PHYSICAL SCIENCE (EM)

EVALIATION KEY INDICATOR

X – Class

PART -A

1. Parallel rays incident on a concave mirror will converge at a point after reflection. Hence concave mirror is considered as a convergent (1M)

2. The electron configuration of Nitrogen atom written by Ramu is wrong the correct one is

   (1M)

3. To prevent damage due to over loading of electric current, we connect an electric fuse of low melting point in series with the mains. (1M)

4. The bong angle in beryllium chloride molecule is 180^0. (1M)

5.   - DISPERSION – (1M)

   VIOLET,INDIGO,BLUE,GREEN,YELLOW,ORANGE,RED (1M) (VIBGYUR)

6. 1. Exothermic   2. Exothermic

   3. Endothermic   4. Exothermic

7. When light enters from denser (water) to rarer air medium the rays refract away from The normal (1M)

   Hence the thicker the medium thicker will be the lemon (1M)

8. The sizes the atom decreases from left to right in a period (1M)

   Reason: Increase in nuclear charge Electrostatic force of attraction increases.

   Any one point (1M)

9. Object distance U = -50 cm

   Lens   =   Convex

   Focal length f   = 20 cm

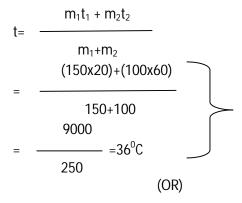   Position of Image V = ?

   Nature of Image = ?

   Let flows from body to thermometer till clinical thermometer 102^0F

   ii)   cold body   hot body

              $m_1 = 150g$ $m_2 = 100g$

              $t_1 = 20^0C$ $t_2 = 60^0C$

              Find temperature t = ?

$$t = \frac{m_1 t_1 + m_2 t_2}{m_1 + m_2}$$

$$= \frac{(150 \times 20) + (100 \times 60)}{150 + 100}$$

$$= \frac{9000}{250} = 36^0 C$$

(OR)

10.

Concave lens	Convex lens
1. Thin at the center Bulged at the edges 2. diunimshed image 3. In air, it is a divergent lens 4. In air if form virtual images only	1. Bulged at center, Thin at the edges 2. Manfred image 3. In air, it is a convergent lens. 4. In air, If forms all types of real and virtual images

Any other related points will be given marks.

Formula $1/f = 1/v - 1/u$ ⎫

   $1/v = 1/f = 1/u$ ⎬   ½ m

   $1/v = 1/20 - 1/50$ ⎫

   $1/v = 5-2 / 100$ ⎬

   $V = 100/3$ cm ⎭   1m

The image is inverted, real formed at distance of 100/3 cm. from the lens.

10.   i. A) When two bodies are placed in thermal contact, heat energy will be forms ferried from hotter to colder body   1/2M

   B) This former of heat energy continues till both bodies attain same temperature. 1/2M

   c) Here clinical thermometer is in thermal contest with the patient 1/2M

11.   i) Boron   B) Undergoes an excited electron configuration of

   $1S^2 \ 2S^1 \ 2P^1_x 2P^1_y$

   ii. Here 2S, $2P_x$, $2P_y$ orbital intermix and redus tribute into there identical orbital's called SP^2 hybrid orbital's.
   iii.   The central atom, each SP^2 orbital gets one electron.
   iv. Now Three fluorine atoms overlap their $2P_2$ orbital's with their SP^2 orbital's of Boron to from BF_3 molecule.

(OR)

11.   i. A,B

       ii. B,C,D

       iii. Chlorine (Cl)

       iv. E

12.   Materials   - 1M

       Procedure   - 2M

       Formula & Conclusion - 1M

                            (OR)

       Materials   - 1M

       Circuit   - 1M

       Procedure   - 1M

       Ohm's law   - 1M

13.   Four sigma covalent bonds are present in methane molecule. 1M

(OR)

Shape of S- Orbital is "Spherical" Shape of P- orbital is "dumb bell"

PART – B

14. C	19. A	24. A	29. C
15. B	20. D	25. A	30. B
16. A	21. A	26. B	31. C
17. A	22. C	27. C	32. D
18. C	23. B	28. B	33. B