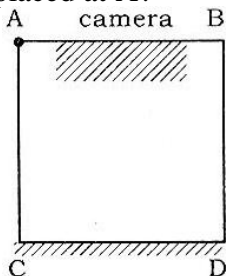


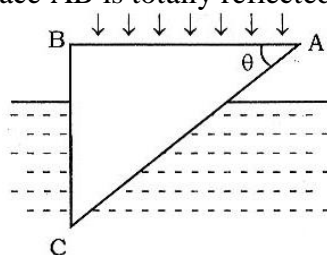
Sample Paper (For XIth Medical Entrance)

Physics :

1. A cubical room ABCD has a mirrored planar wall CD. Each side of the room is 3 m. We place a camera at the mid-point of the wall AB. At what distances should the camera be focused to photograph an object placed at A?



- (a) 1.5 m (b) 3 m
 (c) 6 m (d) More than 6 m
2. In which of the following cases do we get very strong reflected rays and very weak refracted rays?
 (a) Light passing from air to glass (b) Light passing from water to glass
 (c) Light passing from glass to diamond (d) Light passing from water to air
3. A glass prism of $n = 1.5$ is immersed in water of $n = \frac{4}{3}$ as shown in this figure. A ray of light incident normally on face AB is totally reflected at the face AC if $\sin \theta$ is:



- (a) less than or equal to $\frac{2}{3}$ (b) greater than $\frac{8}{9}$
 (c) 0.8666 (d) between $\frac{2}{4}$ & $\frac{8}{9}$
4. An uncharged conductor A connected with the earth is brought in contact with another charged conductor B. Thereby:
 (a) the charge will remain the same but potential decreases
 (b) the charge will remain the same but potential increases
 (c) the charge and potential of B will remain unchanged
 (d) the charge and potential of B will change
5. Two bulbs of wattage of 40 W and 100 W are connected in series to a 200 V line. Then:
 (a) the potential drop across both the bulbs is 200 V
 (b) the potential drop across both the bulbs is same but not 200 V
 (c) the potential drop across 100 watt bulb is more
 (d) the potential drop across 40 watt bulb is more
6. Fusion reaction takes place at a high temperature because:
 (a) atoms are ionised at high temperatures
 (b) molecules break up at high temperatures
 (c) nuclei break up at high temperatures
 (d) kinetic energy is high enough to overcome the repulsion between the nuclei

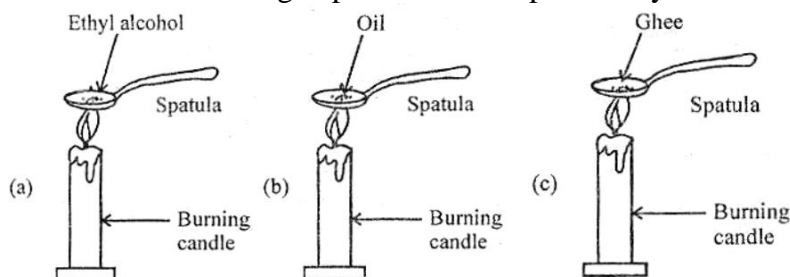
Chemistry :

1. Consider the oxides of the third period:

Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	P ₂ O ₃ , P ₂ O ₅	SO ₂ SO ₃	Cl ₂ O ₇
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Which of the following will behave as strongest acid when dissolved in water?

- (a) Cl₂O₇ (b) SO₃
(c) SiO₂ (d) P₂O₃
2. According to IUPAC system, the correct name of the organic compound
- $$\begin{array}{c} \text{Br} \qquad \qquad \text{O} \\ | \qquad \qquad \parallel \\ \text{CH}_3 - \text{CH} - \text{CH}_2 - \text{C} - \text{OH} \end{array}$$
- (a) 2-Bromobutanoic acid (b) 2-Bromobutyric acid
(c) 3-Bromobutanoic acid (d) 3-Bromo-2-hydroxybutan-2-one
3. In a chemical reaction, A combines with B to form AB with C to form A₂C. What would be obtained if B and C combine together?
- (a) B₂C (b) BC
(c) BC₂ (d) B₃C
4. Observe the following experimental setup carefully.



Which set up will produce smoke?

- (a) Set up (a) (b) Set up (b)
(c) Set up (c) (d) All the set up (a), (b) & (c)
5. Which one observations is correct according to effect of acids and bases on some indicators.

	Test sample	Red litmus	Blue litmus	Phenol-phthalein	Methyl orange
I	Dil. HCl	No effect	Turn red	No effect	Turn red
II	Dil H ₂ SO ₄	Turn blue	No effect	Turn pink	Turn red
III	Ca(OH) ₂	No effect	Turn red	Turn pink	Turn red
IV	Mg(OH) ₂	Turn blue	Turn red	No effect	No effect

- (a) I observation is correct (b) II observation is correct
(c) III observation is correct (d) IV observation is correct.
6. Metals are refined by using different methods. Which of the following metals are refined by electrolytic refining?
- (i) Au (ii) Cu (iii) Na (iv) K
(a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iii) (d) (iii) and (iv)

Biology :

1. The digestive glands of mammalian digestive system are
 - (a) salivary glands, liver, pancreas, gastric glands intestinal glands
 - (b) salivary glands, hepatopancreas, gastric and intestinal glands
 - (c) salivary glands, mesenteric cells, gastric gland intestinal glands
 - (d) zymogen cells, liver, pancreas, gastric glands
2. Root pressure is maximum when
 - (a) transpiration is high and absorption is very low
 - (b) transpiration is very low and absorption is high
 - (c) transpiration is very high and absorption is also high
 - (d) transpiration and absorption both are low
3. Which of the following physiological effect is caused in plants by gibberellic acid?
 - (a) Shortening of genetically tall plants
 - (b) Elongation of genetically dwarf plants
 - (c) Rooting in stem cutting
 - (d) Yellowing of young leaves
4. If pollen of a flower falls on the stigma of another flower belonging to the same plant is called
 - (a) cleistogamy
 - (b) xenogamy
 - (c) geitonogamy
 - (d) autogamy
5. New characters seen in the offspring which are not present in either of the parents is due to
 - (a) same genetic material of the parents in the offspring
 - (b) vegetative reproduction
 - (c) recombination of chromosomes
 - (d) plant cuttings of a branch
6. The 1 : 2 : 1 ratio with pink flower in the F₂ generation indicate the phenomenon of
 - (a) dominance
 - (b) codominance
 - (c) incomplete codominance
 - (d) segregation

Answers Key

Physics

1	2	3	4	5	6
(d)	(d)	(b)	(d)	(d)	(d)

Chemistry

1	2	3	4	5	6
(a)	(c)	(a)	(b)	(a)	(a)

Biology

1	2	3	4	5	6
(a)	(b)	(b)	(c)	(c)	(c)