DAILY EXAM GENERAL SCIENCE - 1 KEY 15-04-2020

SECTION - I

¹/₂ mark questions.

 $20 \times \frac{1}{2} = 10$

- 1. $\mu_1 \sin i_1 = \mu_2 \sin i_2$ (or) $\mu_1 \sin i = \mu_2 \sin r$
- 2. Critical angle of diamond C = 24.6 or C = 24
- 3. a
- 4. c
- 5. $\frac{1}{f} = (\mu 1) \left(\frac{1}{R_1} \frac{1}{R_2} \right)$
- 6. A, C
- 7. $P \rightarrow c$

$$q \rightarrow b$$

- 8. d
- 9. a
- 10. A
- 11. 7 and 18
- 12. 81
- 13. $I^- > I > I^+$
- 14. Ea_2O_3
- 15. 14 (IVA) and 4
- 16. I and II are correct (option -1)
- 17. Noble gases (or) Inert gases
- 18. Silicon (Si), Germanium (Ge)
- 19. 58 to 71
- 20. Option -(D) { 1-P, 2-Q, 3-S, 4-T }

SECTION - II

1 mark questions.

 $15 \times 1 = 15$

21.
$$\mu = \sqrt{2}$$
,

$$\mu = \frac{1}{\sin c}$$

$$\sqrt{2} = \frac{1}{\sin c} \Rightarrow \sin c = \frac{1}{\sqrt{2}}$$

$$\therefore C = 45^{\circ}$$

- 22. A medium in which speed of light is less called optically denses medium.
- 23. When light travels perpendicular to surface it will not under go any refraction. So angle incidence equal angle of refraction.
- 24. ACC to Snell law

$$n_1 \sin i_1 = n_2 \sin i_2$$

$$1.5 \times \sin i_1 = 1 \times \sin 60^\circ$$

$$1.5 \times \sin i_1 = \frac{\sqrt{3}}{2} \Longrightarrow$$

$$\sqrt{3} \frac{-2 \times 1.5}{-2} \sin i_1 = \frac{1}{\sqrt{3}}$$

$$i_1 = \sin^{-1}\left(\frac{1}{\sqrt{3}}\right)$$

25. Given that

$$f = 25cm$$

$$\mu = 1.5 \qquad \frac{1}{f} = \frac{1}{v} - \frac{1}{u}$$

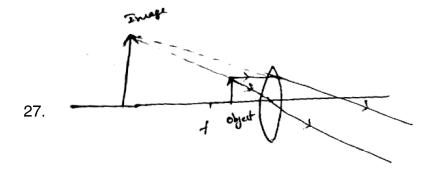
$$u = 12.5 cm$$
 $\frac{1}{25} = \frac{1}{v} + \frac{1}{12.5}$

$$V = ?$$
 $\frac{1}{V} = \frac{1}{25} - \frac{1}{12.5}$

image vertical same side of object = $\frac{1-2}{25} = \frac{-1}{25}$

$$V = -25 cm$$

- 26. Uses in
 - (i) Magnifying glasses
 - (ii) Eye glasses



- 28. Atomic size increases down the group due to increase in number of shells (or)
 - Atomic size increases down the group due to Screening effect
- 29. The properties of the elements are periodic function of their atomic numbers is known as modern periodic law
- 30. More the shells with electron between nucleus and the valence shell, they act as screen and decrease nuclear attraction over valence electron. This is called screening effect (or) shielding effect.
- 31. The Electron affinity or Electron gain enthalpy of an element is defined as the energy liberated, when an electron is added to its neutral gaseous atom.
- 32. Between $Be(1s^22s^2)$ and $B(1s^22s^22P^1)$, the element B has less ionization energy due to less penetration power of '2p' compared to '2s'

(or)

Beryllium has stable electronic configuration $(1s^22s^2)$. So it requires more energy to remove valence electron. Where as boron has partially filled '2p' orbital. Hence it requires less energy to remove valence electron from it.

- 33. Lanthanoids and actinoids actually belong to 3rd group (III B) which is with in the transition elements. Hence they are called the inner transition elements.
- 34. Cl > F > Br > I
- 35. Electronegativity = $\frac{\text{ionization energy} + \text{electron affinitty}}{2}$

ENGLISH - 2 KEY

- I. 2, 3, 1, 5, 4
- II. a. Dissatisfaction b.argument.
- c. share
- d. vital

- III. 1.d 2.c 3.a 4.b
- IV. a.ensuring b. engage c. peaceful d. allowing
- V. a.ea b.ee
- VI. a) ence b) tent
- VII. 1. hemisphere
 - 2. diversity
- VIII. a) adjective
 - b) disloyal
- IX. **Persons** Nature of study
 Anthropologist human race

Psychiatrist mental illness
Linguist Language
ornithologist birds

- X. 1.Her voice trailed off.
 - 2.If you win or lose, let it be on purpose.
 - 3.you are a bonafide member of the team.
 - 4.she has thrown herself heart and soul into her studies.
- XI. C,D,E,A