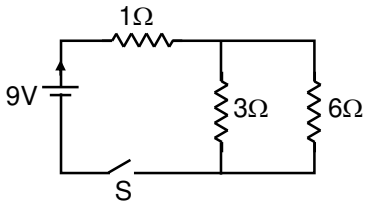
# AIIMS-2019 PHYSICS (26-05-19) II$^{ND}$ SHIFT

## PART - A (PHYSICS)

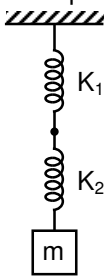
**Total Number of Questions (33)**

**1.** 


After switch is closed, current drawn from the battery is:

(1) 6A (2) 1.5A (3) 3A (4) 4A

**2.** Time period of oscillation for given combination will be:




(1) $2\pi\sqrt{\frac{m(K_1+K_2)}{K_1K_2}}$ (2) $2\pi\sqrt{\frac{m}{K_1+K_2}}$ (3) $2\pi\sqrt{\frac{mK_1K_2}{K_1+K_2}}$ (4) $2\pi\sqrt{\frac{mK_1}{K_2}}$

**3.** For a wire $\frac{R}{\ell} = \frac{1}{2}$ and length of wire is $\ell$ = 5 cm. If potential difference of 1 V is applied across it, current through wire will be: (R = Resistance)

(1) 40A (2) 4A (3) 25A (4) 2.5A

**4.** If modulation index $\mu = \frac{1}{2}$ and $V_M = 2$ then $V_C = ?$

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

**5.** A body of mass $5 \times 10^3$ kg moving with speed 2 m/s collides with a body of mass $15 \times 10^3$ kg inelastically & sticks to it. Then loss in K.E. of the system will be:

(1) 7.5 kJ (2) 15 kJ (3) 10 kJ (4) 5 kJ

**6.** A disc of radius 5 m is rotating with angular frequency 10 rad/sec. A block of mass 2 kg is to be put on the disc friction coefficient between disc and block is $\mu_K = 0.4$, then find the maximum distance from axis where the block can be placed without sliding:

(1) 2 cm (2) 3 cm (3) 4 cm (4) 6 cm

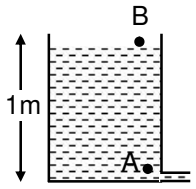
**7.** Angular magnification of telescope if focal length of objective and eye lenses are 10 cm and 10 mm respectively and tube length is 11 cm:

(1) 10 (2) 5 (3) 100 (4) 50

**8.** An electron is moving in a circle of radius 2m with speed 4 m/s. Find the acceleration of the electron:

(1) 8 $m/s^2$ (2) 4 $m/s^2$ (3) 16 $m/s^2$ (4) 10 $m/s^2$

**9.** A container of height 10 cm is filled with water. There is a hole at bottom. Find the pressure difference between points A & B:




(1) 1000 Pa (2) zero (3) 1 Pa (4) 100 Pa

**10.** A coil is placed in y-z plane making an angle of 30º with x-axis. The current through coil is I, and number of turns are N. If a magnetic field of strength 'B' is applied in positive x-direction, then find the torque experienced by the coil: (Radius of coil is R)

(N = 100, I = 1A, R = 2m, B = $\frac{1}{\pi}$T)

(1) 100 N-m (2) 50 N-m (3) 200 N-m (4) 150 N-m

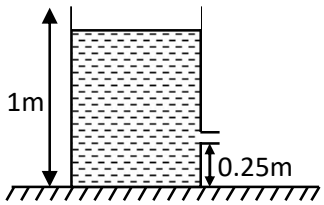
**11.** In YDSE a = 2mm, D = 2m, $\lambda$ = 500 mm. Find distance of point on screen from central maxima where intensity becomes 50% of central maxima

(1) 1000 $\mu$m (2) 500 $\mu$m (3) 250 $\mu$mu (4) 125 $\mu$m

**12.** A sample which has half life of $10^{33}$ year. If initial number of nuclei of the sample is $26 \times 10^{24}$. Then find out the number of nuclei decayed in 1 year.

(1) $1.82 \times 10^{-7}$ (2) $182 \times 10^{-7}$ (3) $18.2 \times 10^{-7}$ (4) $1820 \times 10^{-7}$

**13.** If a small orifice is made at a height of 0.25 m from the ground, the horizontal range of water stream will be :-




(1) 46.5 cm (2) 56.6 cm (3) 76.6 cm (4) 86.6 cm

**14.** A capacitor is connected to a battery of voltage V. Now a di-electric slab of di-electric constant k is completely inserted between the plates, then the final charge on the capacitor will be: (If initial charge is $q_o$)

(1) $\frac{\varepsilon_0 A}{d} V$ (2) $\frac{k\varepsilon_0 A}{d} V$ (3) $\frac{\varepsilon_0 A}{kd} V$ (4) zero

**15.** Unit of magnetic flux is :

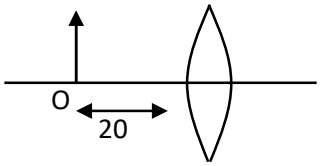
(1) Tesla (2) Gauss (3) Weber (4) Weber/$m^2$

**16.** Calculate the mean % error in five observations :

80.0, 80.5, 81.0, 81.5, 82

(1) 0.74% (2) 1.74% (3) 0.38% (4) 1.38%

**17.** Calculate focal length of given lens if the magnification is –0.5.




(1) 6.66 cm (2) 5.44 cm (3) 3.88 cm (4) 1.38 cm

**18.** Transformer $\rightarrow$ ideal $\rightarrow E_P = 1000V$, $I_P = 50A$
$220V \rightarrow 80$ houses
Resistance of secondary coil will be:
(1) 2 $\Omega$ (2) 3 $\Omega$ (3) 1 $\Omega$ (4) 4 $\Omega$

**19.** Dimension of magnetic flux.
(1) $MT^{-1}L^2Q^{-1}$ (2) $MT^{-2}L^3Q^{-1}$ (3) $MT^{-1}L^{-1}Q$ (4) $MTL^2Q$

**20.** At which excited state of $Be^{3+}$ radius of $e^-$ will be same as H atoms and electron in ground state.
(1) 1 (2) 2 (3) 3 (4) 4

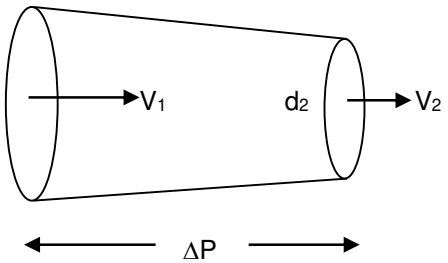
**21.** In LCR series circuit source voltage is 120 volt and voltage in inductor 50 volt and resistance is 40 volt, then determine voltage in capacitor.

(1) $V_C = 10(5 - 8\sqrt{2})$ (2) $V_C = 10(5 + 8\sqrt{2})$ (3) $V_C = 20(5 + 8\sqrt{2})$ (4) $V_C = 10(5 + 7\sqrt{2})$

**22.** Determine the pressure difference in tube of non-uniform cross sectional area as shown in figure.

$\Delta P$ = ?

$d_1$ = 5 cm, $V_1$ = 4, $d_2$ = 2 cm, $V_2$ = ?




(1) 304200 Pa (2) 304500 Pa (3) 302500 Pa (4) 303500 Pa

**23.** $mx^2 - bx + k = 0$

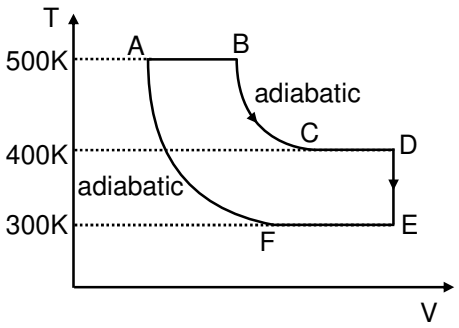
Find time after which to the energy will become half of initial maximum value in damped forced oscillation.

(1) $t = \frac{m}{b} + \frac{1}{2}\ell n2$ (2) $t = \frac{m}{b} \times \frac{2}{3}\ell n2$ (3) $t = \frac{m}{b} - \frac{1}{2}\ell n2$ (4) $t = \frac{m}{b} \times \frac{1}{2}\ell n2$

**24.** $\alpha$ particle is revolving in radius r with frequency f then find value of magnetic dipole moment.

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

**25.** In given thermodynamic process determine efficiency of cycle.




AB, EF, CD $\rightarrow$ isothermal

$\eta = \frac{Q_1 - Q_2}{Q_1} = ?$

**26.** Determine coefficient of performance of given temperature limit.
$T_1 = 27^oC$ [outside fridge]
$T_2 = -23^oC$ [inside fridge]
(1) 4 (2) 5 (3) 6 (4) 7

**27.** **Assertion :** A charge particle is released from rest in magnetic field then it will move in circular path.
**Reason :** Work done by magnetic field is non zero.

**28.** **Assertion :** Water drop stick to glass surface.
**Reason :** Water have properties of surface tension.

**29.** **Assertion :** Photodiode current work in reverse bias.
**Reason :** Change in diode increases with increase in intensity.

**30.** **Assertion:** Coefficient of performance in refrigrator may be greater than one.
**Reason:** Heat extracted from lower temperature reservoir.

**31.** **Assertion:** Binding energy increase with increases atomic mass number.
**Reason:** Density of nucleus increase with increases in atomic mass number.

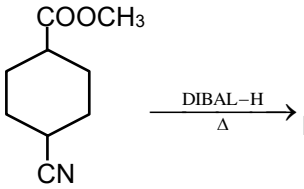
**32.** **Assertion:** When electron and holes combine then this reaction is exothermic.
**Reason:** Hole electron can not combine.

**33.** **Assertion :** Binding energy per unit nucleon increases with increase in atomic mass number.
**Reason :** Density of nucleus increases with increase in mass number.

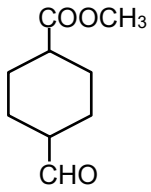
# AIIMS-2019 CHEMISTRY (26-05-19) 2ND SHIFT

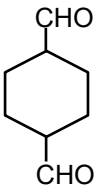
## PART - B (CHEMISTRY)

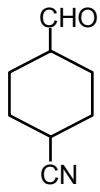
**Total Number of Questions (37)**

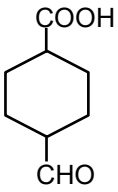
**34.** 

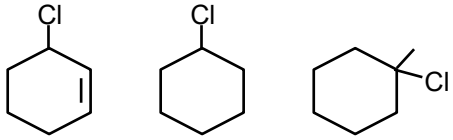
Product, Product is :

(1) 


(2) 


(3) 


(4) 


**35.** 

(i) (ii) (iii)

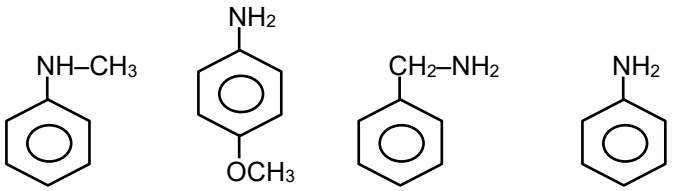
Correct order of SN2 reaction is :

(1) iii > i > ii (2) iii > ii > i (3) i > iii > ii (4) i > ii > iii

**36.** **Assertion :** Phenol is more acidic then m-methoxy phenol
**Reason :** $-OCH_3$ shows +I effect

**37.** **Assertion :** Glyceraldehyde reacts with $Br_2/H_2O$ to form achiral compound
**Reason :** –CHO and $-CH_2OH$ both are oxidized

**38.** **Assertion :** Propene reacts with HI in presence of peroxide give 1-iodopropane.
**Reason :** 1º free radical is less stable than 2º free radical

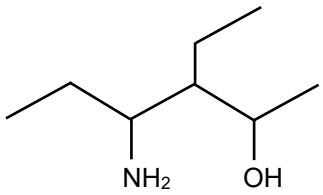
**39.** 

(i) (ii) (iii) (iv)

Correct order of basic strength is :

(1) iii > ii > iv > i (2) iv > iii > ii > i (3) iii > ii > i > iv (4) iii > i > ii > iv

**40.**



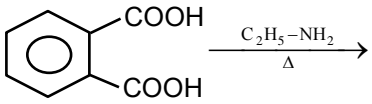

IUPAC name of give compound :

(1) 3-Ethyl-4-Amino-hexan-2-ol
(2) 3-Amino-4-Ethyl-hexan-5-ol
(3) 2-hydroxy-4-Amino hexane
(4) 4–Amino-3-ethyl hexan-2-ol

**41.** **Assertion :** Anhydrides are more reactive than ester for nucleophilic substitution
**Reason :** $R.COO^-$ is better leaving group than $R–O^-$

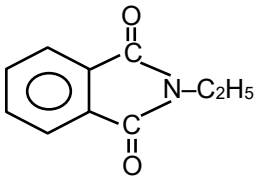
**42.** **Assertion :** m-Bromo tolune can be prepared by m-toluidene
**Reason :** Amino group is meta directing

**43.**

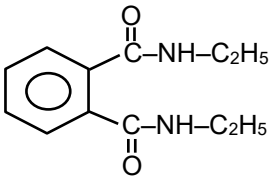



Product is :

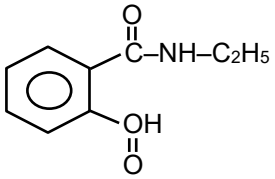
(1)



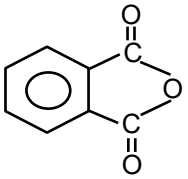

(2)




(3)




(4)




**44.** $CH_3–C\equiv CH \xrightarrow{2HBr} \xrightarrow{H_2O}$ Product, Product is :

(1) $CH_3–\underset{\underset{OH}{|}}{CH}–CH_3$ (2) $CH_3–\underset{\underset{O}{||}}{C}–CH_3$ (3) $CH_3–CH_2–\underset{\underset{O}{||}}{C}–H$ (4) $CH_3–\underset{\underset{OH}{|}}{CH}–\underset{\underset{OH}{|}}{CH_2}$

**45.** Which is the chemical test for polysaccharide

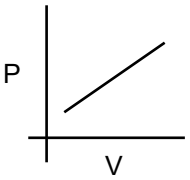
(1) Iodine solution
(2) Ninhydrine test
(3) Tollen's test
(4) Banedict solution

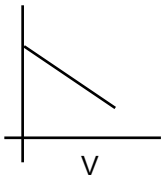
**46.** **Assertion :** $BO_3^{-3}$ and $SO_3^{-2}$ are not isostructural
**Reason :** In $SO_3^{2-}$ sulphur has one lone pair of electron

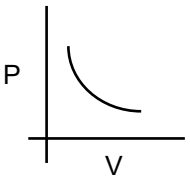
**47.** **Assertion :** Vapour pressure of solvent increases when solvent B is added.
**Reason :** B is more volatile therefor vapour pressure of B is greater than of A.

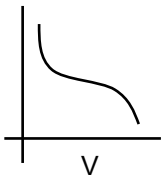
**48.** $H_2O_2$ is obtained by which of the following
(1) $BaO_2$ (2) $MnO_2$ (3) $SeO_2$ (4) $TeO_2$

**49.** Graph between P & V below critical temperature is :

(1) 


(2) 

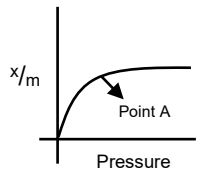

(3) 


(4) 


**50.** At what temperature rate becomes double than at 300 K ? Given lnk = $10 - \frac{69(KJ)}{RT}$

(1) 329 (2) 307.7
(3) 292.03 (4) 323.5

**51.** a graph plot between $\frac{x}{m}$ and pressure




The value of n at point A is

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

**52.** **Assertion :** U is state function
**Reason :** T is an intensive propertive

**53.** **Assertion :** In a process, if work = 0 then $\Delta U = q$
**Reason :** q is difference between initial state and final state of a system.

**54.** Which alkali metal during flame test will show colour corresponding to maximum wavelength?
(1) Li
(2) Na
(3) K
(4) Cs

**55.** Which pair of elements has maximum electronegativity difference?
(1) Li & F
(2) Na & F
(3) Na & Br
(4) Na & Cl

**56.** Which of the following complexes has maximum CFSE?
(1) $K_3[Fe(CN)_6]$
(2) $K_3[Co(Ox)_3]$
(3) $K_3[CoF_6]$
(4) $K_3[Co(CN)_6]$

**57.** $NH_3$ reacts with bleaching powder to given :
(1) $N_2$
(2) $Ca(OH)_2$
(3) $NCl_3$
(4) $O_2$

**58.** In dimer of phosphorus pentaoxide, in what order number of P–P, P=O & P–O–P bonds are there?
(1) P–O–P > P=O > P–P
(2) P=O > P–O–P > P–P
(3) P–O–P > P–P > P=O
(4) P=O > P–P > P–O–P

**59.** For the reaction : A + 2B C + D, the expression of rate of reaction will be :

(1) $\frac{-1}{1}\frac{d[A]}{dt} = \frac{-1}{2}\frac{d[B]}{dt}$ (2) $\frac{1}{1}\frac{d[A]}{dt} = \frac{-1}{2}\frac{d[B]}{dt}$

(3) $\frac{-1}{1}\frac{d[A]}{dt} = \frac{1}{2}\frac{d[B]}{dt}$ (4) $\frac{1}{1}\frac{d[A]}{dt} = \frac{-1}{2}\frac{d[B]}{dt}$

**60.** In FCC, distance between nearest tetrahedral voids is :

(1) $\frac{a}{2}$ (2) a (3) $\sqrt{3}a/2$ (4) $\sqrt{3}a/4$

**61.** For the endothermic reaction $A_2$ 2A, which of the following will increase yield of monomer?

(1) Increase in both temperature and concentration of reactant.
(2) Increase in temperature and decrease in concentration of reactant.
(3) Decrease in temperature and increase in concentration of reactant.
(4) Decrease in both temperature and concentration of reactant.

**62.** Difference in ionization energy & Ionsation enthalpy is :

(1) Zero (2) $\frac{5}{2}RT$ (3) $\frac{3}{2}RT$ (4) None

**63.** In $Fe(CO)_5$ $Cr(CO)_6$, how many CO ligands can be replaced by NO?

(1) 3, 3 (2) 3, 6 (3) 6, 3 (4) 2, 4

**64.** Which of the following has maximum iron content?

(1) Cast Iron (2) Wrought Iron (3) Pig Iron (4) Stainless steel

**65.** Calculate Molarity of a 63% W/W $HNO_3$ solution if density is 5.4 g/mL :

(1) 14 M (2) 12 M (3) 10 M (4) 8 M

**66.** pH of a salt solution of wak acid ($pK_a = 4$) & weak base ($pK_b = 5$) at 25ºC is :
(1) 6.5 (2) 6 (3) 7 (4) 7.5

**67.** Radius of 1st orbit of H & some orbit of $Be^{3+}$ is same . Energy of their orbit of $Be^{3+}$ is :
(1) – 54.4 eV (2) – 13.6 eV (3) – 108.8 eV (4) – 27.2 eV

**68.** Select the correct statement regarding shapes of $PCl_5$, $BrF_5$ & $IF_7$ :
(1) All are square pyramidal (2) All are trigonal bipyramidal
(3) One of the following is square pyramidal (4) one of the following is tetrahedral

**69.** Which of the following is incorrect about $K_2Cr_2O_7$ ?

(1) It can be prepared from $K_2CrO_4$.
(2) It is used in redox titrations.
(3) It is stable in both acid & base.
(4) It is orange in colour

**70.** The conductivity of a 0.05 M solution of a weak monobasic acid is $10^{-3}$ 5cm$^{-1}$. If $\lambda_m^\infty$ for weak acid is 500 5cm$^2$ mol$^{-1}$, calculate Ka of weak monobasic acid :

(1) $8 \times 10^{-5}$
(2) $4 \times 10^{-6}$
(3) $16 \times 10^{-7}$
(4) $14 \times 10^{-8}$

# AIIMS-2019 BIOLOGY (26-05-19) 2nd SHIFT

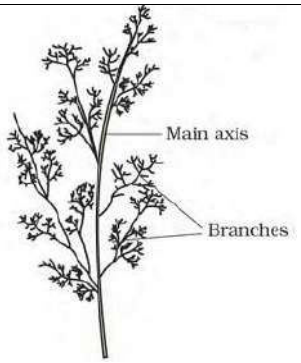
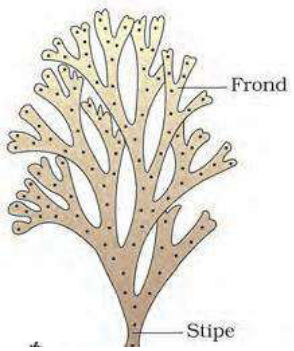
## PART - C (BIOLOGY)

**Total Number of Questions (46)**

**71.** Gene library or DNA library has collection of

(1) DNA and RNA
(2) Any one type of gene of Organism
(3) c DNA only
(4) All possible genes of all organisms

**72.** Identify the diagrams

| | | | |
|---|---|---|---|
|  |  |  |  |
| (i) | (ii) | (iii) | (iv) |

(1) (i) - Porphyra, (ii) - Polysiphonia, (iii) - Chara, (iv) - Dictyota
(2) (i) - Polysiphonia, (ii) - Porphyra, (iii) - Chara, (iv) - Ectocarpus
(3) (i) -Laminaria, (ii) - Polysiphonia, (iii) - chlamidomonas, (iv) - Fucus
(4) (i) - Dictyota, (ii) - Polysiphonia, (iii) - Chara, (iv) - Porphyra

**73.** Which hormone inhibit morphogenesis

(1) ABA
(2) 2,4-D
(3) Jasmonic acid
(4) IBA

**74.** Which increase shoot growth in callus culture?

(1) Cytokinin
(2) Auxin
(3) Gibberellin
(4) ABA

**75.** Match the following

| | Column-I | | Column-II |
|---|---|---|---|
| (i) | Tap root | (a) | Sweet potato |
| (ii) | Adventitious root | (b) | Turnip |
| (iii) | Stem | (c) | Wheat |
| (iv) | Fibrous root | (d) | Potato |

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

**76.** Which gas is present predominantly in biogas

(1) Methane (2) Ethane (3) Butane (4) Propane

**77.** Which is similar term to Hybrid vigour?

(1) Heterosis (2) Homozygosity (3) Heterozygosity (4) Homosis

**78.** Which of the following switch off lac operon

(1) Structural gene (2) Regulator gene (3) Operator gene (4) Promoter gene

**79.** Which of the following is incorrect

(1) Mango and coconut are drupe fruit

(2) According to Euro norm IV sulphur content for petrol is 50 ppm

(3) $CO_2$ and other poisonous gases cause pollution

(4) Apple is a true fruit

**80.** Which gases are responsible for increasing the temperature of atmosphere?

(1) CO, $NO_2$, $H_2S$ (2) $CO_2$, CO, NO (3) $CH_4$, $CO_2$, $N_2O$ (4) $NO_2$, $H_2S$, $CO_2$

**81.** Which statement is correct

(1) Mycoplasma is smallest and wall less living organism

(2) Influenza and herpes caused by virus having DNA and RNA

(3) *Nostoc* and *Anabaena* are important decomposer

(4) Methanogen are methane producing bacteria in wheat crop.

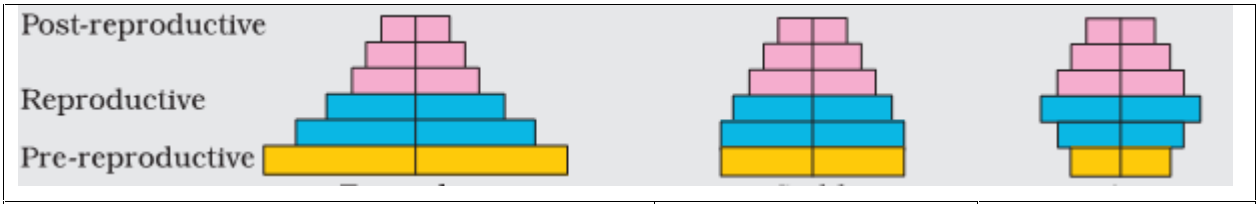
**82.** Match the column-I and column-II

| **Column-I** | **Column-II** |
|---|---|
| (i) *Agaricus* | (a) Ascomycetes |
| (ii) *Colletotrichum* | (b) Deuteromycetes |
| (iii) *Albugo* | (c) Phycomycetes |
| (iv) *Neurospora* | (d) Basidiomycetes |

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

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

**83.**




| a | b | c |
|---|---|---|

Select the correct option w.r.t. Age pyramids.

(1) a - Expanding, b - stable, c – Declining
(2) a - stable, b - Expanding, c - Declining
(3) a - stable, b - Declining, c - Expanding
(4) a - Declining, b - stable, c - Expanding

**84.** Select the correct match

| **(I)** | **(II)** | **(III)** |
|---|---|---|
| (a) + | (i) – | (P) Amensalism |
| (b) – | (ii) – | (Q) Commensalism |
| (c) – | (iii) 0 | (R) Predation |
| (d) + | (iv) 0 | (S) Competition |

(1) a - iv – Q, b - iii – P, c - ii – S, d - i – R
(2) a - i – Q, b - ii – P, c - iii – S, d - iv - R
(3) a - i – Q, b - iii – P, c - ii – S, d - iv – R
(4) a - iv – Q, b - ii – P, c - iii – S, d - i - R

**85.** Match the column-I and column-II

| **Column-I** | **Column-II** |
|---|---|
| (i) Viroid | (a) Ramachandran |
| (ii) Cell | (b) Leewenhoek |
| (iii) Virus | (c) T.O. Diener |
| (iv) Triple helical structure of collagen | (d) Ivanowsky |

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

**86.** The genetic codes of arginine are :

(1) CGU, CGC, CGA
(2) CAU, CAC, CAA
(3) AGU, AGC, AAC
(4) GAU, GAC, GAA

**87.** King of spices is :

(1) *Brassica nigra*
(2) *Piper nigrum*
(3) *Piper longum*
(4) *Curcuma longa*

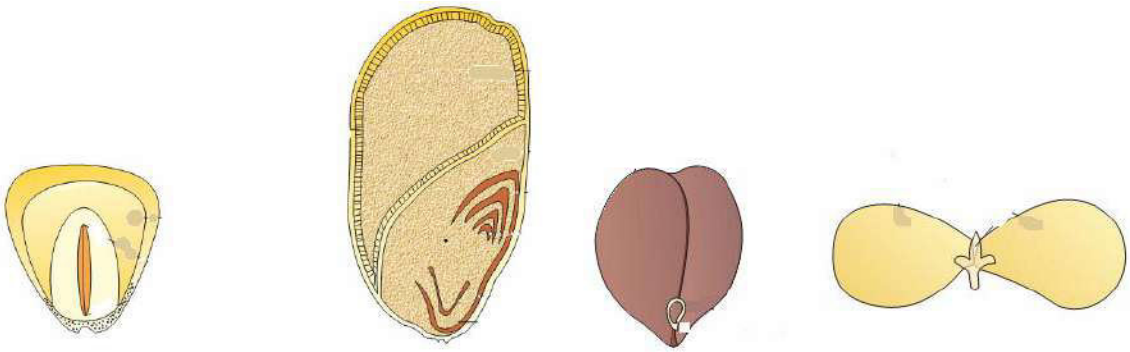
**88.** Which of the following is not found in maize seed :

(1) Coleorhiza (2) Coleoptile (3) Scutellum (4) Perisperm

**89.** What product is formed when $NH_4^+$ reacts with $\alpha$-ketoglutaric acid

(1) Glutamate (2) Fumarate (3) Pyruvate (4) Glutamine

**90.**



(a) (b) (c) (d)

Which of the following is correct for above diagrams :

(1) a & b represent ex-albuminous seeds (2) c & d represent albuminous seeds

(3) a & b represent albuminous seeds (4) c & d represent perispermic seeds

**91.** Match the column-I and column-II

| | **Column-I** | | **Column-II** |
|---|---|---|---|
| (i) | Chrysophyta | (a) | Fungi |
| (ii) | Gonyaulax | (b) | Diatom |
| (iii) | Penicillium | (c) | Plasmodium |
| (iv) | Slime mould | (d) | Dinoflagellate |

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

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

**92.** **Assertion :** In $C_4$ cycle, first stable product has 4 carbon compound

**Reason :** In $C_4$ plants, $C_3$ cycle is absent

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**93.** **Assertion :** Mercury vapour emitting out from scrubber pollute environment

**Reason :** Scrubber cannot trap mercury vapour

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**94.** **Assertion :** Annual rings are used to calculate the age of tree.

**Reason :** Secondary growth is not found in Bamboo

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**95.** **Assertion :** Glomus show symbiotic association with higher plants.

**Reason :** Azospirillum and Azotobacter are free living nitrogen fixing bacteria.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**96.** **Assertion :** Sanitary landfill is beneficial for waste disposal

**Resaon :** Bacteria present in sanitary waste decompose it and used as fertilizers

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**97.** **Assertion :** Glyoxisome, sphaerosome, lysosome are surrounded by single membrane.

**Reason :** Quantasome present in chloroplast.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**98.** **Assertion :** Eukaryotes contain membrane bound cell organelles and linear chromosome present in nucleus.

**Reason :** In prokaryotes nucleus is present.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**99.** Which cannot be used for direct gene transfer

(1) Biolistics (gene gun)
(2) Microinjection
(3) Electroporation
(4) *Agrobacterium tumefacians*

**100.** Polysaccharides can be tested by

(1) Iodine (2) HCl (3) KCl (4) $KNO_3$

**101.** Which of the following integrates Nervous and endocrine system

(1) Hypothalamus (2) Pineal gland (3) Adrenal gland (4) Thymus

**102.** Neurotransmitter released by

(1) Axon terminal (2) Dendrite (3) Cell body (4) Myelin sheath

**103.** Which of the following is correct mode of reproduction

(1) Budding in Yeast
(2) Fragmentation in spongilla
(3) Zoospore in Amoeba
(4) Binary fission in Hydra

**104.** Characteristics of female cockroach

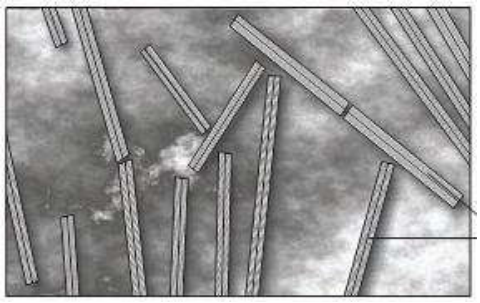
(1) Presence of anal style

(2) Each ovary is made up of '6' ovarioles

(3) One pair spermatheca present and opens in genital chamber

(4) Genital pouch is made up of $9^{th}$, $10^{th}$ tergum and $9^{th}$ sternum

**105.** Identify the diagram



(1) Bacteria (2) Bacteriophage (3) TMV (4) Adenovirus

**106.** Which of the following are all Nucleotides

(1) Adenosine, Cytidilic acid, Cytosine (2) Adenylic acid, Cytidilic acid, Guanylic acid

(3) Cytidine, Adenine, Adenylic acid (4) Uracil, Thymidine, Thymidylic acid

**107.** Which cell is found in mucus secreting organs.

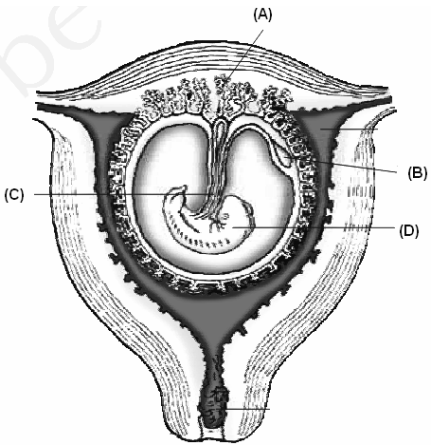
(1) Goblet cells (2) Paneth cells (3) Oxyntic cells (4) Peptic cells

**108.** Hairy root disease of dicot plants is caused by-

(1) *Agrobacterium tumefacians* (2) *Agrobacterium rhizogene*

(3) *Bacillum thuriengiensis* (4) *Melodogyne incognita*

**109.** Choose the correct one



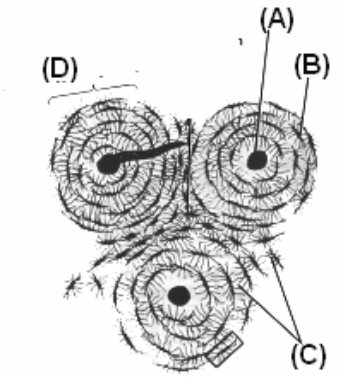

| | | | |
|---|---|---|---|
| (1) | A- Chorionic villi | → | forms placenta |
| (2) | B-Yolk sac | → | Prevents desiccation of embryo |
| (3) | C- umbilical cord | → | Haemopoiesis |
| (4) | D- Blastocyst | → | Forms the embryo |

**110.** Which of the following options have features corresponding to the given animals

**Aplysia, Asterias, Antedon, Echinus**

(1) Water vascular system, Calcareous shell
(2) Water Canal system, Calcareous shell
(3) Calcareous shell, acoelomate
(4) Pseudocoelomate, Water vascular system

**111.** Choose the correct option for the labelling in the given diagram (A, B, C, D)




(1) Haversian canal, lacuna, Lamellae, Haversian system
(2) Haversian canal, Volkmann's canal, Endosteum, Lamellae
(3) Volkmanns canal, Lamellae, Osteocytes, Haversian canal
(4) Haversian canal, Osteocytes, Lamellae, Endosteum

**112.** Which statement is incorrect for earthworm

(1) Two pair of testis present in $10^{th}$ and $11^{th}$ segment
(2) One pair of ovaries in attached at the inter-segmental septum of the $12^{th}$ and $13^{th}$ segment
(3) It is hermaphrodite
(4) Male genital pore in present in $14^{th}$ segment

**113.** Immunity tolerance developed by

(1) Interaction with the antigen
(2) By giving antibodies
(3) Present by birth
(4) By giving antibiotics

**114.** **Assertion:** SA node malfunctioning leads to disturbance of Heart rate

**Reason:** SA node is the pacemaker of heart producing electric impulse for heart contraction

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

**115.** **Assertion :** There is hyperglycemia in DM type II.

**Reason :** Insulin injections are essential for treatment.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

**116.** **Assertion :** Cholecystokinin is released by duodenum.

**Reason :** It activates pepsinogen and bile juice.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.

(2) If both assertion and reason are true but reason is not the correct explanation of assertion.

(3) If assertion is true but reason is false.

(4) If both assertion and reason are false.

## PART - D (GENERAL KNOWLEDGE) & (APTITUDE & LOGICAL THINKING)

**Total Number of Questions (10)**

**117.** Who is the Governor of Reserve Bank of India (RBI)?

**118.** Which agency conducted Anti Satellite missile test recently?

**119.** Find the odd one out with respect to Coastal Line of India.
1. Karnataka 2. Odisha 3. Tamilnadu 4. Andhra Pradesh

**120.** R, N, J, ?

**121.** 3 Fruits Banana, Mango & Orange were available in the ratio 3:4:1. 3 Bananas are removed from the total available fruits & ratio of remaining fruits become 2:4:1. Find the total number of remaining fruits after removing 3 bananas ?

**122.** "King of Good Times" is associated with.

**123.** Which of the following Van diagram represents relations between
Public Transport , Bus , Vehicle

**124.** Akanksha is the Aunt (Chachi) of Saurabh. Chandresh is Saurabh's Father. What is the relation between Akanksha's husband & Chandresh ?

**125.** The 4 letters in a box have certain relationship then what will replace question mark

| | |
|---|---|
| G | J |
| L | H |

| | |
|---|---|
| M | P |
| R | N |

| | |
|---|---|
| D | I |
| ? | E |

**126.** What was announced regarding the cross checking of Electronic Voting Machine (EVM) with VVPAT during recent General Elections?