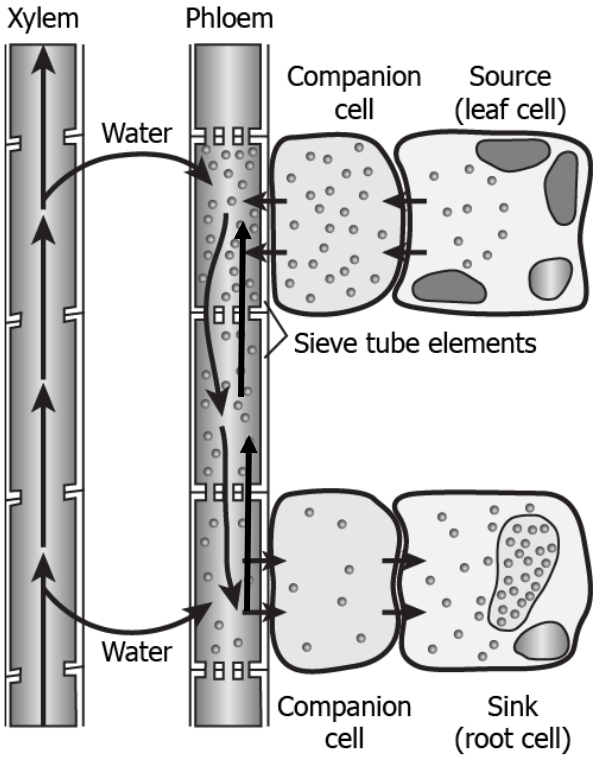
Correction:

(c) **carbon** dioxide is exhaled during respiration

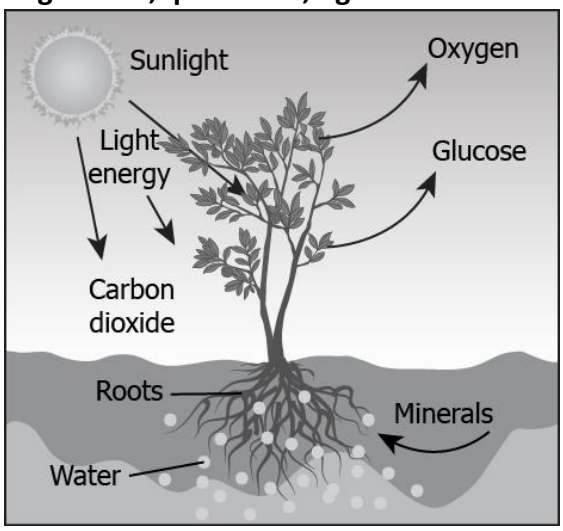
24. Page no 80, question 2, figure



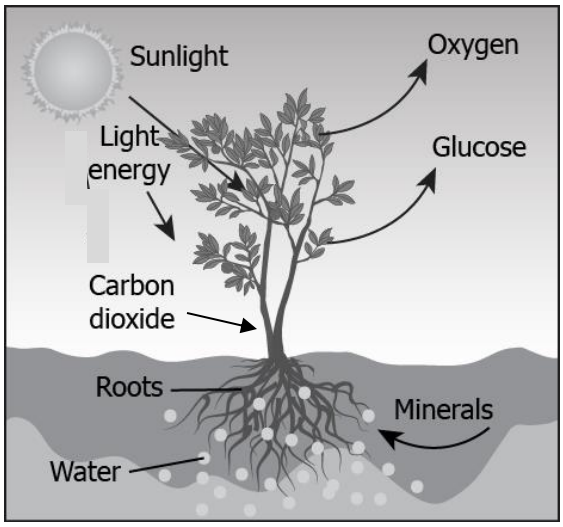
Correction:



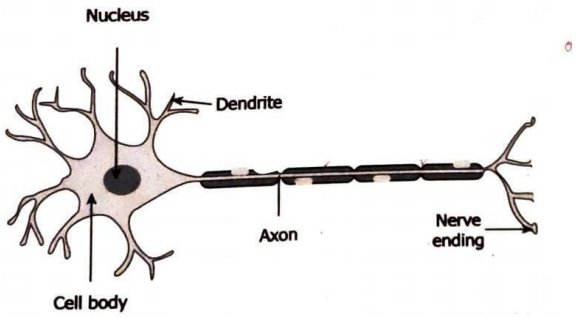
25. Page no 82, question 1, figure



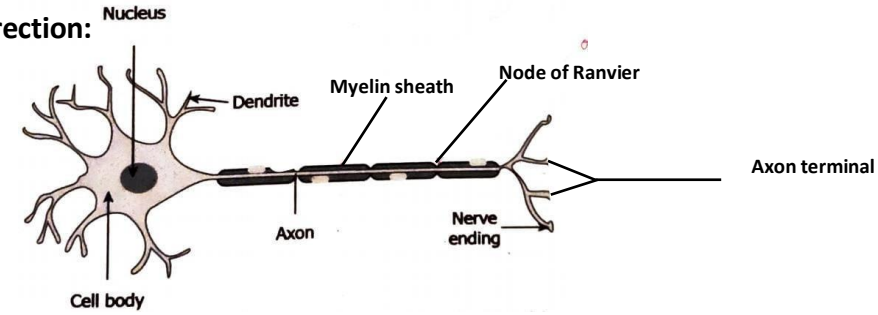
Correction:



26. Page no 87, question 2, figure



Correction:



Physics Correction

27. Page no 128, question 2, option (a) and answer

(a) The incident ray reflected ray and normal at the point of reflection lie on a common plane

Correct Answer: option (b)

Correction:

(a) The incident ray reflected ray and normal at the point of **incidence** lie on a common plane

Correct Answer: **option (a) and option (b) both are correct**

28. Page no 129, question 2, answer

Correct Answer: Option (c)

Correction:

Correct Answer: **Option (a)**

29. Page no 131, question 1 (A student conducts an activity using a flask of height 15cm…), answer

Correct Answer: Option (d)

Correction:

Correct Answer: **Option (a) and Option (d) both are correct (**because a concave mirror can produce real magnified and visual magnified image**)**

30. Page no 139, question 2 (The image shows the ray diagram …..),answer

Correct Answer: Option (d)

Correction:

All options are wrong

31. Page no 150, question 1 (A charge of 100C flows through a bulb….), answer

Correct Answer: Option (c)

Correction:

Correct Answer: **Option (d) (**minutes should be converted to sec**)**

32. Page no 152, question 1 (which combination of a 2Ω resistor….), options

(a) Series combination, which results in a net resistance of 2Ω.

(b) Parallel combination, which results in a net resistance of 2Ω.

(c) Series combination, which results in a net resistance of 1.5Ω.

(d) Parallel combination, which results in a net resistance of 0.5Ω.

Correction:

No option is correct

Answer is: R_{eq}= 2×4/2+4 =8/6=1.33Ω

Parallel combination, which results in a net resistance of 1.33Ω.

33. Page no 157, Learning Objectives:

13. Magnetic Effects of Electric Current

QR Code:

S7F9G6

Learning Objectives:

Content area/ Concepts	Learning Objectives
Magnetic field and field lines	Draw magnetic field lines for a bar magnet, in order to identify the magnetic field strength at different points around a magnet
Magnetic field due to a straight current carrying conductor	Represent magnetic field lines for a straight current carrying conductor, in order to identify the magnetic field strength at different points around it.
Magnetic field due to a current carrying circular loop	Draw magnetic field lines for at current carrying circular loop, in order to identify the magnetic field strength at different points around it.
Magnetic field due to a current carrying solenoid	Outline magnetic field lines for at current carrying solenoid, in order to identify the magnetic field strength at different points around it.
Force carrying conductor in a magnetic field + Electric motor	State Fleming's Left-Hand rule, in order to understand the working of an electric motor
Electromagnetic induction	Discuss electromagnetic induction, in order to understand how a moving magnet can be used to generate electric currents.
Electric Generator	Explain Fleming's right hand rule, in order to understand the working of an electric generator
Domestic Electric circuits	Analyse the significance of neutral, earth and live wire, in order to understand formation of a domestic electrical circuit

Correction:

13. Magnetic Effects of Electric Current

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Magnetic field and field lines	Draw magnetic field lines for a bar magnet, in order to identify the magnetic field strength at different points around a magnet
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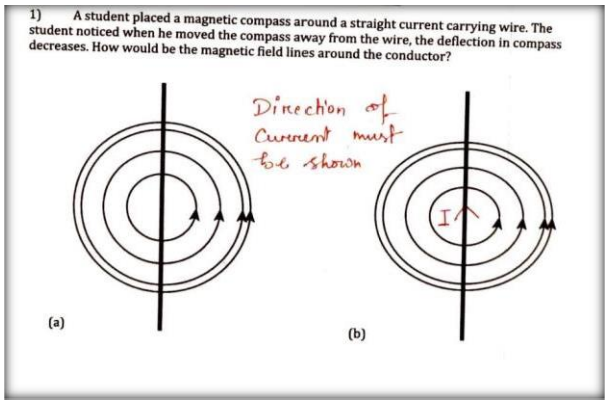
Domestic Electric circuits	Analyse the significance of neutral, earth and live wire, in order to understand formation of a domestic electrical circuit

34. Page no 160, question 1,

figure Correction:



35. Page no 177, question 2

A student studies that solar energy can be used to generate electricity by using solar cells. It has been possible to use this energy due to technological advancement. It can generate electricity when exposed to the Sun. He also studied that solar energy is considered as a conventional source of energy. Why is it considered as a conventional source of energy?

Correction:

A student studies that solar energy can be used to generate electricity by using solar cells. It has been possible to use this energy due to technological advancement. It can generate electricity when exposed to the Sun. He also studied that solar energy is considered as a conventional source of energy. Why is it considered as a **non-conventional** source of energy?

36. Page no 189, question 1(which if these practices can …), options

(e) refuse the use of single-use plastic bags
(f) reduce the use of paper bags
(g) recycle single-use bags
(h) reuse waste food

Correction:

(a) refuse the use of single-use plastic bags
(b) reduce the use of paper bags
(c) recycle single-use bags
(d) reuse waste food

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