

NEW STANDARD ACADEMY

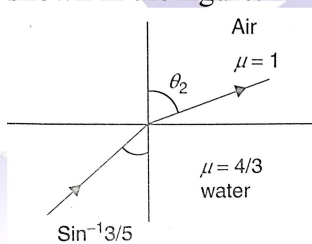
Date : 02-09-24

CLASS : 12TH NEET

Marks: 60
Time: 3 HRS

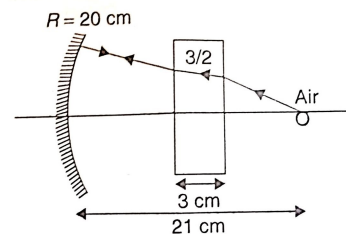
PHYSICS

- A plane mirror makes an angle of 30° with horizontal. If a vertical ray strikes the mirror, the angle between the mirror and the reflected ray is
(a) 30° (b) 45°
(c) 60° (d) 90°
- A small plane mirror is placed at the centre of a spherical screen of radius R . A beam of light is falling on the mirror. If the mirror makes n revolutions per second, The speed of light on the screen after reflection from the mirror will be
(a) $4\pi nR$ (b) $2\pi nR$
(c) $\frac{nR}{2\pi}$ (d) $\frac{nR}{4\pi}$
- A convergent beam of light is incident on a convex mirror so as to converge to a distance 12 cm from the - pole of the mirror. An inverted image of the same size is formed coincident with the virtual object. What is the focal length of the mirror?
(a) 24 cm (b) 12 cm
(c) 6 cm (d) 3 cm
- Find the angle θ_2 made by the light ray when it gets refracted from water to air, shown in the figure.



- In case of image formation by plane mirrors,
(i) object can be real and image virtual
(ii) object can be virtual and image real
(iii) both object and image can be real
(iv) both object and image can be virtual
Choose the correct option.
(1)(i) and (ii)

- (2) (ii) and (iii)
(3)(iii) and (iv)
(4) (i) and (iv)
- The focal length of a concave mirror is f and the distance of the object from the focus is n (away from the mirror). The magnification produced by the mirror is
(1) f/u (2) uf
(3) u/f (4) f^2/u .
- In the figure shown, Find the distance of final image formed by mirror.



- An object is placed at a distance of 20 cm from the pole of a concave mirror whose focal length is 20 cm. Then image is formed at
(1) 20 cm from the pole of the mirror
(2) 40 cm from the pole of the mirror
(3) at the pole of the mirror
(4) at infinity
- Find the maximum angle that can be made in glass medium ($\mu = 1.5$) if a light ray is refracted from glass to vacuum.
- At what distance from a concave mirror of focal length 10 cm must an object be placed in order that an image double to its size may be obtained?
(1) 5 cm only
(2) 15 cm only
(3) either 5 cm or 15 cm
(4) at 10 cm
- Two vertical plane mirrors are inclined at an angle of 60° with each other. A ray of light travelling horizontally is reflected first from one mirror and then from the other. The resultant deviation is
(a) 60° (b) 120°

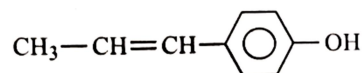
- (c) 180° (d) 240°
12. A light bulb is placed between two plane mirrors inclined at an angle of 60° . The number of images formed are
- (a) 6
(b) 2
(c) 5
(d) 4
13. A plane mirror produces a magnification of
- (a) -1 (b) +1
(c) Zero (d) Between 0 and $+\infty$
14. A watch shows time as 3:25. When seen through a mirror, time appeared will be
- (a) 8:35
(b) 9:35
(c) 7:35
(d) 8:25
15. An object is at a distance of 0.5 m in front of a plane mirror. Distance between the object and image is
- (a) 0.5 m (b) 1 m
(c) 0.25 m (d) 1.5 m

CHEMISTRY

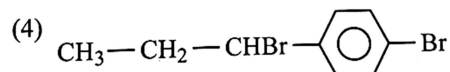
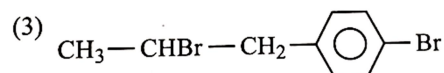
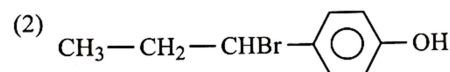
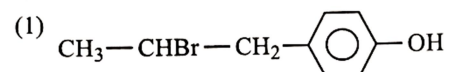
1. A vicinal dihalide is not formed in the reaction
- (1) $\text{HOCH}_2\text{-CH}_2\text{OH} \xrightarrow{\text{PBr}_3}$
 (2) $\text{CH}_3\text{-CH=CH}_2 \xrightarrow{\text{Br}_2}$
 (3) $\text{CH}\equiv\text{CH} \xrightarrow{\text{HBr}} \xrightarrow{\text{HBr}}$
 (4) $\text{CH}_3\text{-CH=CHBr} \xrightarrow[\text{Peroxide}]{\text{HBr}}$
2. 2, 2-Dichloropropane on hydrolysis yields
- (1) Acetone
(2) 2,2-Propane diol
(3) Isopropyl alcohol
(4) Acetaldehyde
3. Chloroform can be obtained from
- (1) Methanol
(2) Methanal
(3) Propanol-1
(4) Propanol-2
4. Tear gas is
- (1) $\text{C}(\text{NO}_2)\text{Cl}_3$
(2) COCl_2
(3) CH_3Cl
(4) CH_3COCl
5. $\text{CS}_2 + \text{Cl}_2 \rightarrow$ Product Product is
- (1) CHCl_3 (2) CCl_4
(3) SCl_2 (4) C_2S_2

6. Which of the following compounds is used as a refrigerant?
- (1) Acetone
(2) CCl_4
(3) CF_4
(4) CCl_2F_2
7. $\text{CH}_3\text{CHI}_2 \xrightarrow{\text{KCN}} \xrightarrow{\text{H}_2\text{O}, \Delta}$ Here the end product would be
- (1) 2-Cyano propionic acid
(2) Ethane-1, 1-dicarboxylic acid
(3) 2-Methyl ethanoic acid
(4) Propionic acid
8. $\text{CH}_3\text{Br} \xrightarrow{\text{KCN}} \text{A} \xrightarrow{+4\text{H}} \text{CH}_3\text{CH}_2\text{NH}_2$
IUPAC name of A is
- (1) Methyl cyanide
(2) Methyl isonitrile
(3) Acetonitrile
(4) Ethane nitrile
9. $\text{CH}_3\text{CCl}_3 \xrightarrow[\text{Br}_2/\text{CCl}_4]{\text{alkaline/hydrolysis}} \text{A} \xrightarrow{\text{AgOH}} \text{B}$
 $\xrightarrow{\text{C}}$
- A and C in the above sequence are respectively
- (1) Acetic acid, ethyl bromide
(2) Acetic acid, ethyl chloride
(3) Acetic acid, methyl bromide
(4) Acetic acid, methyl chloride
- 10.

The reaction of



with HBr gives

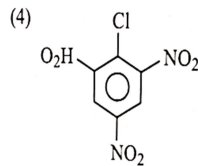
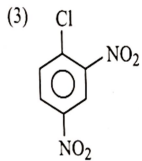
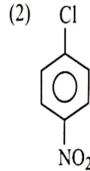
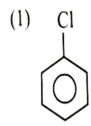


11. Treatment of ammonia with excess ethyl chloride will give
- (1) Diethylamine
(2) Ethane
(3) Methylamine
(4) Tetraethyl ammonium chloride

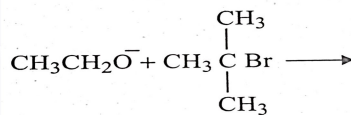
12. Chloropicrin is
 (1) $C_2H_2C(NO)_5SH$
 (2) CCl_3CHO
 (3) CCl_3NO_2
 (4) CCl_3NO_3

13.

Which of the following undergo hydrolysis simply on warming with water?

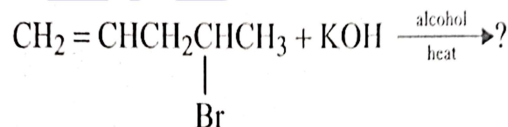


14. Product of the following reaction is _____



- (1) Tert- Butyl ethyl ether
 (2) Ethylene
 (3) Isobutylene
 (4) But-1-ene

15. Major product of the following reaction is:



- (1) Penta -1,4-diene
 (2) Pentan-2-ol
 (3) penta -1,3-diene
 (4) $CH_2 = CHCH(OH)CH_2CH_3$

BIOLOGY

1. I Flowers are usually large, colourful, fragrant
 II Pollen grains are produced in large number
 III. Pollen grains are light in weight and non-sticky
 IV Sticky pollen grains
 V Stigma inserted and sticky
 VI. Stigma is feathery
 VII Edible pollen grains and nectar

Which of the above characters favour entomophily?

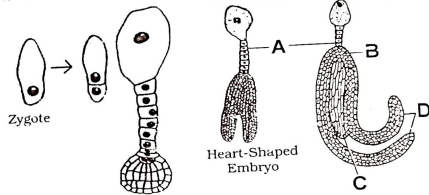
- (a) II, IV, V (b) I, II, III, VI
 (c) III, IV, V (d) I, IV, V, VII
2. Unisexuality of flower prevents –
 (a) Geitonogamy but not xenogamy
 (b) Autogamy but not geitonogamy
 (c) Autogamy and geitonogamy
 (d) Both geitonogamy and xenogamy
3. Self-incompatibility -
 (a) works the same-way in all plants
 (b) Does not have potential agricultural applications
 (c) Maintains variation
 (d) On the same mechanism of transplant rejection seen in animal
4. Female plant is diploid and male plant is tetraploid. Find out the correct match
- | | Embryo | Endosperm | Integument | Egg | Pollen | Aleurone layer |
|-----|--------|-----------|------------|-----|--------|----------------|
| (a) | 3n | 4n | 2n | n | 2n | 4n |
| (b) | 2n | 6n | 2n | 4n | 4n | 2n |
| (c) | 2n | 3n | 2n | 4n | n | 3n |
| (d) | 6n | 4n | 3n | n | 2n | n |
5. A homogamous tall pistillate plant (TT) is crossed with homogamous dwarf staminate plant (tt) What is the genotype of endosperm?
 (a) TTT (b) TTt
 (c) Ttt (d) ttt
6. For artificial hybridisation experiment in bisexual flower, which of the sequences is correct?
 (a) Bagging→Emasculatation→Cross pollination→ Rebagging
 (b)Emasculatation→ Bagging Cross pollination→ Rebagging
 (c)Cross pollination →Bagging →Emasculatation →Rebagging
 (d) Self-pollination →Bagging →Emasculatation→Rebagging
7. Emasculatation is not required when flowers are –
 (a) Bisexual
 (b) Intersexual
 (c) Unisexual
 (d) Either a or b
8. After triple fusion central cell changes into -

- (a) Embryo (b) Embryo sac
 (c) Primary endosperm cell(PEC)
 (d) Primary endosperm nucleus

9. In coconut liquid nuclear endosperm is surrounded by white kernel which is -

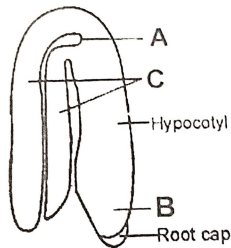
- (a) Integument/seed coat
 (b) Cellular endosperm
 (c) helobial endosperm
 (d) fibrous mesocarp

10. Diagram given below shows stages in embryogenesis in a typical dicot (Capsella) Identify structures A to D respectively-



- (a) Suspensor, Radicie, Plumule, Cotyledons
 (b) Hypophysis. Radicle, Plumule, Cotyledons
 (c) Suspensor, Plumule Radicle. Cotyledons
 (d) Suspensor, Radicule, Plumule. Hypocotylis

11. Go through the given diagram of a typical dicot embryo in which of the following all the 3 parts labelled as A, B, C with their respective functions are correctly identified?



- | | A | B | C |
|-----|---------------------------------|---------------------------------|----------------------------------|
| (a) | Plumule, shoot system formation | Radicle, root system formation | Hypophysis, formation of radicle |
| (b) | Plumule, shoot system formation | Radicle, root system formation | Cotyledon, food storage |
| (c) | Radicle, root system formation | Plumule, shoot system formation | Cotyledon, food storage |
| (d) | Radicle, root system formation | Plumule, shoot system formation | Endosperm, food storage |

12. Which of the sequences is correct for embryogenesis in dicots?

- (a) Zygote → Globular stage → Proembryo → Heart shaped stage → Matured embryo
 (b) Zygote → Heart shaped stage → Globular stage → Matured embryo

(c) Zygote → Proembryo → Heart shaped stage → Globular stage → Matured embryo
 (d) Zygote → Proembryo → Globular stage → Heart shaped → Matured embryo

13. An example of a seed with endosperm, perisperm and caruncle is -

- (a) Castor (b) Coffee
 (c) Lily (d) Cotton

14. Study of pollen grains is -

- (a) Palynology (b) Ethnology
 (c) Palaeobotany (d) (0)-taxonomy

15. Which plant part has two generations, one within the other -

- (a) Embryo
 (b) Germinated pollen grain
 (c) Unfertilized ovule
 (d) Seed