GENERAL SCIENCE , Paper – I

(Physical Sciences)

(English Version)

Time: 2 Hours 45 Min.	Parts A and B	Maximum Marks : 40

Instructions :

1. The Question paper contains Part-A and also Part-B.
2. 15 Min. is allotted for reading the question paper.
3. Answer the questions under Part-A on a separate answer booklet.
4. Write the answers to the questions under Part-B on the question paper itself and attach it to the answer booklet of Part-A.
5. Answer all the questions.

PART-A	**Max. Marks : 30**
Section - I	**4 x 1 = 4 Marks**

Note :

1. Answer all the questions.
2. Each question carries One mark.

1. Convert $27^{o}C$ in to Kelvin Scale ?

2. Distinguish between speed and velocity.

3. Make a list of required material for the activity to separate the mixture of Sodium chloride and Ammonium chloride ?

4. Rope walkers can hold a long pole in their hands. Why ?

Section - II	**5 x 2 = 10 Marks**

Note :

1. Answer all the questions.
2. Each question carries Two marks.

5. How the following components effect the rate of evaporation ?

(i) Surface area   (ii) Wind speed

6. Read the following conversation.

Sri lakshmi   : Milk is a mixture

Vara Lakshmi   : Milk is a colloid

Swarna Latha   : Milk is an emulsion

What do you say ? Whom do you support ? Support your answer ?

7. Where does the centre of gravity of the atmosphere of the earth lie ?

8. Observe the following table contains the distance travelled by a body in a linear path with respect to time.

Sl. No	Time (in seconds)	Distance travelled (in meters)
1	0	0
2	2	8
3	4	16
4	6	24
5	8	32

Answer the following questions.

(i) What do you say about the motion of the body ?

(ii) Find the average speed of the body ?

(iii) How much distance it can travel in 12 seconds ?

(iv) Find the acceleration.

9. How do you appreciate the sweating mechanism of human body to control the temperature ?

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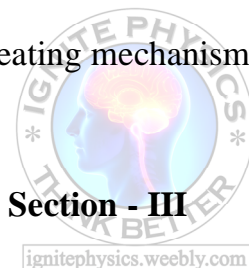
Section - III   4 x 4 = 16 Marks
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Note :

    1. Answer all the questions.

    2. Each question carries Four marks.

    3. Internal choice is given in questions.

10. A car moves with constant speed of 10 m/s in a circular path of radium 10 m. The mass of the car is 1000 Kg.

    (i) Where does the centripetal force supplied to the car ?

    (ii) Find the amount of centripetal force ?

<center>(OR)</center>

Is there any chance to have the centre of gravity lies out side of the body for any object ? Explain with four examples.

11. Criss cross Method.

Valencies   : X^2 Y^3

Interchanging the valencies   : X_3 Y_2

Formula of the molecule   : X_2Y_3
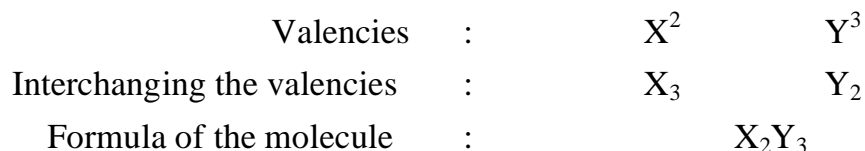
Complete the following table.

Cation \ Anion	Cl^{-1}	CO_3^{-2}	PO_4^{-3}
Na^+			
Mg^{+2}			$Mg_3(PO_4)_2$
Al^{+3}			

(OR)

Complete the following table.

Name	Symbol	Atomic number (Z)	Mass Number (A)	Number of neutrons (N)	Number of electrons (e)
Oxygen	$^{16}O_8$	8	16	8	8
	$^{32}S_{16}$				
Beryllium			9		4
		12			
		9	19	10	

12. How can you prove that the action and reaction forces act on two different bodies ? Explain an activity.

(OR)

You were given a card board having irregular shape. Which procedure do you follow to find the centre of gravity of that card board ? Write it.

13. Draw a neat diagram that represent the experimental set up of "Law of conservation of Mass". Label the parts.

(OR)

Draw a neat diagram that shows the different energy levels present in an atom, according to Bohr ?

GENERAL SCIENCE , Paper – I

(Physical Sciences)

(English Version)

Time: 2 Hours 45 Min.	Parts A and B	Maximum Marks : 40
	PART-B	Maximum Marks : 10

This Question paper contains 4 printed pages.

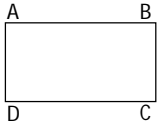**Instructions :**

1. Answer all the questions.
2. Each question carries ½ Mark.
3. Marks will not be awarded in case of any overwriting and rewriting or erased answers.
4. Write the answers to the questions under Part-B on the question paper itself and attach it to the answer booklet of Part-A.
5. Write the 'CAPITAL LETER' showing the correct answer for the following questions in the brackets provided against them.

Section - IV   **20 x ½ = 10** Marks

14.   P : O_2 is the formula for Oxygen molecue

Q : O is the symbol for Oxygen atom.

Choose the correct answer :   [   ]

(A)   P- True and Q-True   (B)   P-True and Q-False

(C)   P-False and Q-True   (D)   P-False and Q-False

15.   Match the following:

Set-I   Set-II

(i) Sodium carbonate   (a) $NaHCO_3$

(ii) Sodium hydroxide   (b) Na_2CO_3

(iii) Sodium bi carbonate   (c) NaOH

Choose the correct answer :   [   ]

(A)   (i)-a, (ii)-b, (iii)-c   (B)   (i)-a, (ii)-c, (iii)-b

(C)   (i)-c, (ii)-b, (iii)-a   (D)   (i)-b, (ii)-c, (iii)-a

16.   Plumbum is the Latin name of ………………   [   ]

(A)   Sodium   (B)   Lead

(C)   Potassium   (D)   Gold

17.   Avagadro number   [   ]

(A) 6.023×10^{23} (B) 6.022×10^{23}

(C) 6.023×10^{22} (D) 6.022×10^{22}

18.   Plum pudding atomic model was stated by ……………   [   ]

(A)   J.J.Thomson   (B)   Ruther ford

(C)   John Dalton   (D)   Neils Bohr

19. Particles :
    (i) Electron (ii) Proton   (iii) Neutron
    Which are present in the nucleus of an atom ?   [   ]
    (A)   (i) Only   (B)   (i) and (iii) only
    (C)   (ii) and (iii) only   (D)   (i), (ii) and (iii)

20. The maximum number of electrons that can be occupied in M-shell
    (The number of M-shell is n=3)   [   ]
    (A)   8   (B)   10
    (C)   18   (D)   32

21. Identify the correct pair of Isotopes.   [   ]
    (A) $_6C^{12}$, $_6C^{13}$ (B) $_{18}Ar^{40}$, $_{20}Ca^{40}$
    (C) $_6C^{14}$, $_7N^{14}$ (D) $_{16}S^{32}$, $_{15}P^{30}$

22. A vehicles travelled along a rectangular path.
    Measurements of path 10 m length and 5 m breadth.
    It started from A and reached to D via B and C.
    Find the displacement.   [   ]
    (A)   10 m   (B)   15 m
    (C)   20 m   (D)   5 m

23. The relation between Initial velocity, Final velocity, Acceleration and
    Time is represented with …………………….   [   ]
    (A) $V = U + at$ (B) $S = Ut + \frac{1}{2} at^2$
    (C) $V^2 – U^2 = 2as$ (D) $S_n^{th} = U + a (n - \frac{1}{2})$

24. Mass of a ball is 10 Kg. Acceleration due to gravity is $g = 10$ m/s^2.
    Find the weight of the ball .   [   ]
    (A)   10 N   (B)   100 N
    (C)   10 Kg   (D)   100 Kg

25. The value of Universal gravitation constant.   [   ]
    (A)   6.61 x 10^{-11} Nm^2/Kg^2 (B)   6.67 x 10^{-11} Nm^2/Kg^2
    (C)   6.76 x 10^{-11} Nm^2/Kg^2 (D)   6.67 x 10^{11} Nm^2/Kg^2

26. P : Force of attraction of Earth on Moon
    Q : Force of attraction of Moon on Earth   [   ]
    (A)   P = Q   (B)   P > Q
    (C)   P < Q   (D)   Can't say

27. Initial velocity of a free fall body   [   ]
    (A)   0 m/s
    (B)   1 m/s
    (C)   2 m/s
    (D)   0.5 m/s

28. Two identical objects having 1 Kg of mass each are separated
at 1 m distance. Find the force acts between them.   [   ]
(A) $6.67 \times 10^{-10} \, Nm^2/Kg^2$ (B) $6.67 \times 10^{-11} \, Nm^2/Kg^2$
(C) $6.67 \times 10^{-12} \, Nm^2/Kg^2$ (D) $6.67 \times 10^{11} \, Nm^2/Kg^2$

29. Identify the true statement.   [   ]
(A)   Newton's Universal law of gravitation is applicable
       For two bodies having small mass
(B)   Newton's Universal law of gravitation is applicable
       For two bodies on earth only
(C)   Newton's Universal law of gravitation is applicable
       For two bodies having heavy mass
(D)   Newton's Universal law of gravitation is applicable
       For any two bodies at any place in universe

30. Ram Venkat took 10 ml spirit in two watch glasses.
He kept one in sun light and the other in room.
What was his observation ?   [   ]
(A)   Rate of evaporation increases with increase of temperature
(B)   Rate of evaporation decreases with increase of temperature
(C)   Rate of evaporation doesn't change with increase of temperature
(D)   Rate of evaporation not depend upon temperature

31. Two wooden blocks having masses 10 Kg and 5 Kg were kept on a table.
Antony applied same force on two blocks at a same time.
Identify the correct statement.   [   ]
(A)   The block having 5 Kg mass moves more distance
(B)   The block having 10 Kg mass moves more distance
(C)   Two blocks moved to same distance
(D)   We can't say

32. The situation in which we use filtration method in our daily life.   [   ]
(A)   Separating salt from salt water
(B)   Separating the mixture of stones and rice
(C)   Separating the Bondas from the pan having oil and Bondas
(D)   Separating the mixture of Murmuras and husk

33. The Hero (70 Kg) kicked the Villain (80 Kg)with hand forcely.
The speed of villain was 2 m/s. The initial speed of a truck was 0 m/s.
The Villain dashed to a truck of 500 Kg. The truck moved about 100 m.
Do you think this can happen in any way ?
(As per law of conservation of Momentum)   [   ]
(A)   Possible   (B)   Impossible
(C)   Can't say   (D)   None of these