KOMARASAMY GOUNDER MAT.HR.SEC.SCHOOL – KURUMANDUR

JUNE MONTHLY TEST – 28.06.2024

X – STANDARD

TIME : 1.30 HOURS SCIENCE MAXIMUM MARKS : 50

PART – A

NOTE : i) Answer all the questions 10 X 1 = 10

ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

1. Kilowatt hour is the unit of:

a) resistivity b) conductivity

c) electrical energy d) electrical power

2. Which of the following is a semi conductor device?

a) LED bulb b) fuse c) MCB d) switch

3. SI unit of resistance is:

a) mho b) joule c) ohm d) ohm meter

4. In a simple circuit, why does the bulb glow when you close the switch?

a) The switch produces electricity. b) Closing the switch completes the circuit.

c) Closing the switch breaks the circuit. d) The bulb is getting charged.

5. The work done in moving a charge of 2 C across two points in a circuit is 2 J. What is the potential difference between the points?

a) 1 V b) 10 V c) 100 V d) 0.

6. During transpiration there is loss of:

a) carbon dioxide b) oxygen c) water d) none of the above

7. Which is the sequence of correct blood flow?

a) ventricle – atrium – vein – arteries b) atrium – ventricle – veins – arteries

c) atrium – ventricle – arteries – vein d) ventricles – vein – atrium – arteries

8. 'Heart of heart' is called:

a) SA node b) AV node c) Purkinje fibres d) Bundle of His

9. Opening of stomata is due to:

a) Turgidity of guard cells b) Size of guard cells

c) Number of guard cells d) Amount of CO_2 in the atmosphere.

10. All arteries carry oxygenated blood except:

a) systematic b) hepatic c) pulmonary d) cardiac

PART – B

Note : Answer any five of the following. Question number 17 is compulsory. 5 X 2 = 10

11. State Ohm's law.

12. What connection is used in domestic appliances and why?

13. Why is tungsten metal used in bulbs, but not in fuse wires?

14. Why is the circulation in man referred to as double circulation?

15. Who discovered Rh factor? Why was it named so?

16. Mature RBC in mammals does not have cell organelles.

17. An electric iron draws a current of 0.5 A when the voltage is 220 volts. Calculate the amount of electric charge flowing through it in one hour.

PART – C

Note : Answer any four of the following. Question number 23 is compulsory. *4 X 4 = 16*

18. i) What is meant by electric current? Give its direction?

ii) Which instrument is used to measure the electric current? How should it be r connected in a circuit?

19. a) State Joule's law of heating.

b) An alloy of nickel and chromium is used as the heating element. Why?

20. What is transpiration? Give the importance of transpiration.

21. Enumerate the functions of blood.

22. What is lymph? Write its functions.

23. A 100-watt electric bulb is used for 5 hours daily and four 60 watt bulbs are used for 5 hours daily. Calculate the energy consumed (in kWh) in the month of January.

PART – D

Note : Answer all the questions . *2 X 7= 14*

24. With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected:

a) in series and *b) in parallel*

Or

Write short notes about

i) LED bulb

ii) Seven segment display

iii) electric potential.

25. Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its functions.

Or

a) Define – Osmosis

b) Draw the structure of stomata and label the parts.

c) What are the types of valves found in human heart. State its location and its function.