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NEET 2016 (PHASE 2)

Question Paper · answer key at the end

Time: 3 Hours **Max. Marks:** 720 **Questions:** 180

General Instructions:

1. The duration of the paper is 3 hours. It has 180 questions: Physics 45, Chemistry 45, Biology 90.
2. Every question has four options with only one correct answer.
3. Marking: +4 for each correct answer, −1 for each wrong answer, 0 for a question not answered.
4. The answer key is at the end. Scan the QR code beside any question for its step-by-step solution.
5. Practise this paper as a timed test on the real exam screen, free, at pyqside.com.

Physics: Section A

Q.1 Planck's constant (h), speed of light in vacuum (c) and Newton's gravitational constant (G) are three fundamental constants. Which of the following combinations of these has the dimension of length ?

[NEET 2016 (Phase 2)]

(1) $\frac{\sqrt{hG}}{c^{3/2}}$ (2) $\frac{\sqrt{hG}}{c^{5/2}}$ (3) $\sqrt{\frac{hc}{G}}$ (4) $\sqrt{\frac{Gc}{h^{3/2}}}$

Scan or tap for the full solution

Q.2 Two cars P and Q start from a point at the same time in a straight line and their positions are represented by

$x_P(t) = (at + bt^2)$ and $x_Q(t) = (ft - t^2)$.

At what time do the cars have the same velocity ?

[NEET 2016 (Phase 2)]

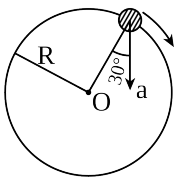
(1) $\frac{a-f}{1+b}$ (2) $\frac{a+f}{2(b-1)}$

(3) $\frac{a+f}{2(1+b)}$ (4) $\frac{f-a}{2(1+b)}$

Scan or tap for the full solution

Q.3 In the given figure, a = 15 m s^{-2} represents the total acceleration of particle moving in the clockwise direction in a circle of radius R = 2.5 m at a given instant of time. The speed of the particle is

[NEET 2016 (Phase 2)]

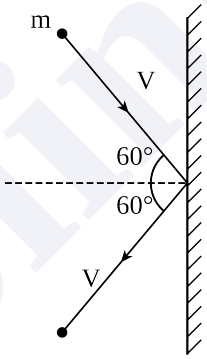


(1) 4.5 m s^{-1} (2) 5.0 m s^{-1}

(3) 5.7 m s^{-1} (4) 6.2 m s^{-1}

Scan or tap for the full solution

Q.4 A rigid ball of mass m strikes a rigid wall at 60° and gets reflected without loss of speed as shown in the figure. The value of impulse imparted by the wall on the ball will be : [NEET 2016 (Phase 2)]



(1) mV (2) 2 mV (3) $\frac{mV}{2}$ (4) $\frac{mV}{3}$

Scan or tap for the full solution

Q.5 A bullet of mass 10 g moving horizontally with a velocity of 400 m s^{-1} strikes a wood block of mass 2 kg which is suspended by light inextensible string of length 5 m. As a result, the centre of gravity of the block is found to rise a vertical distance of 10 cm. The speed of the bullet after it emerges out horizontally from the block will be

[NEET 2016 (Phase 2)]

(1) 100 m s^{-1} (2) 80 m s^{-1}

(3) 120 m s^{-1} (4) 160 m s^{-1}

Scan or tap for the full solution

Q.6 Two identical balls A and B having velocities of 0.5 m s^{-1} and −0.3 m s^{-1} respectively collide elastically in one dimension. The velocities of B and A after the collision respectively will be :

[NEET 2016 (Phase 2)]

(1) −0.5 m s^{-1} and 0.3 m s^{-1}
(2) 0.5 m s^{-1} and −0.3 m s^{-1}
(3) −0.3 m s^{-1} and 0.5 m s^{-1}
(4) 0.3 m s^{-1} and 0.5 m s^{-1}

Solution

Q.7 A particle moves from a point $(-2\hat{i}+5\hat{j})$ to $(4\hat{j}+3\hat{k})$ when a force of $(4\hat{i}+3\hat{j})$ N is applied. How much work has been done by the force ?

[NEET 2016 (Phase 2)]

(1) 8 J (2) 11 J (3) 5 J (4) 2 J

Scan or tap for the full solution

Q.8 Two rotating bodies A and B of masses m and 2m with moments of inertia I_A and I_B ($I_B > I_A$) have equal kinetic energy of rotation. If L_A and L_B be their angular momenta respectively, then

[NEET 2016 (Phase 2)]

(1) $L_A = \frac{L_B}{2}$ (2) $L_A = 2L_B$
(3) $L_B > L_A$ (4) $L_A > L_B$

Scan or tap for the full solution

Q.9 A solid sphere of mass m and radius R is rotating about its diameter. A solid cylinder of same mass and same radius is also rotating about its geometrical axis with an angular speed twice that of the sphere. The ratio of their kinetic energies of rotation ($E_{sphere}/E_{cylinder}$) will be

[NEET 2016 (Phase 2)]

(1) 2 : 3 (2) 1 : 5 (3) 1 : 4 (4) 3 : 1

Scan or tap for the full solution

Q.10 A light rod of length l has two masses m_1 and m_2 attached to its two ends. The moment of inertia of the system about an axis perpendicular to the rod and passing through the centre of mass is

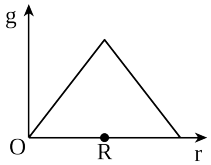
[NEET 2016 (Phase 2)]

(1) $\frac{m_1m_2}{m_1+m_2}l^2$ (2) $\frac{m_1+m_2}{m_1m_2}l^2$
(3) $(m_1 + m_2)l^2$ (4) $\sqrt{m_1m_2}\,l^2$

Scan or tap for the full solution

Q.11 Starting from the centre of the earth having radius R, the variation of g (acceleration due to gravity) is shown by

[NEET 2016 (Phase 2)]

(1)


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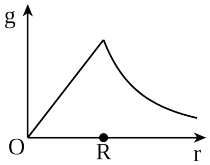

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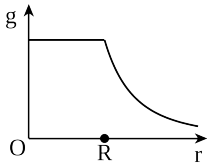
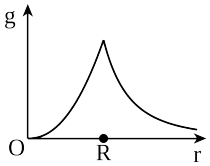


(4)


Scan or tap for the full solution

Q.12 A satellite of mass m is orbiting the earth (of radius R) at a height h from its surface. The total energy of the satellite in terms of g_0, the value of acceleration due to gravity at the earth's surface, is

[NEET 2016 (Phase 2)]

(1) $\frac{mg_0R^2}{2(R+h)}$ (2) $-\frac{mg_0R^2}{2(R+h)}$
(3) $\frac{2mg_0R^2}{R+h}$ (4) $-\frac{2mg_0R^2}{R+h}$

Scan or tap for the full solution

Q.13 A rectangular film of liquid is extended from (4 cm × 2 cm) to (5 cm × 4 cm). If the work done is 3×10^{-4} J, the value of the surface tension of the liquid is

[NEET 2016 (Phase 2)]

(1) 0.250 N m^{-1} (2) 0.125 N m^{-1}
(3) 0.2 N m^{-1} (4) 8.0 N m^{-1}

Scan or tap for the full solution

Q.14 Three liquids of densities ρ_1, ρ_2 and ρ_3 (with $\rho_1 > \rho_2 > \rho_3$), having the same value of surface tension T, rise to the same height in three identical capillaries. The angles of contact θ_1, θ_2 and θ_3 obey

[NEET 2016 (Phase 2)]

(1) $\frac{\pi}{2} > \theta_1 > \theta_2 > \theta_3 \geq 0$

(2) $0 \leq \theta_1 < \theta_2 < \theta_3 < \frac{\pi}{2}$

(3) $\frac{\pi}{2} < \theta_1 < \theta_2 < \theta_3 < \pi$

(4) $\pi > \theta_1 > \theta_2 > \theta_3 > \frac{\pi}{2}$

Solution

Q.15 Two identical bodies are made of a material for which the heat capacity increases with temperature. One of these is at 100 °C, while the other one is at 0 °C. If the two bodies are brought into contact, then, assuming no heat loss, the final common temperature is

[NEET 2016 (Phase 2)]

(1) 50 °C
(2) more than 50 °C
(3) less than 50 °C but greater than 0 °C

(4) 0 °C

Scan or tap for the full solution

Q.16 A body cools from a temperature 3T to 2T in 10 minutes. The room temperature is T. Assume that Newton's law of cooling is applicable. The temperature of the body at the end of next 10 minutes will be [NEET 2016 (Phase 2)]

(1) $\frac{7}{4}T$ (2) $\frac{3}{2}T$ (3) $\frac{4}{3}T$ (4) T

Scan or tap for the full solution

Q.17 One mole of an ideal monatomic gas undergoes a process described by the equation PV^3 = constant. The heat capacity of the gas during this process is [NEET 2016 (Phase 2)]

(1) $\frac{3}{2}R$ (2) $\frac{5}{2}R$ (3) 2R (4) R

Scan or tap for the full solution

Q.18 The temperature inside a refrigerator is t_2 °C and the room temperature is t_1 °C. The amount of heat delivered to the room for each joule of electrical energy consumed ideally will be [NEET 2016 (Phase 2)]

(1) $\frac{t_1}{t_1 - t_2}$ (2) $\frac{t_1 + 273}{t_1 - t_2}$

(3) $\frac{t_2 + 273}{t_1 - t_2}$ (4) $\frac{t_1 + t_2}{t_1 + 273}$

Scan or tap for the full solution

Q.19 A given sample of an ideal gas occupies a volume V at a pressure P and absolute temperature T. The mass of each molecule of the gas is m. Which of the following gives the density of the gas ? [NEET 2016 (Phase 2)]

(1) P/(kT) (2) Pm/(kT)

(3) P/(kTV) (4) mkT

Scan or tap for the full solution

Q.20 A body of mass m is attached to the lower end of a spring whose upper end is fixed. The spring has negligible mass. When the mass m is slightly pulled down and released, it oscillates with a time period of 3 s. When the mass m is increased by 1 kg, the time period of oscillations becomes 5 s. The value of m in kg is [NEET 2016 (Phase 2)]

(1) $\frac{3}{4}$ (2) $\frac{4}{3}$ (3) $\frac{16}{9}$ (4) $\frac{9}{16}$

Scan or tap for the full solution

Q.21 The second overtone of an open organ pipe has the same frequency as the first overtone of a closed pipe L metre long. The length of the open pipe will be [NEET 2016 (Phase 2)]

(1) L (2) 2L (3) $\frac{L}{2}$ (4) 4L

Scan or tap for the full solution

Q.22 Three sound waves of equal amplitudes have frequencies (n − 1), n, (n + 1). They superimpose to give beats. The number of beats produced per second will be [NEET 2016 (Phase 2)]

(1) 1 (2) 4 (3) 3 (4) 2

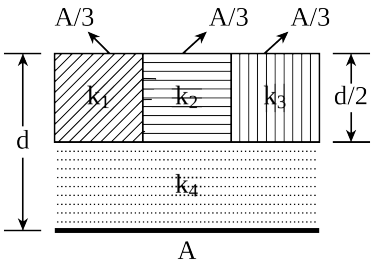
Scan or tap for the full solution

Q.23 An electric dipole is placed at an angle of 30° with an electric field intensity 2×10^5 N C^{-1}. It experiences a torque equal to 4 N m. The charge on the dipole, if the dipole length is 2 cm, is [NEET 2016 (Phase 2)]

(1) 8 mC (2) 2 mC (3) 5 mC (4) 7 μC

Scan or tap for the full solution

Q.24 A parallel-plate capacitor of area A, plate separation d and capacitance C is filled with four dielectric materials having dielectric constants k_1, k_2, k_3 and k_4 as shown in the figure. If a single dielectric material is to be used to have the same capacitance C in this capacitor, then its dielectric constant k is given by [NEET 2016 (Phase 2)]



(1) $k = k_1 + k_2 + k_3 + 3k_4$

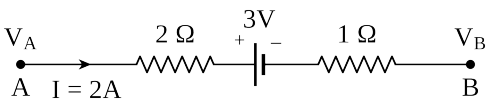
(2) $k = \frac{2}{3}(k_1 + k_2 + k_3) + 2k_4$

(3) $\frac{2}{k} = \frac{3}{k_1 + k_2 + k_3} + \frac{1}{k_4}$

(4) $\frac{1}{k} = \frac{1}{k_1} + \frac{1}{k_2} + \frac{1}{k_3} + \frac{3}{2k_4}$

Scan or tap for the full solution

Q.25 The potential difference ($V_A - V_B$) between the points A and B in the given figure is [NEET 2016 (Phase 2)]



(1) −3 V (2) +3 V (3) +6 V (4) +9 V

Scan or tap for the full solution

Q.26 A filament bulb (500 W, 100 V) is to be used in a 230 V main supply. When a resistance R is connected in series, it works perfectly and the bulb consumes 500 W. The value of R is [NEET 2016 (Phase 2)]

(1) 230 Ω (2) 46 Ω (3) 26 Ω (4) 13 Ω

Scan or tap for the full solution

Q.27 A long wire carrying a steady current is bent into a circular loop of one turn. The magnetic field at the centre of the loop is B. It is then bent into a circular coil of n turns. The magnetic field at the centre of this coil of n turns will be [NEET 2016 (Phase 2)]

(1) nB (2) n^2B (3) 2nB (4) $2n^2B$

Scan or tap for the full solution

Q.28 An electron is moving in a circular path under the influence of a transverse magnetic field of 3.57×10^{-2} T. If the value of e/m is 1.76×10^{11} C kg^{-1}, the frequency of revolution of the electron is [NEET 2016 (Phase 2)]

(1) 1 GHz (2) 100 MHz

(3) 62.8 MHz (4) 6.28 MHz

Scan or tap for the full solution

Q.29 A bar magnet is hung by a thin cotton thread in a uniform horizontal magnetic field and is in equilibrium state. The energy required to rotate it by 60° is W. Now the torque required to keep the magnet in this new position is [NEET 2016 (Phase 2)]

(1) $\frac{W}{\sqrt{3}}$ (2) $\sqrt{3}W$

(3) $\frac{\sqrt{3}W}{2}$ (4) $\frac{2W}{\sqrt{3}}$

Scan or tap for the full solution

Q.30 Which of the following combinations should be selected for better tuning of an L-C-R circuit used for communication? [NEET 2016 (Phase 2)]

(1) R = 20 Ω, L = 1.5 H, C = 35 μF

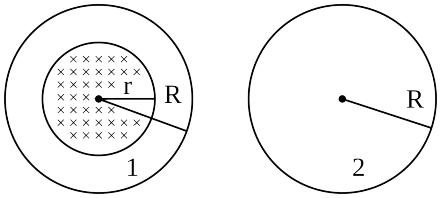
(2) R = 25 Ω, L = 2.5 H, C = 45 μF

(3) R = 15 Ω, L = 3.5 H, C = 30 μF

(4) R = 25 Ω, L = 1.5 H, C = 45 μF

Solution

Q.31 A uniform magnetic field is restricted within a region of radius r. The magnetic field changes with time at a rate $\frac{d\vec{B}}{dt}$. Loop 1 of radius R > r encloses the region r and loop 2 of radius R is outside the region of magnetic field as shown in the figure. Then the e.m.f. generated is [NEET 2016 (Phase 2)]



(1) zero in loop 1 and zero in loop 2

(2) $-\frac{d\vec{B}}{dt}\pi r^2$ in loop 1 and $-\frac{d\vec{B}}{dt}\pi r^2$ in loop 2

(3) $-\frac{d\vec{B}}{dt}\pi R^2$ in loop 1 and zero in loop 2

(4) $-\frac{d\vec{B}}{dt}\pi r^2$ in loop 1 and zero in loop 2

Scan or tap for the full solution

Q.32 The potential differences across the resistance, capacitance and inductance are 80 V, 40 V and 100 V respectively in an L-C-R circuit. The power factor of this circuit is [NEET 2016 (Phase 2)]

(1) 0.4 (2) 0.5 (3) 0.8 (4) 1.0

Scan or tap for the full solution

Q.33 A 100 Ω resistance and a capacitor of 100 Ω reactance are connected in series across a 220 V source. When the capacitor is 50% charged, the peak value of the displacement current is [NEET 2016 (Phase 2)]

(1) 2.2 A (2) 11 A

(3) 4.4 A (4) $11\sqrt{2}$ A

Scan or tap for the full solution

Q.34 Two identical glass (μ_g = 3/2) equiconvex lenses of focal length f each are kept in contact. The space between the two lenses is filled with water (μ_w = 4/3). The focal length of the combination is [NEET 2016 (Phase 2)]

(1) f/3 (2) f (3) 4f/3 (4) 3f/4

Scan or tap for the full solution

Q.35 An air bubble in a glass slab with refractive index 1.5 (near normal incidence) is 5 cm deep when viewed from one surface and 3 cm deep when viewed from the opposite face. The thickness (in cm) of the slab is [NEET 2016 (Phase 2)]

(1) 8 (2) 10 (3) 12 (4) 16

Scan or tap for the full solution

Q.36 The interference pattern is obtained with two coherent light sources of intensity ratio n. In the interference pattern, the ratio $\frac{I_{max} - I_{min}}{I_{max} + I_{min}}$ will be

[NEET 2016 (Phase 2)]

(1) $\frac{\sqrt{n}}{n+1}$ (2) $\frac{2\sqrt{n}}{n+1}$

(3) $\frac{\sqrt{n}}{(n+1)^2}$ (4) $\frac{2\sqrt{n}}{(n+1)^2}$

Scan or tap for the full solution

Q.37 A person can see clearly objects only when they lie between 50 cm and 400 cm from his eyes. In order to increase the maximum distance of distinct vision to infinity, the type and power of the correcting lens, the person has to use, will be

[NEET 2016 (Phase 2)]

(1) convex, +2.25 diopter

(2) concave, −0.25 diopter

(3) concave, −0.2 diopter

(4) convex, +0.15 diopter

Solution

Q.38 A linear aperture whose width is 0.02 cm is placed immediately in front of a lens of focal length 60 cm. The aperture is illuminated normally by a parallel beam of wavelength 5×10^{-5} cm. The distance of the first dark band of the diffraction pattern from the centre of the screen is [NEET 2016 (Phase 2)]

(1) 0.10 cm (2) 0.25 cm

(3) 0.20 cm (4) 0.15 cm

Scan or tap for the full solution

Q.39 Electrons of mass m with de-Broglie wavelength λ fall on the target in an X-ray tube. The cutoff wavelength (λ_0) of the emitted X-ray is

[NEET 2016 (Phase 2)]

(1) $\lambda_0 = \frac{2mc\lambda^2}{h}$ (2) $\lambda_0 = \frac{2h}{mc}$

(3) $\lambda_0 = \frac{2m^2c^2\lambda^3}{h^2}$ (4) $\lambda_0 = \lambda$

Scan or tap for the full solution

Q.40 Photons with energy 5 eV are incident on a cathode C in a photoelectric cell. The maximum energy of emitted photoelectrons is 2 eV. When photons of energy 6 eV are incident on C, no photoelectrons will reach the anode A, if the stopping potential of A relative to C is [NEET 2016 (Phase 2)]

(1) +3 V (2) +4 V (3) −1 V (4) −3 V

Scan or tap for the full solution

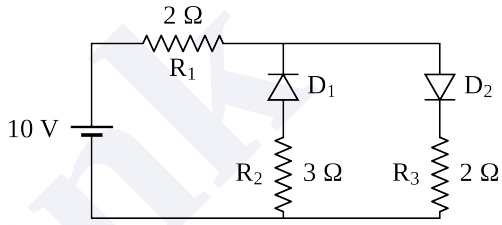
Q.41 If an electron in a hydrogen atom jumps from the 3rd orbit to the 2nd orbit, it emits a photon of wavelength λ. When it jumps from the 4th orbit to the 3rd orbit, the corresponding wavelength of the photon will be

[NEET 2016 (Phase 2)]

(1) $\frac{16}{25}\lambda$ (2) $\frac{9}{16}\lambda$ (3) $\frac{20}{7}\lambda$ (4) $\frac{20}{13}\lambda$

Scan or tap for the full solution

Q.42 The given circuit has two ideal diodes connected as shown in the figure. The current flowing through the resistance R_1 will be [NEET 2016 (Phase 2)]

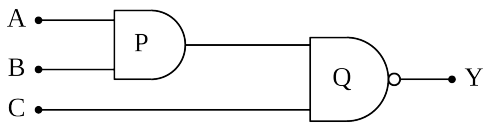


(1) 2.5 A (2) 10.0 A (3) 1.43 A (4) 3.13 A

Scan or tap for the full solution

Q.43 What is the output Y in the following circuit, when all the three inputs A, B, C are first 0 and then 1?

[NEET 2016 (Phase 2)]



(1) 0, 1 (2) 0, 0 (3) 1, 0 (4) 1, 1

Scan or tap for the full solution

Q.44 The half-life of a radioactive substance is 30 minutes. The time (in minutes) taken between 40% decay and 85% decay of the same radioactive substance is [NEET 2016 (Phase 2)]

(1) 15 (2) 30 (3) 45 (4) 60

Scan or tap for the full solution

Q.45 For CE transistor amplifier, the audio signal voltage across the collector resistance of 2 kΩ is 4 V. If the current amplification factor of the transistor is 100 and the base resistance is 1 kΩ, then the input signal voltage is [NEET 2016 (Phase 2)]

(1) 10 mV (2) 20 mV (3) 30 mV (4) 15 mV

Scan or tap for the full solution

Chemistry: Section A

Q.46 Suppose the elements X and Y combine to form two compounds XY_2 and X_3Y_2. When 0.1 mole of XY_2 weighs 10 g and 0.05 mole of X_3Y_2 weighs 9 g, the atomic weights of X and Y are

[NEET 2016 (Phase 2)]

(1) 40, 30 (2) 60, 40 (3) 20, 30 (4) 30, 20

Scan or tap for the full solution

Q.47 How many electrons can fit in the orbital for which n = 3 and l = 1?

[NEET 2016 (Phase 2)]

(1) 2 (2) 6 (3) 10 (4) 14

Scan or tap for the full solution

Q.48 Which of the following pairs of d-orbitals will have electron density along the axes ?

[NEET 2016 (Phase 2)]

(1) d_{z^2}, d_{xz} (2) d_{xz}, d_{yz}
(3) d_{z^2}, $d_{x^2-y^2}$ (4) d_{xy}, $d_{x^2-y^2}$

Scan or tap for the full solution

Q.49 Which one of the following compounds shows the presence of intramolecular hydrogen bond?

[NEET 2016 (Phase 2)]

(1) H_2O_2
(2) HCN
(3) Cellulose
(4) Concentrated acetic acid

Solution

Q.50 The hybridizations of atomic orbitals of nitrogen in NO_2^+, NO_3^- and NH_4^+ respectively are

[NEET 2016 (Phase 2)]

(1) sp, sp^3 and sp^2 (2) sp^2, sp^3 and sp
(3) sp, sp^2 and sp^3 (4) sp^2, sp and sp^3

Scan or tap for the full solution

Q.51 Which of the following pairs of ions is isoelectronic and isostructural?

[NEET 2016 (Phase 2)]

(1) CO_3^{2-}, NO_3^- (2) ClO_3^-, CO_3^{2-}
(3) SO_3^{2-}, NO_3^- (4) ClO_3^-, SO_3^{2-}

Scan or tap for the full solution

Q.52 The correct geometry and hybridization for XeF_4 are

[NEET 2016 (Phase 2)]

(1) octahedral, sp^3d^2
(2) trigonal bipyramidal, sp^3d
(3) planar triangle, sp^3d^3
(4) square planar, sp^3d^2

Solution

Q.53 Among the following, which one is a wrong statement ?

[NEET 2016 (Phase 2)]

(1) PH_5 and $BiCl_5$ do not exist.
(2) $p\pi - d\pi$ bonds are present in SO_2.
(3) SeF_4 and CH_4 have same shape.
(4) I_3^+ has bent geometry.

Scan or tap for the full solution

Q.54 For a sample of perfect gas when its pressure is changed isothermally from p_i to p_f, the entropy change is given by

[NEET 2016 (Phase 2)]

(1) $\Delta S = nR\ln\left(\frac{p_f}{p_i}\right)$ (2) $\Delta S = nR\ln\left(\frac{p_i}{p_f}\right)$
(3) $\Delta S = nRT\ln\left(\frac{p_f}{p_i}\right)$ (4) $\Delta S = RT\ln\left(\frac{p_i}{p_f}\right)$

Scan or tap for the full solution

Q.55 The percentage of pyridine (C_5H_5N) that forms pyridinium ion ($C_5H_5N^+H$) in a 0.10 M aqueous pyridine solution (K_b for $C_5H_5N = 1.7 \times 10^{-9}$) is

[NEET 2016 (Phase 2)]

(1) 0.0060% (2) 0.013%
(3) 0.77% (4) 1.6%

Scan or tap for the full solution

Q.56 The solubility of $AgCl_{(s)}$ with solubility product 1.6×10^{-10} in 0.1 M NaCl solution would be

[NEET 2016 (Phase 2)]

(1) 1.25×10^{-5} M (2) 1.6×10^{-9} M
(3) 1.6×10^{-11} M (4) zero

Scan or tap for the full solution

Q.57 Which of the following fluoro-compounds is most likely to behave as a Lewis base ?

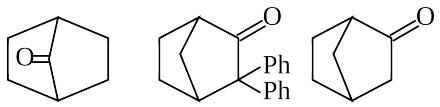
[NEET 2016 (Phase 2)]

(1) BF_3 (2) PF_3 (3) CF_4 (4) SiF_4

Scan or tap for the full solution

Q.58 Which among the given molecules can exhibit tautomerism?

[NEET 2016 (Phase 2)]



I II III

(1) III only (2) Both I and III
(3) Both I and II (4) Both II and III

Scan or tap for the full solution

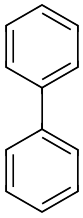
Q.59 Which of the following can be used as halide component for Friedel-Crafts reaction?

[NEET 2016 (Phase 2)]

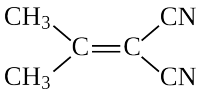
(1) Chlorobenzene (2) Bromobenzene
(3) Chloroethene (4) Isopropyl chloride

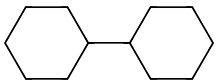
Scan or tap for the full solution

Q.60 In which of the following molecules, atoms are coplanar? [NEET 2016 (Phase 2)]

(1) 

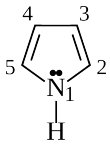
(2)

(3) 

(4) 

Scan or tap for the full solution

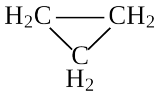
Q.61 In pyrrole the electron density is maximum on [NEET 2016 (Phase 2)]



(1) 2 and 3 (2) 3 and 4 (3) 2 and 4 (4) 2 and 5

Scan or tap for the full solution

Q.62 Which of the following compounds shall not produce propene by reaction with HBr followed by elimination or direct only elimination reaction ? [NEET 2016 (Phase 2)]

(1) 

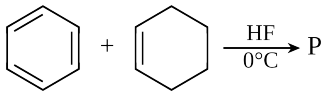
(2) $H_3C-\overset{H_2}{\overset{|}{C}}-CH_2OH$

(3) $H_2C=C=O$

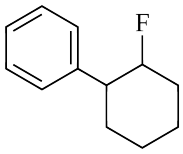
(4) $H_3C-\overset{H_2}{\overset{|}{C}}-CH_2Br$

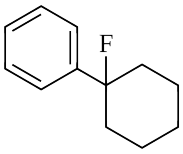
Scan or tap for the full solution

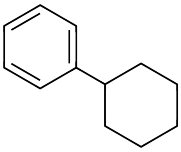
Q.63 In the given reaction,

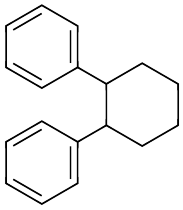


the product P is [NEET 2016 (Phase 2)]

(1) 

(2) 

(3) 

(4) 

Scan or tap for the full solution

Q.64 The compound that will react most readily with gaseous bromine has the formula [NEET 2016 (Phase 2)]

(1) C_3H_6 (2) C_2H_2 (3) C_4H_{10} (4) C_2H_4

Scan or tap for the full solution

Q.65 Consider the reaction,

$CH_3CH_2CH_2Br + NaCN \longrightarrow CH_3CH_2CH_2CN + NaBr$

The reaction will be the fastest in [NEET 2016 (Phase 2)]

(1) ethanol
(2) methanol
(3) N,N-dimethylformamide (DMF)
(4) water

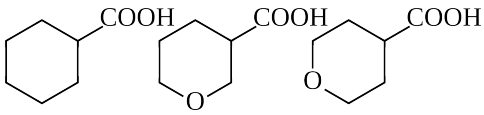
Solution

Q.66 Hot concentrated sulphuric acid is a moderately strong oxidizing agent. Which of the following reactions does not show oxidizing behaviour? [NEET 2016 (Phase 2)]

(1) $Cu + 2H_2SO_4 \longrightarrow CuSO_4 + SO_2 + 2H_2O$
(2) $3S + 2H_2SO_4 \longrightarrow 3SO_2 + 2H_2O$
(3) $C + 2H_2SO_4 \longrightarrow CO_2 + 2SO_2 + 2H_2O$
(4) $CaF_2 + H_2SO_4 \longrightarrow CaSO_4 + 2HF$

Scan or tap for the full solution

Q.67 The correct order of the strengths of the carboxylic acids



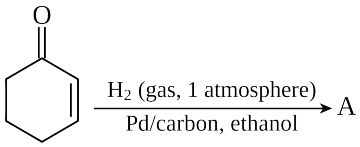
I II III

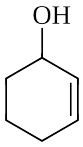
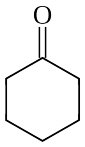
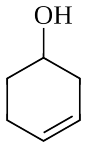
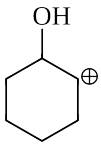
is [NEET 2016 (Phase 2)]

(1) I > II > III (2) II > III > I
(3) III > II > I (4) II > I > III

Scan or tap for the full solution

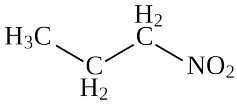
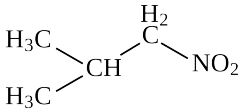
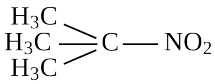
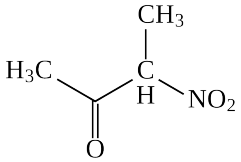
Q.68 The correct structure of the product 'A' formed in the reaction [NEET 2016 (Phase 2)]



(1) 
(2) 
(3) 
(4) 

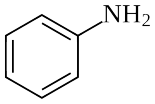
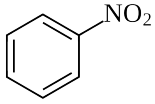
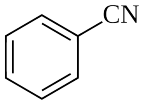
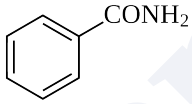
Scan or tap for the full solution

Q.69 Which one of the following nitro-compounds does not react with nitrous acid? [NEET 2016 (Phase 2)]

(1) 
(2) 
(3) 
(4) 

Scan or tap for the full solution

Q.70 A given nitrogen-containing aromatic compound 'A' reacts with Sn/HCl, followed by HNO_2 to give an unstable compound 'B'. 'B', on treatment with phenol, forms a beautiful coloured compound 'C' with the molecular formula $C_{12}H_{10}N_2O$. The structure of compound 'A' is [NEET 2016 (Phase 2)]

(1) 
(2) 
(3) 
(4) 

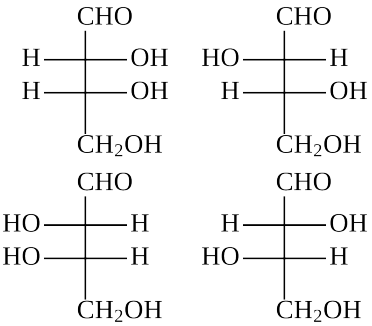
Scan or tap for the full solution

Q.71 The central dogma of molecular genetics states that the genetic information flows from [NEET 2016 (Phase 2)]

(1) Amino acids ⟶ Proteins ⟶ DNA
(2) DNA ⟶ Carbohydrates ⟶ Proteins
(3) DNA ⟶ RNA ⟶ Proteins
(4) DNA ⟶ RNA ⟶ Carbohydrates

Scan or tap for the full solution

Q.72 The correct corresponding order of names of four aldoses with configuration given below



respectively, is [NEET 2016 (Phase 2)]

(1) L-erythrose, L-threose, L-erythrose, D-threose
(2) D-threose, D-erythrose, L-threose, L-erythrose
(3) L-erythrose, L-threose, D-erythrose, D-threose
(4) D-erythrose, D-threose, L-erythrose, L-threose

Scan or tap for the full solution

Q.73 The van't Hoff factor (i) for a dilute aqueous solution of the strong electrolyte barium hydroxide is [NEET 2016 (Phase 2)]

(1) 0 (2) 1 (3) 2 (4) 3

Scan or tap for the full solution

Q.74 Which one of the following is incorrect for ideal solution? [NEET 2016 (Phase 2)]

(1) $\Delta H_{mix} = 0$
(2) $\Delta U_{mix} = 0$
(3) $\Delta P = P_{obs} - P_{calculated\ by\ Raoult's\ law} = 0$
(4) $\Delta G_{mix} = 0$

Scan or tap for the full solution

Q.75 The molar conductivity of a 0.5 mol/dm^3 solution of $AgNO_3$ with electrolytic conductivity of 5.76×10^{-3} S cm^{-1} at 298 K is [NEET 2016 (Phase 2)]

(1) 2.88 S cm^2/mol (2) 11.52 S cm^2/mol
(3) 0.086 S cm^2/mol (4) 28.8 S cm^2/mol

Scan or tap for the full solution

Q.76 During the electrolysis of molten sodium chloride, the time required to produce 0.10 mol of chlorine gas using a current of 3 amperes is [NEET 2016 (Phase 2)]

(1) 55 minutes (2) 110 minutes
(3) 220 minutes (4) 330 minutes

Scan or tap for the full solution

Q.77 If the $E°_{cell}$ for a given reaction has a negative value, which of the following gives the correct relationships for the values of $\Delta G°$ and K_{eq} ? [NEET 2016 (Phase 2)]

(1) $\Delta G° > 0$; $K_{eq} < 1$ (2) $\Delta G° > 0$; $K_{eq} > 1$
(3) $\Delta G° < 0$; $K_{eq} > 1$ (4) $\Delta G° < 0$; $K_{eq} < 1$

Scan or tap for the full solution

Q.78 The number of electrons delivered at the cathode during electrolysis by a current of 1 ampere in 60 seconds is (charge on electron = 1.60×10^{-19} C) [NEET 2016 (Phase 2)]

(1) 6×10^{23} (2) 6×10^{20}
(3) 3.75×10^{20} (4) 7.48×10^{23}

Scan or tap for the full solution

Q.79 Zinc can be coated on iron to produce galvanized iron but the reverse is not possible. It is because [NEET 2016 (Phase 2)]

(1) zinc is lighter than iron
(2) zinc has lower melting point than iron
(3) zinc has lower negative electrode potential than iron
(4) zinc has higher negative electrode potential than iron

Scan or tap for the full solution

Q.80 The decomposition of phosphine (PH_3) on tungsten at low pressure is a first-order reaction. It is because the [NEET 2016 (Phase 2)]

(1) rate is proportional to the surface coverage
(2) rate is inversely proportional to the surface coverage
(3) rate is independent of the surface coverage
(4) rate of decomposition is very slow.

Scan or tap for the full solution

Q.81 Boric acid is an acid because its molecule [NEET 2016 (Phase 2)]

(1) contains replaceable H^+ ion
(2) gives up a proton
(3) accepts OH^- from water releasing proton
(4) combines with proton from water molecule.

Scan or tap for the full solution

Q.82 AlF_3 is soluble in HF only in presence of KF. It is due to the formation of [NEET 2016 (Phase 2)]

(1) $K_3[AlF_3H_3]$ (2) $K_3[AlF_6]$
(3) AlH_3 (4) $K[AlF_3H]$

Scan or tap for the full solution

Q.83 Which one of the following statements related to lanthanoids is incorrect? [NEET 2016 (Phase 2)]

(1) Europium shows +2 oxidation state.
(2) The basicity decreases as the ionic radius decreases from Pr to Lu.
(3) All the lanthanons are much more reactive than aluminium.
(4) Ce(+4) solutions are widely used as oxidizing agent in volumetric analysis.

Scan or tap for the full solution

Q.84 The correct increasing order of trans-effect of the following species is [NEET 2016 (Phase 2)]

(1) $NH_3 > CN^- > Br^- > C_6H_5^-$
(2) $CN^- > C_6H_5^- > Br^- > NH_3$
(3) $Br^- > CN^- > NH_3 > C_6H_5^-$
(4) $CN^- > Br^- > C_6H_5^- > NH_3$

Solution

Q.85 Jahn-Teller effect is not observed in high spin complexes of [NEET 2016 (Phase 2)]

(1) d^7 (2) d^8 (3) d^4 (4) d^9

Scan or tap for the full solution

Q.86 The suspension of slaked lime in water is known as [NEET 2016 (Phase 2)]

(1) lime water
(2) quick lime
(3) milk of lime
(4) aqueous solution of slaked lime.

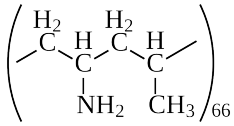
Solution

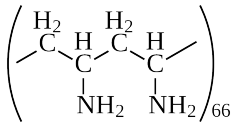
Q.87 In context with beryllium, which one of the following statements is incorrect? [NEET 2016 (Phase 2)]

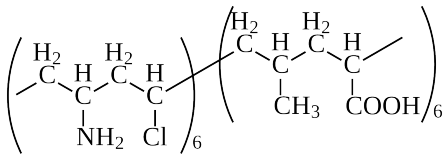
(1) It is rendered passive by nitric acid.
(2) It forms Be_2C
(3) Its salts rarely hydrolyze.
(4) Its hydride is electron-deficient and polymeric.

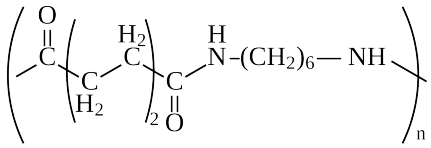
Scan or tap for the full solution

Q.88 Which one of the following structures represents nylon 6, 6 polymer? [NEET 2016 (Phase 2)]

(1) 

(2) 

(3) 

(4) 

Scan or tap for the full solution

Q.89 In calcium fluoride, having the fluorite structure, the coordination numbers for calcium ion (Ca^{2+}) and fluoride ion (F^-) are [NEET 2016 (Phase 2)]

(1) 4 and 2 (2) 6 and 6 (3) 8 and 4 (4) 4 and 8

Scan or tap for the full solution

Q.90 The coagulation values in millimoles per litre of the electrolytes used for the coagulation of As_2S_3 are given below :

I. (NaCl) = 52,

II. ($BaCl_2$) = 0.69,

III. ($MgSO_4$) = 0.22

The correct order of their coagulating power is [NEET 2016 (Phase 2)]

(1) I > II > III (2) II > I > III

(3) III > II > I (4) III > I > II

Scan or tap for the full solution

Biology: Section A

Q.91 The label of a herbarium sheet does not carry information on [NEET 2016 (Phase 2)]

(1) date of collection (2) name of collector

(3) local names (4) height of the plant.

Scan or tap for the full solution

Q.92 Match **column I** with **column II** for housefly classification and select the correct option using the codes given below. [NEET 2016 (Phase 2)]

Column I		Column II	
a.	Family	i.	Diptera
b.	Order	ii.	Arthropoda
c.	Class	iii.	Muscidae
d.	Phylum	iv.	Insecta

(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

(2) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(4) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)

Solution

Q.93 Study the four statements (A-D) given below and select the two correct ones out of them.

The two correct statements are

A. Definition of biological species was given by Ernst Mayr.

B. Photoperiod does not affect reproduction in plants.

C. Binomial nomenclature system was given by R.H. Whittaker.

D. In unicellular organisms, reproduction is synonymous with growth. [NEET 2016 (Phase 2)]

(1) B and C (2) C and D

(3) A and D (4) A and B

Scan or tap for the full solution

Q.94 Which one of the following is wrong for fungi? [NEET 2016 (Phase 2)]

(1) They are eukaryotic.

(2) All fungi possess a purely cellulosic cell wall.

(3) They are heterotrophic.

(4) They are both unicellular and multicellular.

Scan or tap for the full solution

Q.95 Methanogens belong to [NEET 2016 (Phase 2)]

(1) eubacteria (2) archaebacteria

(3) dinoflagellates (4) slime moulds.

Scan or tap for the full solution

Q.96 Select the wrong statement. [NEET 2016 (Phase 2)]

(1) The walls of diatoms are easily destructible.

(2) 'Diatomaceous earth' is formed by the cell walls of diatoms.

(3) Diatoms are chief producers in the oceans.

(4) Diatoms are microscopic and float passively in water.

Scan or tap for the full solution

Q.97 Conifers are adapted to tolerate extreme environmental conditions because of [NEET 2016 (Phase 2)]

(1) broad hardy leaves (2) superficial stomata

(3) thick cuticle (4) presence of vessels.

Scan or tap for the full solution

Q.98 Which one of the following statements is wrong? [NEET 2016 (Phase 2)]

(1) Algae increase the level of dissolved oxygen in the immediate environment.

(2) Algin is obtained from red algae, and carrageenan from brown algae.

(3) Agar-agar is obtained from *Gelidium* and *Gracilaria*.

(4) *Laminaria* and *Sargassum* are used as food.

Scan or tap for the full solution

Q.99 The term 'polyadelphous' is related to [NEET 2016 (Phase 2)]

(1) gynoecium (2) androecium

(3) corolla (4) calyx.

Scan or tap for the full solution

Q.100 How many plants among *Indigofera*, *Sesbania*, *Salvia*, *Allium*, *Aloe*, mustard, groundnut, radish, gram and turnip have stamens with different lengths in their flowers? [NEET 2016 (Phase 2)]

(1) Three (2) Four (3) Five (4) Six

Scan or tap for the full solution

Q.101 Radial symmetry is found in the flowers of [NEET 2016 (Phase 2)]

(1) *Brassica* (2) *Trifolium*
(3) *Pisum* (4) *Cassia*.

Scan or tap for the full solution

Q.102 Free-central placentation is found in [NEET 2016 (Phase 2)]

(1) *Dianthus* (2) *Argemone*
(3) *Brassica* (4) *Citrus*.

Scan or tap for the full solution

Q.103 A non-proteinaceous enzyme is [NEET 2016 (Phase 2)]

(1) lysozyme (2) ribozyme
(3) ligase (4) deoxyribonuclease.

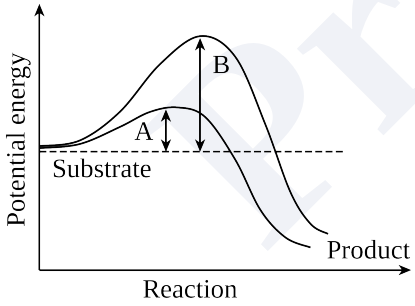
Scan or tap for the full solution

Q.104 Which of the following is the least likely to be involved in establishing the three-dimensional folding of most proteins? [NEET 2016 (Phase 2)]

(1) Hydrogen bonds
(2) Electrostatic interaction
(3) Hydrophobic interaction
(4) Ester bonds

Solution

Q.105 Which of the following describes the given graph correctly? [NEET 2016 (Phase 2)]



(1) Endothermic reaction with energy A in presence of enzyme and B in absence of enzyme.
(2) Exothermic reaction with energy A in presence of enzyme and B in absence of enzyme.
(3) Endothermic reaction with energy A in absence of enzyme and B in presence of enzyme.
(4) Exothermic reaction with energy A in absence of enzyme and B in presence of enzyme.

Scan or tap for the full solution

Q.106 During cell growth, DNA synthesis takes place on [NEET 2016 (Phase 2)]

(1) S-phase (2) G_1-phase
(3) G_2-phase (4) M phase

Scan or tap for the full solution

Q.107 When cell has stalled DNA replication fork, which checkpoint should be predominantly activated? [NEET 2016 (Phase 2)]

(1) G_1/S (2) G_2/M
(3) M (4) Both G_2/M and M

Scan or tap for the full solution

Q.108 Match the stages of meiosis in **column I** to their characteristic features in **column II** and select the correct option using the codes given below. [NEET 2016 (Phase 2)]

Column I		Column II	
a.	Pachytene	i.	Pairing of homologous chromosomes
b.	Metaphase I	ii.	Terminalisation of chiasmata
c.	Diakinesis	iii.	Crossing-over takes place
d.	Zygotene	iv.	Chromosomes align at equatorial plate

(1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(2) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii)
(3) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
(4) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

Solution

Q.109 The process which makes major difference between C_3 and C_4 plants is [NEET 2016 (Phase 2)]

(1) glycolysis (2) Calvin cycle
(3) photorespiration (4) respiration.

Scan or tap for the full solution

Q.110 Which of the following biomolecules is common to respiration-mediated breakdown of fats, carbohydrates and proteins? [NEET 2016 (Phase 2)]

(1) Glucose-6-phosphate
(2) Fructose 1, 6-bisphosphate
(3) Pyruvic acid
(4) Acetyl CoA

Solution

Q.111 Oxidative phosphorylation is [NEET 2016 (Phase 2)]

(1) formation of ATP by transfer of phosphate group from a substrate to ADP
(2) oxidation of phosphate group in ATP
(3) addition of phosphate group to ATP
(4) formation of ATP by energy released from electrons removed during substrate oxidation.

Scan or tap for the full solution

Q.112 You are given a tissue with its potential for differentiation in an artificial culture. Which of the following pairs of hormones would you add to the medium to secure shoots as well as roots? [NEET 2016 (Phase 2)]

(1) IAA and gibberellin
(2) Auxin and cytokinin
(3) Auxin and abscisic acid
(4) Gibberellin and abscisic acid

Solution

Q.113 Phytochrome is a [NEET 2016 (Phase 2)]

(1) flavoprotein (2) glycoprotein
(3) lipoprotein (4) chromoprotein

Scan or tap for the full solution

Q.114 In majority of angiosperms [NEET 2016 (Phase 2)]

(1) egg has a filiform apparatus
(2) there are numerous antipodal cells
(3) reduction division occurs in the megaspore mother cells
(4) a small central cell is present in that embryo sac.

Scan or tap for the full solution

Q.115 Pollination in water hyacinth and water lily is brought about by the agency of [NEET 2016 (Phase 2)]

(1) water (2) insects or wind
(3) birds (4) bats.

Scan or tap for the full solution

Q.116 The ovule of an angiosperm is technically equivalent to [NEET 2016 (Phase 2)]

(1) megasporangium
(2) megasporophyll
(3) megaspore mother cell
(4) megaspore.

Solution

Q.117 The mechanism that causes a gene to move from one linkage group to another is called [NEET 2016 (Phase 2)]

(1) crossing-over (2) translocation
(3) duplication (4) inversion

Scan or tap for the full solution

Q.118 If a colour-blind man marries a woman who is homozygous for normal colour vision, the probability of their son being colour-blind is [NEET 2016 (Phase 2)]

(1) 0.75 (2) 0.5 (3) 0 (4) 1

Scan or tap for the full solution

Q.119 Taylor conducted the experiments to prove semiconservative mode of chromosome replication on [NEET 2016 (Phase 2)]

(1) *Vicia faba*
(2) *Drosophila melanogaster*
(3) *Vinca rosea*
(4) *E. coli*

Solution

Q.120 The equivalent of a structural gene is - [NEET 2016 (Phase 2)]

(1) cistron (2) recon (3) muton (4) operon

Scan or tap for the full solution

Q.121 Which of the following rRNAs acts as structural RNA as well as ribozyme in bacteria ? [NEET 2016 (Phase 2)]

(1) 5.8 S rRNA (2) 23 S rRNA
(3) 18 S rRNA (4) 5 S rRNA

Scan or tap for the full solution

Q.122 A molecule that can act as a genetic material must fulfill the traits given below, except [NEET 2016 (Phase 2)]

(1) it should be able to express itself in the form of 'Mendelian characters'
(2) it should be unstable structurally and chemically
(3) it should provide the scope for slow changes that are required for evolution
(4) it should be able to generate its replica

Scan or tap for the full solution

Q.123 DNA-dependent RNA polymerase catalyzes transcription on one strand of the DNA which is called the [NEET 2016 (Phase 2)]

(1) coding strand (2) antistrand
(3) template strand (4) alpha strand

Scan or tap for the full solution

Q.124 Match **Column-I** with **Column-II** and select the correct option using the codes given below – [NEET 2016 (Phase 2)]

Column I		Column II	
a.	Pistils fused together	i.	Gametogenesis
b.	Formation of gametes	ii.	Pistillate
c.	Hyphae of higher Ascomycetes	iii.	Syncarpous
d.	Unisexual female flower	iv.	Dikaryotic

(1) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)
(2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(4) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii)

Solution

Q.125 Which of the following is correct for r-selected species ? [NEET 2016 (Phase 2)]
(1) Small number of progeny with small size
(2) Small number of progeny with large size
(3) Large number of progeny with small size
(4) Large number of progeny with large size

Scan or tap for the full solution

Q.126 If '+' sign is assigned to beneficial interaction, '–' sign to detrimental and '0' sign to neutral interaction, then the population interaction represented by '+' '–' refers to [NEET 2016 (Phase 2)]
(1) parasitism (2) commensalism
(3) mutualism (4) amensalism

Scan or tap for the full solution

Q.127 The principle of competitive exclusion was stated by [NEET 2016 (Phase 2)]
(1) MacArthur (2) G. F. Gause
(3) Verhulst & Pearl (4) C. Darwin

Scan or tap for the full solution

Q.128 The primary producers of the deep-sea hydrothermal vent ecosystem are [NEET 2016 (Phase 2)]
(1) chemosynthetic bacteria
(2) coral reefs
(3) green algae
(4) blue-green algae

Solution

Q.129 How many hot spots of biodiversity in the world have been identified till date by Norman Myers ? [NEET 2016 (Phase 2)]
(1) 34 (2) 17 (3) 43 (4) 25

Scan or tap for the full solution

Q.130 Which of the following is correctly matched ? [NEET 2016 (Phase 2)]
(1) Stratification-Population
(2) *Parthenium hysterophorus*-Threat to biodiversity
(3) Aerenchyma-*Opuntia*
(4) Age pyramid-Biome

Scan or tap for the full solution

Q.131 Red List contains data or information on [NEET 2016 (Phase 2)]
(1) threatened species
(2) marine vertebrates only
(3) all economically important plants
(4) plants whose products are in international trade

Scan or tap for the full solution

Q.132 Which of the following National Parks is home to the famous musk deer or hangul ? [NEET 2016 (Phase 2)]
(1) Eaglenest Wildlife Sanctuary, Arunachal Pradesh
(2) Dachigam National Park, Jammu & Kashmir
(3) Keibul Lamjao National Park, Manipur
(4) Bandhavgarh National Park, Madhya Pradesh

Scan or tap for the full solution

Q.133 Cortex is the region found between - [NEET 2016 (Phase 2)]
(1) endodermis and pith
(2) endodermis and vascular bundle
(3) epidermis and stele
(4) pericycle and endodermis

Solution

Q.134 The balloon-shaped structures called tyloses [NEET 2016 (Phase 2)]
(1) are extensions of xylem parenchyma cells into vessels
(2) originate in the lumen of vessels
(3) are linked to the ascent of sap through xylem vessels
(4) characterize the sapwood

Scan or tap for the full solution

Q.135 Select the mismatch. [NEET 2016 (Phase 2)]
(1) Large central vacuoles – Animal cells
(2) Methanogens – Prokaryotes
(3) Gas vacuoles – Green bacteria
(4) Protists – Eukaryotes

Solution

Q.136 Select the wrong statement- [NEET 2016 (Phase 2)]
(1) Pili and fimbriae are mainly involved in motility of bacterial cells
(2) *Mycoplasma* is a wall-less microorganism
(3) Bacterial cell wall is made up of peptidoglycan
(4) Cyanobacteria lack flagellated cells.

Scan or tap for the full solution

Q.137 A cell organelle containing hydrolytic enzymes is [NEET 2016 (Phase 2)]

(1) Ribosome (2) Mesosome
(3) Lysosome (4) Microsome

Scan or tap for the full solution

Q.138 A few drops of sap were collected by cutting across a plant stem by a suitable method. The sap was tested chemically. Which one of the following test results indicates that it is phloem sap? [NEET 2016 (Phase 2)]

(1) Acidic
(2) Alkaline
(3) Low refractive index
(4) Absence of sugar

Solution

Q.139 Which is essential for the growth of root tip? [NEET 2016 (Phase 2)]

(1) Zn (2) Fe (3) Ca (4) Mn

Scan or tap for the full solution

Q.140 Which one of the following statements is not correct? [NEET 2016 (Phase 2)]

(1) Offspring produced by the asexual reproduction are called clone.
(2) Microscopic, motile, asexual reproductive structures are called zoospores.
(3) In potato, banana and ginger, the plantlets arise from the internodes present in the modified stem.
(4) Water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes.

Scan or tap for the full solution

Q.141 Which one of the following generates new genetic combinations leading to variation? [NEET 2016 (Phase 2)]

(1) Vegetative reproduction
(2) Parthenogenesis
(3) Sexual reproduction
(4) Nucellar polyembryony

Solution

Q.142 Match **column I** with **column II** and select the correct option using the codes given below. [NEET 2016 (Phase 2)]

Column I		Column II	
a.	Pistils fused together	i.	Gametogenesis
b.	Formation of gametes	ii.	Pistillate
c.	Hyphae of higher Ascomycetes	iii.	Syncarpous
d.	Unisexual female flower	iv.	Dikaryotic

(1) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
(3) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)
(4) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

Solution

Q.143 A true breeding plant is - [NEET 2016 (Phase 2)]

(1) produced due to cross-pollination among unrelated plants
(2) one that is able to breed on its own
(3) near homozygous and produces offspring of its own kind
(4) always homozygous recessive in its genetic constitution

Scan or tap for the full solution

Q.144 Interspecific hybridisation is the mating of [NEET 2016 (Phase 2)]

(1) animals within same breed without having common ancestors
(2) superior males and females of different breeds
(3) more closely related individuals within same breed for 4-6 generations
(4) two different related species

Scan or tap for the full solution

Q.145 Among the following edible fishes, which one is a marine fish having rich source of omega-3 fatty acids ? [NEET 2016 (Phase 2)]

(1) Mangur (2) Mystus
(3) Mackerel (4) Mrigala

Scan or tap for the full solution

Q.146 Biochemical Oxygen Demand (BOD) may not be a good index for pollution for water bodies receiving effluents from [NEET 2016 (Phase 2)]

(1) petroleum industry (2) sugar industry
(3) domestic sewage (4) dairy industry

Scan or tap for the full solution

Q.147 A lake which is rich in organic waste may result in [NEET 2016 (Phase 2)]

(1) mortality of fish due to lack of oxygen
(2) increased population of fish due to lots of nutrients
(3) increased population of aquatic organisms due to minerals
(4) drying of the lake due to algal bloom

Scan or tap for the full solution

Q.148 The highest DDT concentration in aquatic food chain shall occur in [NEET 2016 (Phase 2)]

(1) crab (2) Phytoplankton
(3) eel (4) seagull

Scan or tap for the full solution

Q.149 Choose the correct statement [NEET 2016 (Phase 2)]
(1) All mammals are viviparous.
(2) All cyclostomes do not possess jaws and paired fins.
(3) All reptiles have a three-chambered heart.
(4) All pisces have gills covered by an operculum.

Scan or tap for the full solution

Q.150 The partial pressure of oxygen in the alveoli of the lungs is [NEET 2016 (Phase 2)]
(1) equal to that in the blood
(2) more than that in the blood
(3) less than that in the blood
(4) less than that of carbon dioxide.

Solution

Q.151 Lungs do not collapse between breaths and some air always remains in the lungs which can never be expelled because [NEET 2016 (Phase 2)]
(1) there is a negative pressure in the lungs
(2) there is a negative intrapleural pressure pulling at the lung walls
(3) there is a positive intrapleural pressure
(4) pressure in the lungs is higher than the atmospheric pressure.

Scan or tap for the full solution

Q.152 Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body. [NEET 2016 (Phase 2)]
(1) Erythrocytes (2) Leucocytes
(3) Neutrophils (4) Thrombocytes

Scan or tap for the full solution

Q.153 Serum differs from blood in [NEET 2016 (Phase 2)]
(1) lacking globulins
(2) lacking albumins
(3) lacking clotting factors
(4) lacking antibodies.

Solution

Q.154 The part of nephron involved in active reabsorption of sodium is [NEET 2016 (Phase 2)]
(1) distal convoluted tubule
(2) proximal convoluted tubule
(3) Bowman's capsule
(4) descending limb of Henle's loop

Solution

Q.155 Name the ion responsible for unmasking of active sites for myosin for cross-bridge activity during muscle contraction. [NEET 2016 (Phase 2)]
(1) Calcium (2) Magnesium
(3) Sodium (4) Potassium

Scan or tap for the full solution

Q.156 Osteoporosis, an age-related disease of skeletal system, may occur due to [NEET 2016 (Phase 2)]
(1) immune disorder affecting neuromuscular junction leading to fatigue
(2) high concentration of Ca^{++} and Na^{+}
(3) decreased level of estrogen
(4) accumulation of uric acid leading to inflammation of joints.

Scan or tap for the full solution

Q.157 Graves' disease is caused due to [NEET 2016 (Phase 2)]
(1) hyposecretion of thyroid gland
(2) hypersecretion of thyroid gland
(3) hyposecretion of adrenal gland
(4) hypersecretion of adrenal gland.

Solution

Q.158 Name a peptide hormone which acts mainly on hepatocytes, adipocytes and enhances cellular glucose uptake and utilisation. [NEET 2016 (Phase 2)]
(1) Insulin (2) Glucagon
(3) Secretin (4) Gastrin

Scan or tap for the full solution

Q.159 The posterior pituitary gland is not a 'true' endocrine gland because [NEET 2016 (Phase 2)]
(1) it is provided with a duct
(2) it only stores and releases hormones
(3) it is under the regulation of hypothalamus
(4) it secretes enzymes.

Scan or tap for the full solution

Q.160 Which of the following depicts the correct pathway of transport of sperms? [NEET 2016 (Phase 2)]
(1) Rete testis ⟶ Efferent ductules ⟶ Epididymis ⟶ Vas deferens
(2) Rete testis ⟶ Epididymis ⟶ Efferent ductules ⟶ Vas deferens
(3) Rete testis ⟶ Vas deferens ⟶ Efferent ductules ⟶ Epididymis
(4) Efferent ductules ⟶ Rete testis ⟶ Vas deferens ⟶ Epididymis

Scan or tap for the full solution

Q.161 Match **column I** with **column II** and select the correct option using the codes given below. [NEET 2016 (Phase 2)]

Column I		Column II	
a.	Mons pubis	i.	Embryo formation
b.	Antrum	ii.	Sperm
c.	Trophectoderm	iii.	Female external genitalia
d.	Nebenkern	iv.	Graafian follicle

(1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(4) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)

Solution

Q.162 Several hormones like hCG, hPL, estrogen, progesterone are produced by [NEET 2016 (Phase 2)]
(1) ovary (2) placenta
(3) Fallopian tube (4) pituitary.

Scan or tap for the full solution

Q.163 Which of the following is hormone releasing IUD ? [NEET 2016 (Phase 2)]
(1) Lippes loop (2) LNG-20
(3) Cu7 (4) Multiload 375

Scan or tap for the full solution

Q.164 Which of the following is incorrect regarding vasectomy ? [NEET 2016 (Phase 2)]
(1) No sperm occurs in epididymis
(2) No sperm occurs in seminal fluid
(3) Irreversible sterility
(4) Vasa deferentia is cut and tied

Scan or tap for the full solution

Q.165 Embryo with more than 16 blastomeres formed due to in vitro fertilization is transferred into [NEET 2016 (Phase 2)]
(1) fimbriae (2) cervix
(3) uterus (4) fallopian tube

Scan or tap for the full solution

Q.166 Genetic drift operates in [NEET 2016 (Phase 2)]
(1) slow reproductive population
(2) large isolated population
(3) non-reproductive population
(4) small isolated population

Solution

Q.167 In Hardy-Weinberg equation, the frequency of heterozygous individual is represented by [NEET 2016 (Phase 2)]
(1) pq (2) p^2 (3) 2pq (4) q^2

Scan or tap for the full solution

Q.168 The chronological order of human evolution from early to the recent is [NEET 2016 (Phase 2)]
(1) *Ramapithecus* ⟶ *Homo habilis* ⟶ *Australopithecus* ⟶ *Homo erectus*
(2) *Australopithecus* ⟶ *Ramapithecus* ⟶ *Homo habilis* ⟶ *Homo erectus*
(3) *Ramapithecus* ⟶ *Australopithecus* ⟶ *Homo habilis* ⟶ *Homo erectus*
(4) *Australopithecus* ⟶ *Homo habilis* ⟶ *Ramapithecus* ⟶ *Homo erectus*

Scan or tap for the full solution

Q.169 Which of the following is the correct sequence of events in the origin of life ?
I. Formation of protobionts
II. Synthesis of organic monomers
III. Synthesis of organic polymers
IV. Formation of DNA-based genetic systems
[NEET 2016 (Phase 2)]
(1) II, III, I, IV (2) II, III, IV, I
(3) I, II, III, IV (4) I, III, II, IV

Scan or tap for the full solution

Q.170 Which of the following sets of diseases is caused by bacteria ? [NEET 2016 (Phase 2)]
(1) Herpes and influenza
(2) Cholera and tetanus
(3) Tetanus and mumps
(4) Typhoid and smallpox

Solution

Q.171 Which of the following is correct regarding AIDS causative agent HIV ? [NEET 2016 (Phase 2)]
(1) HIV is unenveloped retrovirus
(2) HIV is enveloped virus containing one molecule of single-stranded RNA and one molecule of reverse transcriptase.
(3) HIV does not escape but attacks the acquired immune response
(4) HIV is enveloped virus that contains two identical molecules of single-stranded RNA and two molecules of reverse transcriptase

Scan or tap for the full solution

Q.172 Stirred-tank bioreactors have been designed for - [NEET 2016 (Phase 2)]
(1) ensuring anaerobic conditions in the culture vessel
(2) addition of preservatives to the product
(3) purification of product
(4) availability of oxygen throughout the process

Scan or tap for the full solution

Q.173 A foreign DNA and plasmid cut by the same restriction endonuclease can be joined to form a recombinant plasmid using [NEET 2016 (Phase 2)]

(1) Eco RI (2) Polymerase III
(3) Ligase (4) Taq polymerase

Scan or tap for the full solution

Q.174 Which of the following is not a component of downstream processing ? [NEET 2016 (Phase 2)]

(1) Purification (2) Expression
(3) Preservation (4) Separation

Scan or tap for the full solution

Q.175 Which of the following restriction enzymes produces blunt ends ? [NEET 2016 (Phase 2)]

(1) Eco RV (2) Hind III
(3) Xho I (4) Sal I

Scan or tap for the full solution

Q.176 Which kind of therapy was given in 1990 to a four-year-old girl with adenosine deaminase [ADA] deficiency ? [NEET 2016 (Phase 2)]

(1) Radiation therapy (2) Immunotherapy
(3) Gene therapy (4) Chemotherapy

Scan or tap for the full solution

Q.177 In male cockroaches, sperms are stored in which part of the reproductive system ? [NEET 2016 (Phase 2)]

(1) Vas deferens (2) Seminal vesicles
(3) Testes (4) Mushroom glands

Scan or tap for the full solution

Q.178 Smooth muscles are [NEET 2016 (Phase 2)]

(1) involuntary, cylindrical, striated
(2) involuntary, fusiform, non-striated
(3) voluntary, spindle-shaped, uninucleate
(4) voluntary, multinucleate, cylindrical

Scan or tap for the full solution

Q.179 Which hormones do stimulate the production of pancreatic juice and bicarbonate? [NEET 2016 (Phase 2)]

(1) Angiotensin and epinephrine
(2) Gastrin and insulin
(3) Cholecystokinin and secretin
(4) Insulin and glucagon

Solution

Q.180 Choose the correct statement. [NEET 2016 (Phase 2)]

(1) Nociceptors respond to changes in pressure.
(2) Meissner's corpuscles are thermoreceptors.
(3) Photoreceptors in the human eye are depolarised during darkness and become hyperpolarised in response to the light stimulus.
(4) Receptors do not produce graded potentials.

Scan or tap for the full solution

ANSWER KEY

Physics: Section A

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**1**	**4**	**3**	**1**	**3**	**2**	**3**	**3**	**2**	**1**	**2**
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	**2**	**2**	**2**	**2**	**2**	**4**	**2**	**2**	**4**	**2**	**4**
Ques.	23	24	25	26	27	28	29	30	31	32	33
Ans.	**2**	**3**	**4**	**3**	**2**	**1**	**2**	**3**	**4**	**3**	**1**
Ques.	34	35	36	37	38	39	40	41	42	43	44
Ans.	**4**	**3**	**2**	**2**	**4**	**1**	**4**	**3**	**1**	**3**	**4**
Ques.	45										
Ans.	**2**										

Chemistry: Section A

Ques.	46	47	48	49	50	51	52
Ans.	**1**	**2**	**3**	**3**	**3**	**1, 4**	**1**
Ques.	53	54	55	56	57	58	59
Ans.	**3**	**2**	**2**	**2**	**2**	**1**	**4**
Ques.	60	61	62	63	64	65	66
Ans.	**1**	**4**	**3**	**3**	**1**	**3**	**4**
Ques.	67	68	69	70	71	72	73
Ans.	**2**	**2**	**3**	**2**	**3**	**4**	**4**
Ques.	74	75	76	77	78	79	80
Ans.	**4**	**2**	**2**	**1**	**3**	**4**	**1**
Ques.	81	82	83	84	85	86	87
Ans.	**3**	**2**	**3**	**2**	**2**	**3**	**3**
Ques.	88	89	90				
Ans.	**4**	**3**	**3**				

Biology: Section A

Ques.	91	92	93	94	95	96	97
Ans.	**4**	**1**	**3**	**2**	**2**	**1**	**3**
Ques.	98	99	100	101	102	103	104
Ans.	**2**	**2**	**2**	**1**	**1**	**2**	**4**
Ques.	105	106	107	108	109	110	111
Ans.	**2**	**1**	**1**	**1**	**3**	**4**	**4**
Ques.	112	113	114	115	116	117	118
Ans.	**2**	**4**	**3**	**2**	**1**	**2**	**3**
Ques.	119	120	121	122	123	124	125
Ans.	**1**	**1**	**2**	**2**	**3**	**3**	**3**
Ques.	126	127	128	129	130	131	132
Ans.	**1**	**2**	**1**	**1**	**2**	**1**	**2**
Ques.	133	134	135	136	137	138	139
Ans.	**3**	**1**	**1**	**1**	**3**	**2**	**3**
Ques.	140	141	142	143	144	145	146
Ans.	**3**	**3**	**4**	**3**	**4**	**3**	**1**
Ques.	147	148	149	150	151	152	153
Ans.	**1**	**4**	**2**	**2**	**2**	**4**	**3**
Ques.	154	155	156	157	158	159	160
Ans.	**2**	**1**	**3**	**2**	**1**	**2**	**1**
Ques.	161	162	163	164	165	166	167
Ans.	**2**	**2**	**2**	**1**	**3**	**4**	**3**
Ques.	168	169	170	171	172	173	174
Ans.	**3**	**1**	**2**	**4**	**4**	**3**	**2**
Ques.	175	176	177	178	179	180	
Ans.	**1**	**3**	**2**	**2**	**3**	**3**	

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