GENERAL INSTRUCTIONS.
1. Read all the questions carefully.
2. Total number of questions: 48
3. All answers to be written in the answer sheets provided.

SECTION - A

1. Choose the correct answer from the following options. (1x15=15)

1. End products of aerobic respiration are
   a) Alcohol and CO₂     b) lactic acid
   c) Water and CO₂       d) alcohol and water

2. Fahrenheit scale has a range of ____________
   a) 94° -108°     b) 35°-42°     c) -10° to 110°    d) 37°

3. ____________ are the blood cells that fight diseases.
   a) RBC       b) Plasma       c) Platelets      d) WBC

4. Change of direction of light after hitting a smooth polished surface is due to _________
   a) refraction    b) reflection      c) dispersion    d) rectilinear propagation

5. An electric bulb glows due to the ____________ of electric current.
   a) magnetic effect   b) chemical effect       c) heating effect    d) none of these

6. ____________ do not possess any circulatory fluid.
   a) sponges   b) hydra            c) cockroach    d) both a and b

7. If one litre of water at 40°C is mixed with one litre of water at 50°C. The temperature of the mixture will be ____________
   a) 90°C     b) more than 50°C    c) 10°C       d) between 40°C and 50°C

8. Percentage of water in urine
   a) 75%      b) 2.5%     c) 95%      d) 5%

9. During inhalation, the ribs
   a) move outwards    b) move inwards      c) move downwards    d) do not move at all.

10. The coil of wire in heating appliances is called as ____________
    a) filament      b) fuse wire    c) element    d) none of these
11. _________ is the point of attachment of the leaf at the node
   a) bud   b) axil   c) stomata   d) eye

12. The alphabet which appear the same when viewed through a plane mirror
   a) S   b) P   c) A   d) L

13. The substances that are to be transported in our body are _________
   a) food   b) oxygen   c) body wastes   d) all of these

14. On dipping a plastic and a steel spoon in hot water-
   a) both the spoons get heated due to convection   b) the steel spoon gets heated due to conduction
   c) plastic spoon gets heated due to convection   d) neither of the spoons are heated

15. In _________, buds are present on the margin of the leaves.
   a) rose   b) coriander   c) bryophyllum   d) mimosa

SECTION B

II. Fill in the blanks.  
(1x3=3marks)

16. After fertilization the ovary and ovules develop into _________ and _________ respectively.

17. _________ is a mechanism to expel foreign particles from the inhaled air.


III. Name the following.  
(1x3=3marks)

19. The reproductive part of a plant.


21. Respiratory organ of lizards

IV. Correct the following statements.  
(1x3=3marks)

22. Convex mirror is used as a magnifying glass.

23. In insects air enters the body through tracheae.

24. Electric bell has a permanent magnet in it.

V. Match the following.  
(1/4 x 4=1mark)

25. a) Dark surfaces   b) Heat   c) Light colour   d) Temperature
    measure of heat   reflects heat   absorb heat   energy
SECTION C

VI. Answer the following in 1 or 2 sentences. (2x10=20 marks)

26. a) Metallic pan for cooking has a wooden or plastic handle. Give reason.
    b) Explain why the outer walls of houses are painted white in hot climate areas?

27. What are anaerobes? Write the equation for respiration in anaerobes.

28. What are the advantages of vegetative propagation?

29. Write any 2 practical uses of a concave mirror.

30. a) Define cellular respiration
    b) What is the effect of lime water on exhaled air?

31. Write a short note on spores? Name 2 plants which reproduce by means of spores.

32. Write two reasons for excessive current in a circuit.

33. Explain sea breeze. (Diagram not needed)

34. Write down the functions of a) root hair b) platelets

35. Why does the paper start burning, at the bright spot focused by a concave mirror, after a short interval of time.

SECTION D

VII. Answer the following in 3 or 4 sentences. (3x10=30 marks)

36. Define vascular tissue. Differentiate between the two types of vascular tissues.

37. Write down three differences between a clinical and a laboratory thermometer.

38. a) Define dispersion of light.
    b) What are the characteristics of an image formed by a plane mirror?

39. a) How is seed dispersal beneficial to plants? Write any 2 features of the seeds dispersed by wind.
    OR

   a) Name the three agents of pollination.
   b) Identify and explain the type of pollination in the figure given below.

40. What is breathing rate? Why do we get muscle cramps after a heavy exercise?
41. a) Write a short note on MCB?
    b) What is the nature of the wire used in a fuse?
42. Write two differences between convex and concave lens with a diagram for each.
43. a) How does the heat from the sun reach us? Define the process.
    b) How do woollen clothes keep us warm in winter?
44.

![Diagram of a circuit]

a) Identify the type of circuit shown above
b) Explain the circuit with respect to the ON/OFF switch in the given figure.
c) Mention any two factors on which the heat produced on a wire depends?
45. Describe the respiratory system in humans.

SECTION E

VIII. Answer the following in detail. (3x5=15 marks)

46. a) Draw and label the schematic diagram of blood circulation in human. (3m)
    b) Write two differences between arteries and veins. (2m)

    OR

46. a) Draw a neat labelled diagram of the human excretory system. (2½ m)
    b) Why is it necessary to remove waste products from our body? Name the process of filtering the blood through an artificial kidney. (2½ m)

47. a) How does the process of fertilization take place in flowers? (2m)
    b) Differentiate between unisexual and bisexual flowers with 2 examples for each. (3m)

48. a) Draw a symbol to represent a battery with 3 cells. (1m)
    b) Write the full form of CFL. Why are they preferred over ordinary bulbs? (2m)
    c) What is an electromagnet? Write any 2 applications of it. (2m)