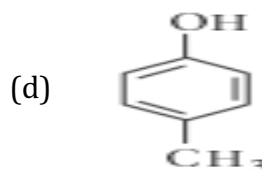
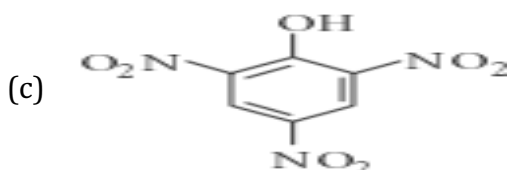
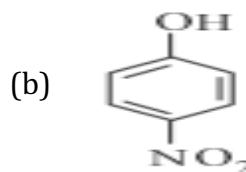
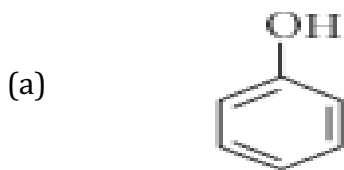


- Q.7 The potential difference that must be applied to stop the fastest photoelectrons emitted by a nickel surface, having work function 5.01 eV, when ultraviolet light of 200 nm falls on it, must be
- (a) 2.4 V (b) 1.2 V
(c) - 2.4 V (d) - 1.2 V
- Q.8 Which of the following correct represent mirror formula?
- (a) $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ (b) $\frac{1}{u} - \frac{1}{v} = \frac{1}{f}$
(c) $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ (d) $\frac{1}{u} - \frac{1}{v} = \frac{1}{f}$
- Q.9 The force per unit charge is known as _____
- (a) Magnetic field (b) Electric field Intensity
(c) Current (d) Electric flux
- Q.10 Kirchoff's junction rule is based on law of conservation of
- (a) Mass (b) Energy
(c) Current (d) Electric flux

CHEMISTRY

- Q.1 Which of the following is dependent on temperature?
- (a) Molarity (b) Mole fraction
(c) Weight percentage (d) Molarity
- Q.2 Pure water can be obtained from sea water by
- (a) Centrifugation (b) Plasmolysis
(c) Reverse osmosis (d) Sedimentation
- Q.3 When initial concentration of a reactant is doubled in a reaction, its half-life period is not affected. The Order of the reaction is
- (a) Second (b) More than zero but less than first
(c) Zero (d) First
- Q.4 A reaction is 50% complete in 2 hours and 75% complete in 4 hours. The order of reaction is
- (a) 1 (b) 2
(c) 3 (d) 0
- Q.5 Identify the alloy containing a non-metal as a constituent in it.
- (a) Invar (b) Steel
(c) Bell metal (d) Broze
- Q.6 Ethyl chloride is converted into diethyl ether by
- (a) Perkins reaction (b) Grignard reaction
(c) Wutz synthesis (d) Williamson's synthesis

- Q.7 The alkyl halide is converted into an alcohol by
- (a) Elimination (b) Dehydrohalogenation
(c) Addition (d) Sodium Chloride
- Q.8 Which one is the most acidic compound?



- Q.9 When blood cells are placed in pure water, blood cells
- (a) Become white in color (b) Shrinks
(c) Diffuses in water (d) Swells up
- Q.10 Which among of the following is an example of liquid in solid?
- (a) Aerated drinks (b) Mercury
(c) Sugar solution (d) Alloys

MATH

- Q.1 If \mathbf{a} is a non-zero vector of magnitude 'a' and λ a non-zero scalar, then $\lambda \mathbf{a}$ is unit vector if
- (a) $A = |\lambda|$ (b) $A = \frac{1}{|\lambda|}$
(c) $\lambda = 1$ (d) $V = -1$
- Q.2 Total number of possible matrices of order 3×3 with each entry 2 or 0 is
- (a) 27 (b) 81
(c) 9 (d) 512
- Q.3 Domain of $\cos^{-1} x$ is
- (a) $[-1, 0]$ (b) $[0, 1]$
(c) $[-1, 1]$ (d) None of these
- Q.4 In a LPP, the linear inequalities or restrictions on the variables are called
- (a) Limits (b) Inequalities
(c) Linear constraints (d) Constraints

Q.5 The area bounded by the parabola $y^2 = 8x$, the x - axis and the latus rectum is

(a) $\frac{16\sqrt{2}}{3}$

(b) $\frac{32}{3}$

(c) $\frac{16}{3}$

(d) $\frac{23}{3}$

Q.6 A couple has 2 children. What is the probability that both are boys, if it is known that one of them is a boy?

(a) $\frac{1}{3}$

(b) $\frac{1}{4}$

(c) $\frac{2}{3}$

(d) $\frac{3}{4}$

Q.7 Which of the following functions is decreasing on $\left(0, \frac{\pi}{2}\right)$

(a) $\cos x$

(b) $\cos 3x$

(c) $\tan x$

(d) $\sin 2x$

Q.8 The maximum value of $\left(\frac{\log x}{x}\right)$ is

(a) 1

(b) e

(c) $\frac{2}{e}$

(d) $\frac{1}{e}$

Q.9 If $A = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$ then $A^2 - 4A = ?$

(a) 01

(b) 11

(c) 31

(d) 51

Q.10 The principal value of $\sin^{-1}\left(\frac{-\sqrt{3}}{2}\right)$ is

(a) $-\frac{\pi}{3}$

(b) $-\frac{2\pi}{3}$

(c) $\frac{4\pi}{3}$

(d) $\frac{5\pi}{3}$