

## SECTION A

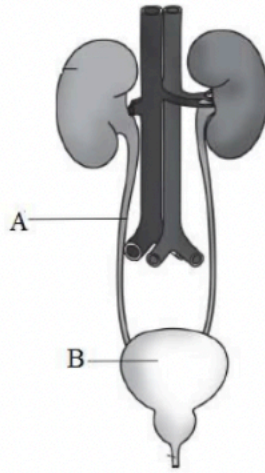
1. The vessels which carry carbon dioxide rich blood from all the parts of the body back to the heart are called [1]
  - (a) Veins
  - (b) Arteries
  - (c) Capillaries
  - (d) Valves
  
2. Why does the temperature increase as the day advances? (1)
  - (a) Due to slanting sun rays
  - (b) Due to perpendicular sun rays
  - (c) Due to inclined sun rays
  - (d) Due to global warming
  
3. What do we call the network of several food chains connecting each other? [1]
  - (a) Food web
  - (b) Food chain
  - (c) Food cycle
  - (d) Trophic level

4. We tend to feel hungrier after (1)
- (a) Standing
  - (b) Exercise
  - (c) Resting
  - (d) Sleeping
5. In Gujarat, construction of 18 check dams is being planned by an N.G.O. and the villagers on which of the following rivers? [1]
- (a) Saraswati River
  - (b) Ganga River
  - (c) Yamuna River
  - (d) Rukmavati River
6. Neutralisation of calcium hydroxide with hydrochloric acid is an example of [1]
- (a) Chemical change
  - (b) Physical change
  - (c) Both chemical and physical change
  - (d) No change
7. Stainless steel is an alloy of iron with [1]
- (a) Zinc
  - (b) Aluminium
  - (c) Chromium and nickel
  - (d) Chromium and copper
8. Surgical instruments do not rust at all since they are made of [1]
- (a) Iron mixed with Zinc
  - (b) Iron mixed with lead
  - (c) Iron mixed with copper
  - (d) Iron mixed with nickel
9. Pick a good conductor of heat from the following. (1)
- (a) Aluminium
  - (b) Plastic
  - (c) Wood
  - (d) Rubber
10. The air near the source of heat (1)
- (a) Rises away from the source
  - (b) Moves closer to the source
  - (c) Remains in the same place
  - (d) Moves randomly

- 11.** When the direction of current flowing through a coil is reversed, the direction of deflection in the needle compass kept near it \_\_\_\_\_. [1]
- (a) remains unaffected
  - (b) gets reversed
  - (c) points north-south
  - (d) points east-west
- 12.** Which of the following statements is true about a plane mirror? [1]
- 1. The image is larger in size than the object.
  - 2. The image is formed at the same distance as object.
  - 3. The image is laterally inverted.
  - 4. The image is virtual and erect.
- (a) 1, 2, 3
  - (b) 2, 3, 4
  - (c) 1, 3, 4
  - (d) 1, 2, 3, 4
- 13.** The phenomenon of bouncing back of light falling on a smooth polished surface is known as \_\_\_\_\_. [1]
- (a) Refraction
  - (b) Absorption
  - (c) Polarization
  - (d) Reflection
- 14.** What is the wavelength range of visible light? [1]
- (a) 1000 - 5000 Å
  - (b) 2000 - 6000 Å
  - (c) 3000-7000 Å
  - (d) 4000-8000 Å
- 15.** Formation of spectrum by a glass prism takes place because [1]
- (a) light of different colors has different intensities.
  - (b) light of different colors has different frequencies.
  - (c) light of different colors refracts with different angles of refraction.
  - (d) light of different colors has different energies.

## SECTION B

**16.**What is the importance of the parts labeled 'A' and 'B' in the below figure? [2]



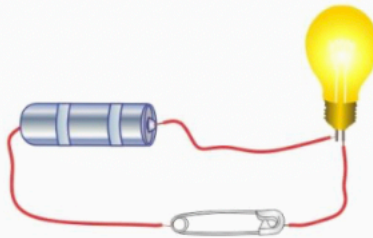
**17.**Why forests are called green lungs? [2]

**18.**What do you understand by water table? Name the factors that affect the water table. [2]

**19.**Explain how galvanization of an iron object prevents it from rusting? [2]

**20.**The same substance can undergo a physical change or a chemical change depending upon the conditions. Explain with an example. [2]

**21.**Draw a circuit diagram for the following electric circuit: [2]



**22.**Give two advantages of CFLs. [2]



## SECTION C

- 23.** [4]
- (a)
- i. What do you understand by seed dispersal?
  - ii. What happens to the seeds when fruits burst with sudden jerks?
- (b) Name the following:
- i. Two hard fruits.
  - ii. The protective structure enclosing the embryo.
- 24.**
- (i) Explain how an insect gets trapped in the pitcher plant? [4]
- (ii) How do fungi germinate?
- 25.** [4]
- (a) Why it is essential that food must be made available to every cell of the plant?
- (b) Write the function of:
- i. Xylem
  - ii. Phloem
- 26.** Consider the following salts: [4]
- Sodium sulphate, Sodium carbonate, Ammonium sulphate
- The aqueous solution of which of these salts will:
- (a) Turn blue litmus to red?
  - (b) Turn phenolphthalein to pink?
  - (c) Turn China rose indicator to green?
  - (d) Have no effect on any indicator?
- Give reasons for your answers.
- 27.** Explain the following with reasons: [4]
- (a) Formation of clouds is a physical change.
  - (b) Melting of butter to make ghee is a chemical change.
- 28.** Explain any four methods of preventing rusting of iron. [4]
- 29.** [4]
- (i) What is difference between conduction and convection?
  - (ii) It is hotter at the same distance over the top of a fire than it is on the side of it. Why?
- 30.** [4]
- (a) If an object is placed at a distance of 10 cm in front of a plane mirror, how far would it be from its image?
  - (b) Why do different colours of light refract at different angles in the formation of a spectrum?

31.

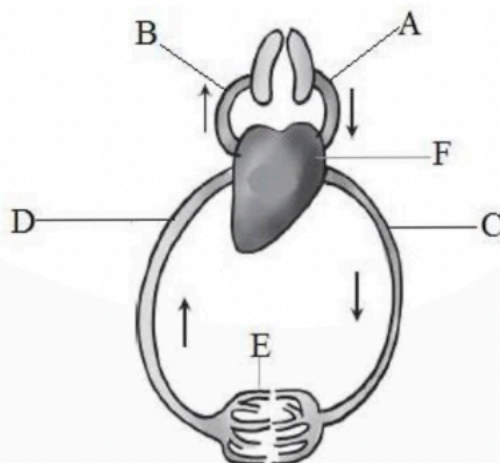
[4]

- (a) What is the function of needle in a magnetic compass?
- (b) Some electrical appliances have elements in them. How do you notice that they have become hot?

### SECTION D

32.

- (a) Label the parts shown as A-F in the below schematic diagram of circulation. [5]



- (b) What is the function of the red pigment of blood? Where is this pigment present in blood?

33. When an ant stings a person, the solution of substance K is rubbed on the stung area of the skin to get relief from pain. The substance K is also used in kitchen for cooking purposes. Another substance L is sour in taste and contains an organic acid M. It is pungent smelling and is used as a preservative in foods. When a solution of K is mixed with L, then a change N takes place to produce bubbles of gas O. [5]

- (a) Identify K.
- (b) What is substance L?
- (c) Name the acid M.
- (d) What type of change is N?
- (e) Name the gas O.

34. Give reasons for the following.

[5]

- (a) Which mirrors are used as side mirrors in scooters? Give reason.
- (b) Mention any three uses of concave mirrors.