

SCIENCE

SECTION – A

1. It is a series having similar chemical properties
2. Thyroxine
3. (a) Tongue, lungs, heart and liver
(b) Heart attacks, strokes, pulmonary diseases and several form of cancer.
(c) No safe levels
(d) Due to chewing of tobacco in the form of gutkha.
4. (a) (i) Solar energy
(b) Renewable energy Sources:
Those energy sources which can be used again & replenished by Nature.
Those energy sources which can not be use again once exhausted & take long time to replenished by nature.
(c) (ii) Watt
(d) $P = VI$
5. (i) are relaxed & lens becomes thinner

OR

- (iii) a person with my option can see nearby objects clearly
6. $R = \frac{\rho l}{A}$ $R = \frac{\rho \times 2l}{A'}$ \Rightarrow A' $\frac{2\rho l}{R'} = \frac{2\rho l}{\rho l} \times A$
- (iii) $A' = 2A$
7. (iii) Brightness of bulb B will be more thane the that of A
8. (ii) B & C or (iv)
9. (iv) All of these
10. (ii)
11. (iii) TtWW
12. (iii) or (ii)
13. (i)
14. (i) Both A & R are true & R is correct explanation of the assertion.

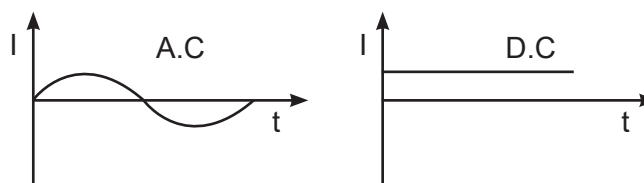
SECTION B

15. (a) B/C it will form closed circuit with ground & shock will be experienced.
 (b) It will lead to overloading condition.
 (c) B/C wet hands has free ions which conducts electricity & shock will be experienced

OR

AC → The value of current changes continuously with time.

DC → The value of current does not changes with time



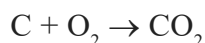
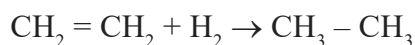
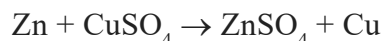
→ AC is preferred over DC b/c in long transmission the power loss in DC is more than AC.

→ Source of AC → AC generator

Source of DC → Battery bank

SECTION B

16. (a) Displacement Rx⁴ → Active metal Displace least pertive metal from its metal salt.
 (b) Reduction Rx⁴ → Addition of Hydrogen in unsaturated Hydro-carbons.
 (c) Combination Rx⁴ → two or more compound or substance combine together to form an individual compound.



17. (a) Group → 18
 Period → 7

- (a) atomic size ↑ metallic character ↑
 (b) atomic size ↓ metallic character ↓

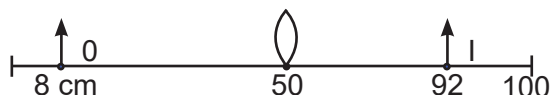
18. (a) Respiration is the process which involves inhalation — (diaphragm contract to expand chest cavity) and exhalation (diaphragm moves upward)
 (b) (i) 12-20 breaths per minute
 (ii) During vigorous exercise rate of respiration also increases to facilitate the delivery of oxygen to the blood stream, as body requires more oxygen during this time.

OR

Functions of

- (i) Blood Vessels— To transport blood throughout the body.
- (ii) Lymph— To transport lymph and to get rid of body toxins, waste and other unwanted materials.
- (iii) Heart— Function as a pumping organ that pumps blood throughout the body.

19. (a)



$$u = 50 - 8 = -42 \text{ cm}$$

$$v = 92 - 50 = +42 \text{ cm}$$

$$f = ?$$

$$\frac{1}{f} = \frac{1}{v} = \frac{1}{u}$$

$$\frac{1}{f} = \frac{1}{42} + \frac{1}{42} \quad \boxed{f = 21 \text{ cm}}$$

(b)

$$v = ?$$

$$u = 50 - 29$$

$$u = -21 \text{ cm}$$

$$f = +21 \text{ cm}$$

$$v = ?$$

$$\frac{1}{f} = \frac{1}{v} = \frac{1}{u} = \frac{1}{v} = \frac{1}{21} + \frac{1}{21} \quad \boxed{v = \infty}$$

(c) Nature \rightarrow Virtual & errant

20. (a)

NaOH

(b)

Acid cause tooth Decay.

(c)

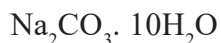
It is Acid? Neutralise it

OR

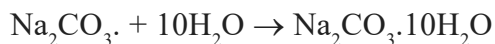
(a)

Sodium Carbonate

(b)



(c)



21. Homologous Organs— same origin, different function — Eg — Wing of bird, hand of a human.

Analogous — Different origin, same function — Eg — Wings of butterfly, bird and bat.

22. Cluster of stearate ion or soap ion

Ref. NCERT-unit-4

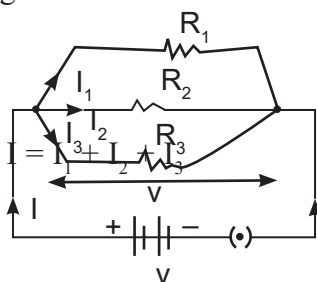
23. *

24. Improvement in our lifestyle have resulted in greater amount of waste. For eg —

- (i) Due to higher standard of living we generate large amount of electronic waste.
- (ii) by using plastic utensils.

The one change that we can incorporate is — We can use jute bags instead of plastic bag.

25. (a)



$$\frac{V}{R_T} = \frac{V}{R_1} + \frac{V}{R_2} + \frac{V}{R_3}$$

$$\boxed{\frac{V}{R_T} = \frac{V}{R_1} + \frac{V}{R_2} + \frac{V}{R_3}}$$

(B) $\frac{1}{R_T} = \frac{1}{12} + \frac{1}{12}$

$$\frac{1}{R_T} = \frac{2}{12}$$

$$R_T = 6 \Omega$$

$$I = \frac{6}{6} = \boxed{1A}$$

OR

(a) $R_T = \boxed{24\Omega}$

(b) $I = \frac{6}{24} = \boxed{\frac{1}{4} A}$

(c) $V_1 = 20 \times \frac{1}{4} = 5V$

$$V_2 = 4 \times \frac{1}{4} = 1V$$

26. *

27. (a) Diagram — Fig 7.3 Human brain Pg no 118

Function of Medulla — Helps to regulate breathing heart and blood vessel function digestion, sneezing.

Cerebellum — controls voluntary movements such as posture, balance, co-ordination & speech.

(b) Over production leads to gigantism, under production leads to dwarfism growth hormone is produced by pituitary gland.

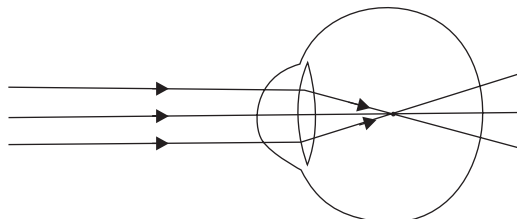
28. $P = 4.5 \text{ D}$

(a) Myopia or near sightedness

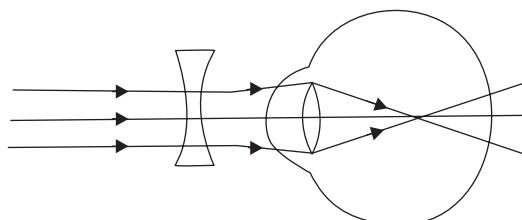
$$(b) \quad P = \frac{1}{f} \Rightarrow f = \frac{1}{P} \Rightarrow \frac{10^2}{4.5} = 0.22 \text{ m}$$

Nature → concave lens of diverging

(c) (i) myopic eye



(ii) Correction of myopia



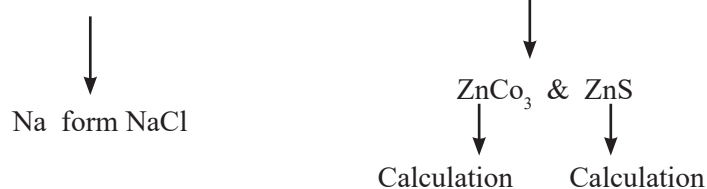
(d) (ii) Causes of myopia

(ii) elongation of eye ball

29. Reactivity series of metals shows its relative more reactivity metal displace least reactivity metal & more reactive metal places at the top of series.

(b) Roasting a calcification (middle in series)

Electro refining (To in series)



30. Pollination — is the process of transfer of pollen grains from anther to stigma of a flower.

Types of pollination

(i) Cross pollination is the transfer of pollen grains from the anther of a flower to the stigma of a flower of a different of the same species.

Self Pollination — is the transfer of pollen grains from the anther to the stigma of the same flower.

Agents of pollination: Wind, water, insects animals etc.

When the pollen grains reach the stigma it is known as pollination and later it reaches the ovary and which leads to fertilisation.

OR

(a) Female reproductive system

Parts labelled as

1. Oviductor Fallopian tube
2. Ovary
3. Uterus
4. Cervix
5. Vagina

(b) The deliberate use of artificial methods or other techniques to prevent pregnancy as a consequence of sexual intercourse is called contraception.

These advantages are

- (i) Unwanted pregnancy can be prevented
- (ii) Birth rate can be controlled.
- (iii) Transfer of sexually transmitted disease can be prevented.

Answers being written by students may have caused spelling errors.