

GENERAL SCIENCE, Paper-I & II
(English Version)

Time : 3 Hours, 15 Minutes

Maximum Marks : 100

Instructions :

1. This paper consists of Part-A and Part B.
2. Part-A contains questions from Physical Science and Part-B contains from Biological Science.
3. Part-A and Part-B contains 4 sections each.
4. There are 33 Questions in the paper.
5. There is an internal choice in **Section IV** of Part-A and Part-B.
6. Write all the questions visibly and legibly.
7. 15 minutes are given for reading the question paper.

PART - A (PHYSICAL SCIENCE)

SECTION I

6 × 1 = 6

- Notes :**
1. Answer **all** the questions.
 2. Each question carries **1** mark.

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1. Convert 40°C into Kelvin scale.
 2. Answer the following questions by observing the table given below.

<i>Material</i>	<i>Refractive Index</i>
Water	1.33
Ice	1.31

- A) Which is denser medium ?
 - B) In which medium light travels faster ?
3. Draw the shape of 'S' orbital.
 4. 3 Ω, 3 Ω resistances are connected in series. Calculate the resultant resistance.

19E & 20E

5. List any two metals that are found in nature as oxides.
6. **Statement 1** : Alkanes undergo Substitution reactions only
Statement 2 : Alkanes undergo Addition reactions only
Choose the correct option and write it in your answer booklet.
- A) Only statement 1 is correct
B) Only statement 2 is correct
C) Both 1, 2 statements are correct
D) Both 1,2 statements are wrong

SECTION II

4 × 2 = 8

Notes : 1. Answer **all** the questions.

2. Each question carries **2** marks.

7. Assume and write why the sky is blue.
8. Pose any two questions about Modern Periodic Table?

9.

H	He	Li	Be	B	C	N	O	F	Ne	Na
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From the above elements which two elements' valency is zero ?

10. Write the bond angles of BeCl_2 and BF_3 .

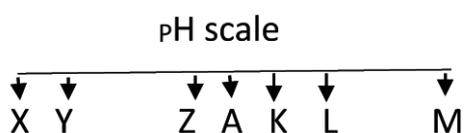
SECTION III $3 \times 4 = 12$

Notes : 1. Answer all the questions.

2. Each question carries 4 marks.

11. Draw a ray diagram for the image formed when an object is kept at $2F_2$ before a convex lens.

12.



The values from X to M is in an ascending order. Value of A is 7.

Then : 1) Which of the letters represents a strong acid ?

2) Out of K, L which is a strong base ?

3) Which of the letters represents a weak base ?

4) Which letter represents neutral ?

13. Write any four uses of carbon and its allotropes.

19E & 20E

SECTION IV

3 × 8 = 24

Notes : 1. Answer **all** the questions.

2. Each question carries **8** marks.

3. Each question has internal choice.

14. Compare and contrast between Evaporation and Condensation.

(OR)

Explain the working procedure of motor.

15. Write how N_2 molecule forms. Explain.

(OR)

For metals and ores write the examples for the following.

1) Sulphate 2) Carbonate 3) Sulphide 4) Halide

16. Explain the procedure to prove Snell's law.

(OR)

Explain experimentally, how a metal reacts with an acid ?

19E & 20E

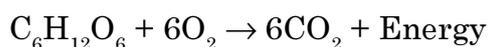
PART - B (BIOLOGICAL SCIENCE)

SECTION I

6 × 1 = 6

- Notes :** 1. Answer **all** the questions.
2. Each question carries **1** mark.
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17. What does the following equation represent ?



18. What are the valves present at the auriculo-ventricular septum ?
19. Natural resources are decreasing more rapidly. Guess the consequences of future.
20. Read the information of Kolleru lake given here under and answer the questions.

Sl.No.	Causes of reduction	Area in 1967 (km ²)	Area in 2004 (km ²)
1.	Lake with sparse weed	0	47.45
2.	Aquaculture ponds	0	99.74
3.	Rice fields	8.40	16.62
4.	Encroachments	0.31	1.37

- a) What are the reasons for decrease in lake area ?
- b) Which human activity leads to a significant decrease in lake area ?
21. How do you appreciate the role of hormones in stomach that cause hunger alarming ?
22. Draw the picture of logo for recycling.

- Notes :** 1. Answer **all** the questions.
2. Each question carries **2** marks.
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23. What are the important events that take place in chloroplast during photosynthesis ?
24. You want to know more information about harmful effects of using chemical pesticides in agriculture. What questions will you ask to an agronomist ?
25. **Observe the following table that shows the human evolution chronology and answer the questions given under the data.**

<i>Sl.No.</i>	<i>Human species</i>	<i>lived / appeared</i>
1.	Homo habilis	1.6 – 2.5 million years ago
2.	Homo erectus	1 – 1.8 million years ago
3.	Homo neanderthalensis	1,00,000 – 40,000 million years ago
4.	Homo sapiens	15,000 – 10,000 million years ago

- 1) Which human species lived before the present human species ?
 - 2) Who lived between 1 – 1.8 million years ago ?
26. What happens to the rate of photosynthesis, if CO₂ concentration is kept increased continuously ?

Notes : 1. Answer **all** the questions.

2. Each question carries **4** marks.

27. Write the differences between veins and arteries.

28. Observe the following data :

S.No.	Type of respiration	Respiratory organs	Organisms perform respiration
1.	Cutaneous respiration	Skin	Round worms, Earth worm, Frog
2.	Tracheal respiration	Tracheae	Cockroach, Grass hopper
3.	Branchial respiration	Gills	Fish
4.	Pulmonary respiration	Lungs	Reptiles, Birds, Mammals

Now answer the following questions :

1. What type of respiration occurs in crow ?
 2. What are the respiratory organs in the organisms that perform branchial respiration ?
 3. Which organisms show tracheal respiration ?
 4. What is the respiratory organ in earth worm ?
- 29.** Explain the process of sex determination in human beings.
- 30.** Draw the internal structure of kidney and label the parts.
- 31.** Plant hormones cooperate/differ with one another to attain the plant growth. How do you use this knowledge in your daily life ?

Notes : 1. Answer **all** the questions.

2. Each question carries **8** marks.

3. Each question has internal choice.

32. a) What are the different modes of asexual reproduction in plants.
Cite them with examples.

OR

b) Write the differences between the following :

(i) bolus - chyme

(ii) small intestine - large intestine.

33. a) Write the procedure to determine the presence of starch in the leaves.

OR

b) What experiment do you suggest to prove that heat is evolved during respiration ?

WEIGHTAGE TABLE FOR GENERAL SCIENCE PAPER SSC-2023

	AS-1	AS-2	AS-3	AS-4	AS-5	AS-6	TOTAL QUESTIONS	TOTAL MARKS	
SECTION - I 1 MARK QUESTIONS	PS	2	1 -	1	1	1	6	6	12
	BS	2	1 -	1	1	1	6	6	
SECTION - II 2 MARK QUESTIONS	PS	1	2 -	1 -	1 -	-	4	8	16
	BS	1	2 -	1 -	1 -	-	4	8	
SECTION - III 4 MARKS QUESTIONS	PS	-	-	-	1	1	3	12	32
	BS	2 -	-	-	1	1	5	20	
SECTION - IV 8 MARK QUESTIONS	PS	2 -	-	1 -	-	-	3	24	40
	BS	1 -	-	1 -	-	-	2	16	
							33Q		100

WEIGHTAGE TABLE FOR PHYSICS AND CHEMISTRY IN GENERAL SCIENCE PAPER SSC-2023

	AS-1	AS-2	AS-3	AS-4	AS-5	AS-6	TOTAL QUESTIONS	TOTAL MARKS	
SECTION - I 1 MARK QUESTIONS	PHYSICS	2	0	0	1	0	3	3	6
	CHEMISTRY	0	1	0	0	1	3	3	
SECTION - II 2 MARK QUESTIONS	PHYSICS	0	1	0	0	0	1	2	8
	CHEMISTRY	1	1	-	1	-	3	6	
SECTION - III 4 MARKS QUESTIONS	PHYSICS	-	-	-	-	1	1	4	12
	CHEMISTRY	-	-	-	1	-	2	8	
SECTION - IV 8 MARK QUESTIONS	PHYSICS	1	-	1	-	-	2	16	24
	CHEMISTRY	1	-	-	-	-	1	8	
	5 (20)	3 (5)	1 (8)	3 (7)	2 (5)	2 (5)	16 Q	50	50

WEIGHTAGE TABLE FOR BIOLOGY IN GENERAL SCIENCE PAPER SSC-2023

Academic Standards Section / Marks	AS I	AS II	AS III	AS IV	AS V	AS VI	No. of Qns.	Marks
	Section I (1 Mark)	2	1		1	1		
Section II (2 Marks)	1	2		1			4	8
Section III (4 Marks)	2			1	1	1	5	20
Section IV (8 Marks)	1		1				2	16
Total Marks & %	20 (40%)	05 (10%)	08 (16%)	07 (14%)	05 (10%)	05 (10%)	17	50