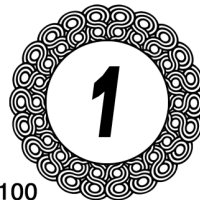




MODEL PAPER

GENERAL SCIENCES



Time : 3:15 Hrs (PHYSICAL SCIENCE AND BIOLOGICAL SCIENCE) Max. Marks : 100

Instructions :

1. There are two parts PART-A and PART - B
2. Each part contains four sections and total 33 questions in paper.
3. Answers should be written in a given answer booklet.
4. There is internal choice in Section - IV
5. Write all the questions visible & legibly.
6. 15 minutes are given for reading the question paper and 3 hours given for answering questions.

PART - A (46 Marks)

PHYSICAL SCIENCE

SECTION - I

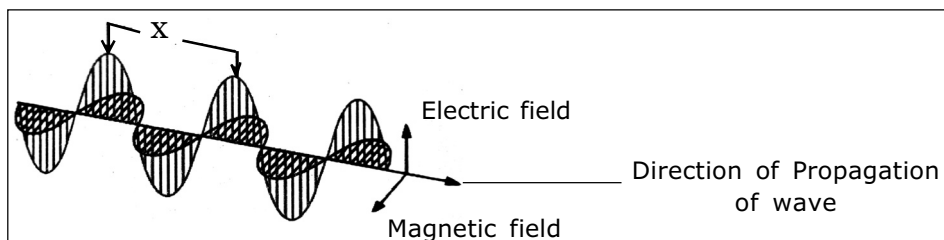
NOTE :

1. Answer all the Questions.
2. Each Question carries 1 Mark.

(6×1=6)

1. If 'C' is the speed of light in vacuum and 'V' is the speed of light in a medium then what does 'C/V' given ?
2. The order of filling of electrons in the orbital of an atom will be
(A) 3d, 4p, 4s, 4d, 5s
(B) 3d, 4s, 4p, 4d, 5s
(C) 5s, 4p, 3d, 4d, 4s
(D) 4s, 3d, 4p, 5s, 4d
3. Na, Mg, Zn, Fe, Ag and Au are the few metals of reactivity series of metals.
Ramu : Fe is a moderate reactive metal.
Raju : Mg is not a moderate reactive metal.
(A) Ramu is correct ; Raju is incorrect (B) Ramu is incorrect; Raju is correct
(C) Both Ramu and Raju are correct (D) Both Ramu and Raju are incorrect
4. Read the following statements:
Statement A : During evaporation, the temperature of the evaporating liquid decreases.
Statement B : During condensation, the temperature of the surrounding air increases.
(A) Both A and B are true (B) A is true but B is false
(C) A is false but B is true (D) Both A and B are false

5. Observe the following figure and identify the 'x' .



6. Name the chemical substance which constitutes bee's sting.

SECTION - II

NOTE :

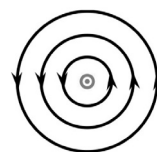
1. Answer all the Questions.

(4×2=8)

2. Each Question carries TWO marks.

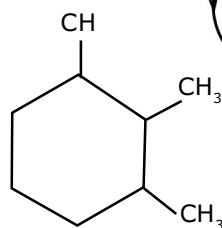
7. Refractive index of glass is 1.5. What does it mean ?

8. What is the direction of the current flowing through the wire shown in the picture?



9. Name the given compound.

10. Which one between Cl and Cl⁻ would have more size ? Why ?



SECTION - III

NOTE :

1. Answer all the Questions.

2. Each Question carries FOUR marks.

(4×4=16)

11. Refractive indices of media P, Q, R and S are

P-1.31	Q-1.33	R-1.52	S-1.50
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In which of the four media the speed of light is maximum and minimum?

12. The atomic numbers of elements P, Q, R, S and T are given below.

Element	P	Q	R	S	T
Atomic number	7	10	12	4	19

From the above table, answer the following questions.

(a) Which element among these is a non-metal ?

(b) Which element belongs to 3rd period of periodic table ?

13. Why does the picture appear distorted when a bar magnet is brought close to the screen of a television ? Explain.

14. 'X' is a metal which do not react with water or strong acid. But with chlorine it forms XCl. What it would be ? From this what can you conclude?

SECTION - IV

NOTE :

1. Answer all the Questions.
2. Each Question has internal choice.
3. Each Question carries 8 marks.

(2×8=16)

15. Write the factors that effect the process of evaporation. Explain with suitable examples.

(OR)

How bond energies and bond lengths of molecules help us in predicting their chemical properties ? Explain with examples.

16. Draw the structure of human eye and label its parts.

(OR)

Draw the structures of soap molecule and micelle.

PART - B (54 Marks)

BIOLOGICAL SCIENCE

SECTION - I

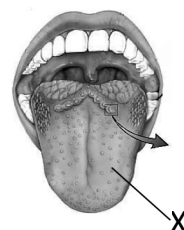
NOTE :

1. Answer all the Questions.
2. Each Question carries 1 Mark.

(6×1=6)

1. What is the connecting substance between light reaction and dark reaction ?
2. Expand ESRD.
3. With what maximum speed does nerve transmission occur from stimulus to receptor?
4. **Name the scientist with the help of the para.**

He was a Dutch plant physiologist, succeeded in separating the substance, which can influence the growth from plant and named it 'auxin'



5. What is the part labelled as "X" in the figure?
6. I am a process in which residue of many pollutants released into water appears in a living organism. What am I ?

SECTION - II

NOTE :

1. Answer all the Questions.
2. Each Question carries TWO marks.

(4×2=8)

7. How many blood vessels are attached to heart? What are they?

8. What are fossil fuels?
9. Name the factors affecting the photosynthesis.
10. Which part of the small intestine functions like a plasma membrane ?

SECTION - III

NOTE :

1. *Answer all the Questions.*
2. *Each Question carries FOUR marks.* **(4×4=16)**
11. In a forest there are two types of deer, in which one type of deer can run very fast whereas second type of deer cannot run as fast as the first one. Lions, Tigers hunt deers for their food. Imagine which type of deer are going to survive in the forest and which type of deer's population is going to be eliminated and why?
12. What are the methods that should be adopted to improve the quality and increase the quantity of groundwater?
13. Will the seeds from tall plants always produce new tall plants? Why/ why not?
14. Prepare a cartoon on Pavlov's experiment with a suitable caption.

SECTION - IV

NOTE :

1. *Answer all the Questions.* **(3×8=24)**
2. *Each Question has internal choice.*
3. *Each Question carries 8 marks.*
15. One student wants to cross pure tall plant (TT) with pure dwarf plant(tt). What would be the F1 and F2 generations? Explain.

(Or)

Write the differences between photosynthesis and respiration.

16. **Observe the information given and answer the questions below:**

Name of the student	Heart beat at rest / min	Pulse rate at rest / min
Sarika	72	72
Basha	74	74
Ravi	76	76
Priya	75	75
Mohan	72	72

- (i) When do you think that our pulse rate go up ?
- (ii) What does the pulse rate show ?
- (iii) What is the relationship between the heart beat and the pulse rate?
- (iv) Can we say, the pulse rate is always equal to the heart beat?

(Or)

What type of information do you require to explain pyramid of biomass?

17. What is mastication ? Explain the role of different sets of teeth in this process, with the help of a neat diagram.

(Or)

Draw a neatly labelled diagram of Brain and write few points how it is protected.