This Question Paper contains 4 Printed Pages.

1079 **19E (A)**

SUMMATIVE ASSESSMENT – I (2018-19)

GENERAL SCIENCE, Paper-I

(Physical Sciences)

(English Version)

Parts A and B

Time : 2 Hours 45 Minutes] **[Maximum Marks : 40**

Instructions :

1. *Question paper contains 2 parts (Parts A & B).*
2. *Part A & B should be given at the beginning of the exam only.*
3. *15 minutes are alloted for reading the question paper (Parts A & B) in addition to 2:30 hours for writing the answers.*
4. *Part-A answers should be written in a separate answer book. Write the answers to the questions under Part-B on the question paper itself.*
5. *There are three sections in Part-A.*
6. *Answer all the questions.*
7. *Every answer should be visible and legible.*
8. *There are internal choice in Section-III.*

PART – A

Time : 2 Hours **Maximum : 30 Marks**

SECTION-I

4×1=4

NOTE : (i) Answer **all** the questions.

(ii) Each question carries **ONE** mark.

1. Balance the following chemical equation :

$$C_3H_8 + O_2 \longrightarrow CO_2 + H_2O$$

2. What do you infer from the experiment with concave mirrors on measuring distances of object and images ?

3. Prepare a question on n/^{N} method.

4. What is the role of cilliary muscles in the eye ? Write the answer in one or two sentences only.

SECTION-II

5×2=10

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

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

5. Observe the following table regarding the values of specific heat of substances and answer the following questions :

Substance	Copper	Iron	Aluminium	Water
Specific heat (cal/g–°C)	0.095	0.115	0.21	1

(i) Which material is suitable as the base of the cooking vessel ?

(ii) Why do we prefer water as a coolant ?

6. What is the use of keeping food in air tight containers ?

7. Write the lens makers formula and explain the terms in it.

8. When a light rays enters a medium with refractive index n_2 from a medium with refractive index n_1 at curved interface with radius of curvature R is given by

$$\frac{n_2}{V} - \frac{n_1}{U} = \frac{n_2 - n_1}{R}$$

Now assume that the surface is plane and rewrite the formula with suitable changes.

9. Explain Hund's rule with an example.

SECTION-III 4×4=16

NOTE : 1. Answer **all** but internal choice of each question.

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

10. Write the differences between evaporation and boiling.

OR

Explain the construction and working of a solar cooker.

11. Prepare a table based on the colour responses of acid, base and salt with indicators such as red litmus paper, blue litmus paper, methyl orange and phenolphthalein indicators.

OR

Complete the following table based on quantum numbers related to atomic orbitals and electron of an atom.

Quantum number	Denoted by	Related to	Range of values
Principal quantum number		Size and energy of atomic orbital	
	l		0 to n – 1
Magnetic quantum number			– l to l
	m_s	behaviour of electron	

12. Write an experiment showing the reaction of acids with metals.

OR

Write an experiment to obtain the relation between angle of incidence and angle of refraction.

P.T.O.

13. Draw a neat diagram showing the electrolytic decomposition reaction of water. Write the balanced chemical equation of the above reaction.

OR

A boy has been playing games in mobile phone and is suffering from eye defect. The doctor prescribed him to use spectacles of power – 5D. What eye defect is he suffering from ?

Draw a neat diagram which shows the correction of above eye defect.

This Question Paper contains 4 Printed Pages.

1080 **19E (B)**

SUMMATIVE ASSESSMENT – I (2018-19)

GENERAL SCIENCE, Paper-I

(Physical Sciences)

(English Version)

Parts – A & B

PART – B

Time : **30** Minutes Maximum : **10** Marks

Name of the Student : _____ **Roll No.** _____

Academic Standards	A.S. 1	A.S. 2	A.S. 3	A.S. 4	A.S. 5	A.S. 6	Total
Question Numbers	1, 7, 9, 10 14-27	3, 8 28-29	2, 12 30-31	5, 11 –	13 –	4, 6 32-33	33
Marks Allotted	16	4	6	6	4	4	40
Marks Obtained							
Grade							

NOTE : (i) Answer **all** the following questions. Attach Part-B with answer sheet of Part-A.

(ii) Each question carries ½ mark.

(iii) Marks will not be awarded in any case of over-writing, rewritten or erased answers.

(iv) Write the capital letter (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them.

14. Three bodies A, B and C are in thermal equilibrium. The temperature of A is 27 °C, then the temperature of B is [ ]

(A) 27 K (B) 300 K

(C) 246 K (D) 0 K

15. $2PbO + C \longrightarrow 2Pb + CO_2$ is an example of [ ]

(A) Oxidation reaction (B) Reduction reaction

(C) Redox reaction (D) Corrosion reaction

16. Avogadro's number among the following is [ ]

(A) 6.02×10^{23} (B) 6.02×10^{32}

(C) 6.02×10^{33} (D) 6.02×10^{22}

17. Which of the following mirror is used as rear view mirror ? [ ]

(A) Concave

(B) Convex

(C) Plane

(D) Combination of concave and convex

18. Magnification of a convex mirror is [ ]

(A) = 1 (B) < 1

(C) > 1 (D) All of the above

19. Match the following salts in Set A with corresponding formula in Set B. [ ]

	Set A		Set B
P.	Gypsum	X.	$CaSO_4.2H_2O$
Q.	Baking soda	Y.	$CaOCl_2$
R.	Bleaching powder	Z.	$NaHCO_3$

(A) P-X, Q-Y, R-Z (B) P-Z, Q-X, R-Y

(C) P-Y, Q-Z, R-X (D) P-X, Q-Z, R-Y

20. At critical angle of incidence, the angle of refraction is [ ]

(A) 0° (B) 90°

(C) 48.5° (D) 42°

21. The refractive index of water is $\frac{4}{3}$. Then the speed of light in water is [ ]

(A) $4 \times 10^8\ ms^{-1}$ (B) $\frac{4}{9} \times 10^8\ ms^{-1}$

(C) 0 (D) $\frac{9}{4} \times 10^8\ ms^{-1}$

22. When a convex lens $\left(n = \frac{3}{2}\right)$ is immersed in water, its focal length [ ]

(A) increases (B) decreases

(C) no change (D) (A) and (B)

23. Plano convex lens among the following is [ ]

(A)  (B) 

(C)  (D) 

24. The splitting of white light into colours is called [ ]

(A) Scattering (B) Refraction

(C) Dispersion (D) Total internal reflection

5. The refractive index of the prism is given by [ ]

(A) $\frac{\sin\left(\frac{A+D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$ (B) $\frac{\sin\left(\frac{A+D}{2}\right)}{\sin\left(\frac{D}{2}\right)}$

(C) $\frac{\frac{\sin(A+D)}{2}}{\frac{\sin A}{2}}$ (D) $\frac{\frac{\sin(A+D)}{2}}{\sin\left(\frac{D}{2}\right)}$

5. X : Atomic line spectra arise because of absorption / emission of certain frequencies of light energy. [ ]

Y : The lines in atomic spectra can be used to identify unknown atoms.

(A) both X, Y are correct. (B) both X, Y are wrong.

(C) X correct, Y wrong. (D) X wrong, Y correct.

27. Which rule is violated in the electronic configuration $1s^0\ 2s^2\ 2p^4$? [ ]

(A) Aufbau (B) Hund

(C) Pauli (D) Bohr

28. **Assertion (A)** : Ice floats on water. [ ]

Reason (R) : Density of water is less than that of ice.

(A) Both (A), (R) are correct, Assertion supports Reason.

(B) Both (A), (R) are correct, Assertion does not support Reason.

(C) (A) is correct, (R) is wrong.

(D) (A) is wrong, (R) is correct.

29. **Assertion (A)** : Heat is released on reaction of water with CaO. [ ]

Reason (R) : It is an exothermic reaction.

(A) Both (A), (R) are correct, Assertion supports Reason.

(B) Both (A), (R) are correct, Assertion does not support Reason.

(C) (A) is correct, (R) is wrong.

(D) (A) is wrong, (R) is correct.

30. Which of the following precaution is to be taken for dilution of concentrated acids ? [ ]

(A) Add water to acid (B) Add acid to water

(C) Both (A) and (B) are correct (D) Add acid to base

31. To establish a relation between U, V and f of a lens in an experiment, the apparatus required among the following is [ ]

(A) 'V' stand (B) Candle

(C) Screen (D) All the above

32. An object is placed at a distance of 40 cm infront of a convex lens of focal length 20 cm. The image is formed at a distance of [ ]

(A) 40 cm (B) 20 cm

(C) ∞ (D) $\frac{40}{3}$ cm

33. The wavelength of a radio wave is 1 m. It's frequency is [ ]

(A) 3×10^8 Hz (B) $\frac{1}{3 \times 10^8}$ Hz

(C) 1 Hz (D) 0 Hz