

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

## SECTION - I

**1/2 mark questions.**

**20 x 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 (IV A) 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 x 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 denser medium.
23. When light travels perpendicular to surface it will not undergo any refraction. So angle of incidence equals angle of refraction.
24. ACC to Snell law

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

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

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

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

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

25. Given that

$$f = 25 \text{ cm}$$

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

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

$$v = ? \quad \frac{1}{v} = \frac{1}{25} - \frac{1}{12.5}$$

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

$$v = -25 \text{ cm}$$

26. Uses in

- (i) Magnifying glasses
- (ii) Eye glasses

27.



