# Graduate Aptitude Test Biotechnology GATB 2022

Topic:- GAT SECTION S1 A

1) **The magnetic susceptibility is negative for:**[Question ID = 411][Question Description = 101_GATBS1_SECTION-A_APR22_Q01]
1. paramagnetic materials. [Option ID = 1641]
2. ferromagnetic materials. [Option ID = 1642]
3. superconducting materials. [Option ID = 1643]
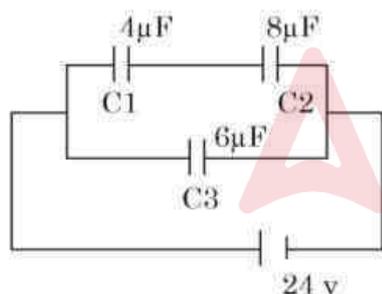4. diamagnetic materials. [Option ID = 1644]

2) **What is the focal length (f) of a combination of lenses (convex and concave) as given below?**
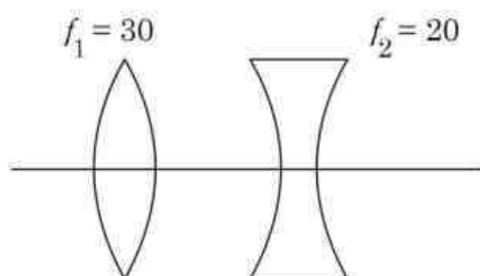
[Question ID = 412][Question Description = 102_GATBS1_SECTION-A_APR22_Q02]
1. 30 cm [Option ID = 1645]
2. 20 cm [Option ID = 1646]
3. 10 cm [Option ID = 1647]
4. 60 cm [Option ID = 1648]

3) **What is the net capacitance of the circuit given below?**

[Question ID = 413][Question Description = 103_GATBS1_SECTION-A_APR22_Q03]
1. 8.6 μF [Option ID = 1649]
2. 4.6 μF [Option ID = 1650]
3. 6.6 μF [Option ID = 1651]
4. 3.0 μF [Option ID = 1652]

4) **Which one of the following properties is primarily responsible for spreading of oil uniformly on water?**[Question ID = 414] [Question Description = 104_GATBS1_SECTION-A_APR22_Q04]
1. Viscosity [Option ID = 1653]
2. Partition coefficient [Option ID = 1654]
3. Dipole moment [Option ID = 1655]
4. Surface tension [Option ID = 1656]

5) **What will happen when the pressure is doubled in an isothermal process for a closed system containing a fixed amount of an ideal gas?**[Question ID = 415][Question Description = 105_GATBS1_SECTION-A_APR22_Q05]
1. Volume will double [Option ID = 1657]
2. Volume will halve [Option ID = 1658]
3. Temperature will increase slightly [Option ID = 1659]
4. Temperature will decrease slightly [Option ID = 1660]

6) **Which one of the following describes the relation between the acceleration of a body in space and the distance (r) of the body from the center of the earth?[Question ID = 416][Question Description = 106_GATBS1_SECTION-A_APR22_Q06]**
1. 1/r [Option ID = 1661]
2. $1/r^3$ [Option ID = 1662]
3. $1/r^2$ [Option ID = 1663]
4. √r [Option ID = 1664]

7) **Which one of the following force does not act on a cyclist when he/ she bends on a horizontal turn?[Question ID = 417] [Question Description = 107_GATBS1_SECTION-A_APR22_Q07]**
1. Weight (Mg) [Option ID = 1665]
2. Centrifugal force (Mv^2/r) [Option ID = 1666]
3. Friction (f) [Option ID = 1667]
4. Torque ($\vec{\tau}$)

[Option ID = 1668]

8) **Energy of a photon of wavelength 410 nm is equal to the band gap between valence and conduction band of a semi-conductor. What is the minimum energy required to create an electron-hole pair? (Planck's constant (h) = 4.1×10^{-15} eV.s) (velocity of light = 3×10^8 m/s)**

[Question ID = 418][Question Description = 108_GATBS1_SECTION-A_APR22_Q08]
1. 0.03 eV

[Option ID = 1669]
2. 0.3 eV

[Option ID = 1670]
3. 3.0 eV

[Option ID = 1671]
4. 30.0 eV

[Option ID = 1672]

9) **Which one of the following is NOT due to total internal reflection?**

[Question ID = 419][Question Description = 109_GATBS1_SECTION-A_APR22_Q09]
1. Brilliance of a diamond.

[Option ID = 1673]
2. Working of an optical fibre.

[Option ID = 1674]
3. Mirage on a hot summer day.

[Option ID = 1675]
4. Difference between apparent and real depth of a water body.

[Option ID = 1676]

10) **The limit of resolution of a light microscope is determined by:[Question ID = 420][Question Description = 110_GATBS1_SECTION-A_APR22_Q10]**
1. wavelength of light [Option ID = 1677]
2. material of the lens [Option ID = 1678]
3. polarization of light [Option ID = 1679]
4. intensity of light [Option ID = 1680]

11) **Which one of the following is NOT a property of a LASER?**

[Question ID = 421][Question Description = 111_GATBS1_SECTION-A_APR22_Q11]
1. It is monochromatic.

[Option ID = 1681]
2. It is coherent.

[Option ID = 1682]
3. It is directional.

[Option ID = 1683]
4. It exhibits spontaneous emission.

[Option ID = 1684]

12) Point charges, +q each is placed at the corners of a triangle, square and regular pentagon. If the sides of the triangle, square and pentagon are a each, the electric field at the center will be:

[Question ID = 422][Question Description = 112_GATBS1_SECTION-A_APR22_Q12]
1. zero in all three cases

   [Option ID = 1685]
2. maximum at the center of the pentagon

   [Option ID = 1686]
3. minimum at the center of the triangle

   [Option ID = 1687]
4. zero for square and positive for triangle and pentagon

   [Option ID = 1688]

13) Which one of the following attributes of an electromagnetic wave remains constant when it enters from air to water?
[Question ID = 423][Question Description = 113_GATBS1_SECTION-A_APR22_Q13]
1. Wavelength [Option ID = 1689]
2. Velocity [Option ID = 1690]
3. Frequency [Option ID = 1691]
4. Colour [Option ID = 1692]

14) In uniform circular motion, which one of the following properties changes with time?[Question ID = 424][Question Description = 114_GATBS1_SECTION-A_APR22_Q14]
1. Momentum [Option ID = 1693]
2. Speed [Option ID = 1694]
3. Mass [Option ID = 1695]
4. Kinetic Energy [Option ID = 1696]

15) Moving electron (velocity v) produces a magnetic field B such that:[Question ID = 425][Question Description = 115_GATBS1_SECTION-A_APR22_Q15]
1. B is perpendicular to v. [Option ID = 1697]
2. B is parallel to v. [Option ID = 1698]
3. Angle between B and v is 45 degrees. [Option ID = 1699]
4. B is opposite in direction to v. [Option ID = 1700]

16) The correct order of increasing acidic behavior of the following compounds is

$$H_3C \!\!-\!\! CH_3 \qquad H_2C \!\!=\!\! CH_2 \qquad HC \!\!\equiv\!\! CH$$
$$\textbf{A} \qquad\qquad \textbf{B} \qquad\qquad \textbf{C}$$

[Question ID = 426][Question Description = 116_GATBS1_SECTION-A_APR22_Q16]
1. A>B>C [Option ID = 1701]
2. C>B>A [Option ID = 1702]
3. A>C>B [Option ID = 1703]
4. B>C>A [Option ID = 1704]

17) Starting with three different amino acids, how many different tripeptides can be made, assuming that each amino acid can be used more than once?[Question ID = 427][Question Description = 117_GATBS1_SECTION-A_APR22_Q17]
1. 3 [Option ID = 1705]
2. 6 [Option ID = 1706]
3. 9 [Option ID = 1707]
4. 27 [Option ID = 1708]

18) The rate of a reaction, 2 A + B → Products, is given by the rate equation

   Rate = k [A]^2 [B]

The value of the rate constant can be increased by:

[Question ID = 428][Question Description = 118_GATBS1_SECTION-A_APR22_Q18]
1. increasing the concentration of A alone.

   [Option ID = 1709]
2. increasing the concentration of B alone.

   [Option ID = 1710]

3. increasing the concentrations of A and B simultaneously.

[Option ID = 1711]

4. increasing the temperature.

[Option ID = 1712]

19) What is the molarity of pure acetic acid? Assume density of acetic acid = 1 g/ml.[Question ID = 429][Question Description = 119_GATBS1_SECTION-A_APR22_Q19]

1. 12.7 [Option ID = 1713]
2. 16.7 [Option ID = 1714]
3. 20.7 [Option ID = 1715]
4. 55.5 [Option ID = 1716]

20) Which one of the following represents the correct electronic orbital configuration of Phosphorus (+3) ion (P^{3+})? [Question ID = 430][Question Description = 120_GATBS1_SECTION-A_APR22_Q20]

1. 1s2 2s2 2p6 3s2 [Option ID = 1717]
2. 1s2 2s2 2p6 3s1 [Option ID = 1718]
3. 1s2 2s2 2p4 3s2 [Option ID = 1719]
4. 1s2 2s2 2p5 3s1 [Option ID = 1720]

21) The boiling points of four liquids are shown below:

Compound	Boiling point
Acetone	56 °C
Ethanol	78 °C
Diethyl ether	35 °C
Water	100 °C

Which liquid has the highest vapor pressure at 25˚C?

[Question ID = 431][Question Description = 121_GATBS1_SECTION-A_APR22_Q21]

1. Acetone

[Option ID = 1721]

2. Ethanol

[Option ID = 1722]

3. Diethyl ether

[Option ID = 1723]

4. Water

[Option ID = 1724]

22) What is the approximate vapor pressure of an isopropanol solution containing 9.2 g of a non volatile solute, glycerol ($C_3H_8O_3$) and 60 g of isopropanol (C_3H_8O) at 82˚C? Given vapor pressure of isopropanol at 82˚C is 100 kPa.[Question ID = 432][Question Description = 122_GATBS1_SECTION-A_APR22_Q22]

1. 81 kPa [Option ID = 1725]
2. 91 kPa [Option ID = 1726]
3. 101 kPa [Option ID = 1727]
4. 111 kPa [Option ID = 1728]

23) An organic compound contains 69.77% C, 11.63% H and 18.6% O. Its molecular formula is same as its empirical formula. The number of carbon atoms present per molecule would be:[Question ID = 433][Question Description = 123_GATBS1_SECTION-A_APR22_Q23]

1. 4 [Option ID = 1729]
2. 5 [Option ID = 1730]
3. 6 [Option ID = 1731]
4. 7 [Option ID = 1732]

24) The ratio of the velocity of the hydrogen molecule to that of the oxygen molecule under identical conditions is: [Question ID = 434][Question Description = 124_GATBS1_SECTION-A_APR22_Q24]
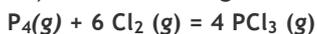
1. 1:1 [Option ID = 1733]
2. 1:2 [Option ID = 1734]
3. 1:4 [Option ID = 1735]
4. 1:16 [Option ID = 1736]

25) In the following reaction

$P_4(g) + 6\ Cl_2\ (g) = 4\ PCl_3\ (g)$

equilibrium is established by adding equal moles of $P_4(g)$ and $Cl_2(g)$; therefore, at equilibrium:

[Question ID = 435][Question Description = 125_GATBS1_SECTION-A_APR22_Q25]

1. $[Cl_2] > [PCl_3]$

   [Option ID = 1737]
2. $[Cl_2] < [P_4]$

   [Option ID = 1738]
3. $[PCl_3] > [P_4]$

   [Option ID = 1739]
4. $[P_4] = [PCl_3]$

   [Option ID = 1740]

26) Choose the correct order of increasing acidity for the following compounds:

A. Benzoic acid
B. 4-Methoxybenzoic acid
C. 4-Nitrobenzoic acid

[Question ID = 436][Question Description = 126_GATBS1_SECTION-A_APR22_Q26]

1. A>B>C

   [Option ID = 1741]
2. B>C>A

   [Option ID = 1742]
3. C>B>A

   [Option ID = 1743]
4. A>C>B

   [Option ID = 1744]

27) The alkaline nature of amines is due to the:[Question ID = 437][Question Description = 127_GATBS1_SECTION-A_APR22_Q27]
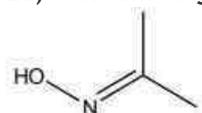
1. small size of nitrogen. [Option ID = 1745]
2. higher stability of nitrogen molecule at room temperature. [Option ID = 1746]
3. presence of unshared pair of electrons on nitrogen. [Option ID = 1747]
4. pyramidal geometry of nitrogen in amines. [Option ID = 1748]

28) The following structure represents

[Question ID = 438][Question Description = 128_GATBS1_SECTION-A_APR22_Q28]

1. An oxime [Option ID = 1749]
2. A hydrazone [Option ID = 1750]
3. An imine [Option ID = 1751]
4. A Schiff's base [Option ID = 1752]

29) What is the half-life of a zero order reaction that takes 25 minutes for 80% completion?[Question ID = 439][Question Description = 129_GATBS1_SECTION-A_APR22_Q29]

1. 150.25 seconds [Option ID = 1753]
2. 937.50 seconds [Option ID = 1754]
3. 950.50 seconds [Option ID = 1755]
4. 156.25 seconds [Option ID = 1756]

30) Given below are two statements:

Statement I: The boiling point of *p*-nitrophenol is higher than the *o*-nitrophenol.
Statement II: Alcohols are less acidic than the Phenols.

In the light of the above statements, choose the *most appropriate* answer from the options given below.

[Question ID = 440][Question Description = 130_GATBS1_SECTION-A_APR22_Q30]

1. Both Statement I and Statement II are correct.

   [Option ID = 1757]
2. Both Statement I and Statement II are incorrect.

   [Option ID = 1758]
3. Statement I is correct but Statement II is incorrect.

   [Option ID = 1759]
4. Statement I is incorrect but Statement II is correct.

   [Option ID = 1760]

31) In a class of 35 students, 24 like to play cricket and 16 like to play football. Also, each student likes to play at least one of the two games. How many students like to play both cricket and football?[Question ID = 441][Question Description = 131_GATBS1_SECTION-A_APR22_Q31]

1. 11 [Option ID = 1761]
2. 5 [Option ID = 1762]
3. 8 [Option ID = 1763]
4. 13 [Option ID = 1764]

32) If the price of the sugar is raised by 25%, find by how much percent a homemaker should reduce the consumption of sugar so as not to increase his/her expenditure?[Question ID = 442][Question Description = 132_GATBS1_SECTION-A_APR22_Q32]

1. 10% [Option ID = 1765]
2. 12% [Option ID = 1766]
3. 20% [Option ID = 1767]
4. 15% [Option ID = 1768]

33) How many numbers between 100 and 999 can be formed with the digits 1, 4, 7, 8, and 9 if the digits are not repeated? [Question ID = 443][Question Description = 133_GATBS1_SECTION-A_APR22_Q33]

1. 20 [Option ID = 1769]
2. 60 [Option ID = 1770]
3. 12 [Option ID = 1771]
4. 120 [Option ID = 1772]

34) What is the chance that a leap year, selected at random, will NOT have 53 Sundays as well as 53 Mondays?

[Question ID = 444][Question Description = 134_GATBS1_SECTION-A_APR22_Q34]

1. 1/7

   [Option ID = 1773]
2. 2/7

   [Option ID = 1774]
3. 5/7

   [Option ID = 1775]
4. 0

   [Option ID = 1776]

35) Three taps A, B, and C together can fill an empty cistern in 10 minutes, the tap A alone can fill it in 20 minutes and the tap B alone in 40 minutes. How long will the tap C alone take to fill it?[Question ID = 445][Question Description = 135_GATBS1_SECTION-A_APR22_Q35]

1. 40 minutes [Option ID = 1777]
2. 24 minutes [Option ID = 1778]
3. 32 minutes [Option ID = 1779]
4. 16 minutes [Option ID = 1780]

36) What is the sum of the first 10 terms of the sequence 1,2,4,8,16, ……..?[Question ID = 446][Question Description = 136_GATBS1_SECTION-A_APR22_Q36]

1. 1024 [Option ID = 1781]
2. 1023 [Option ID = 1782]
3. 1017 [Option ID = 1783]
4. 1026 [Option ID = 1784]

37) The average of the first five multiples of 9 is:[Question ID = 447][Question Description = 137_GATBS1_SECTION-

A_APR22_Q37]
1. 20 [Option ID = 1785]
2. 27 [Option ID = 1786]
3. 28 [Option ID = 1787]
4. 30 [Option ID = 1788]

38) The straight line $2x+3y+4=0$ touches the x-axis at:[Question ID = 448][Question Description = 138_GATBS1_SECTION-A_APR22_Q38]
1. -2.0 [Option ID = 1789]
2. +2.0 [Option ID = 1790]
3. -1.0 [Option ID = 1791]
4. +1.0 [Option ID = 1792]

39) If A is the set of even natural numbers less than 8 and B is the set of prime numbers less than 7, then the number of relations from A to B is[Question ID = 449][Question Description = 139_GATBS1_SECTION-A_APR22_Q39]
1. 9 [Option ID = 1793]
2. 9^2 [Option ID = 1794]
3. 2^9 [Option ID = 1795]
4. 2^3 [Option ID = 1796]

40) A box contains 5 pink, 3 green, and 2 yellow balls. Three balls are picked up randomly. What is the probability that none of the balls drawn is green?[Question ID = 450][Question Description = 140_GATBS1_SECTION-A_APR22_Q40]
1. 3/16 [Option ID = 1797]
2. 7/24 [Option ID = 1798]
3. 5/13 [Option ID = 1799]
4. 4/23 [Option ID = 1800]

41) In a class of 60 students comprising girls and boys, 30% are boys. On a given day 10% of the class is absent and all the absentees are boys. What is the percentage of girls in this class on that given day?[Question ID = 451][Question Description = 141_GATBS1_SECTION-A_APR22_Q41]
1. 66.66 [Option ID = 1801]
2. 77.77 [Option ID = 1802]
3. 88.88 [Option ID = 1803]
4. 100 [Option ID = 1804]

42) Find the area of the triangle with vertices A(5,4), B(-2,4) and C(2,14).[Question ID = 452][Question Description = 142_GATBS1_SECTION-A_APR22_Q42]
1. 34 sq. units [Option ID = 1805]
2. 35 sq. units [Option ID = 1806]
3. 36 sq. units [Option ID = 1807]
4. 32 sq. units [Option ID = 1808]

43) Two trains running in opposite directions pass by a man standing on the platform in 20 seconds and 10 seconds respectively and they completely cross each other in 15 seconds. The ratio of their speeds is:[Question ID = 453][Question Description = 143_GATBS1_SECTION-A_APR22_Q43]
1. 1 : 3 [Option ID = 1809]
2. 1 : 2 [Option ID = 1810]
3. 1 : 1.5 [Option ID = 1811]
4. 1 : 1 [Option ID = 1812]

44) When 4 fair coins are tossed together what is the probability of getting at least 3 heads?[Question ID = 454][Question Description = 144_GATBS1_SECTION-A_APR22_Q44]
1. 1/4 [Option ID = 1813]
2. 3/4 [Option ID = 1814]
3. 5/16 [Option ID = 1815]
4. 3/8 [Option ID = 1816]

45) Find the modal age from the given data:

Age	10	11	12	14	15	16	18	20
No. of boys	12	9	8	6	6	5	4	3

[Question ID = 455][Question Description = 145_GATBS1_SECTION-A_APR22_Q45]

1. 10

   [Option ID = 1817]
2. 12

   [Option ID = 1818]
3. 15

   [Option ID = 1819]
4. 20

   [Option ID = 1820]

46) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Hematopoietic stem cells are considered multipotent precursors.
Reason R: They have the ability to differentiate into different types of blood cells.

In light of the above statements, choose the most appropriate answer from the options given below.

[Question ID = 456][Question Description = 146_GATBS1_SECTION-A_APR22_Q46]
1. Both A and R are correct and R is the correct explanation of A

   [Option ID = 1821]
2. Both A and R are correct but R is not the correct explanation of A

   [Option ID = 1822]
3. A is correct but R is not correct

   [Option ID = 1823]
4. A is not correct but R is correct

   [Option ID = 1824]

47) Glycosidic linkages are the bonds between:[Question ID = 457][Question Description = 147_GATBS1_SECTION-A_APR22_Q47]
1. sugars [Option ID = 1825]
2. nucleotides [Option ID = 1826]
3. amino acids [Option ID = 1827]
4. lipids [Option ID = 1828]

48) What is the bond that can form between two cysteines in a protein?[Question ID = 458][Question Description = 148_GATBS1_SECTION-A_APR22_Q48]
1. Ionic bond [Option ID = 1829]
2. Hydrogen bond [Option ID = 1830]
3. Disulfide bond [Option ID = 1831]
4. Amide bond [Option ID = 1832]

49) Cystic fibrosis is caused due to:[Question ID = 459][Question Description = 149_GATBS1_SECTION-A_APR22_Q49]
1. mutation in a gene encoding G protein [Option ID = 1833]
2. deficiency of adenyl cyclase [Option ID = 1834]
3. mutation in a gene encoding an ABC transporter [Option ID = 1835]
4. over activation of the Ca++ ATPase pump [Option ID = 1836]

50) The primary enzyme responsible for the rapid and accurate replication of the genome in *E. coli* is:[Question ID = 460] [Question Description = 150_GATBS1_SECTION-A_APR22_Q50]
1. DNA Pol V [Option ID = 1837]
2. DNA Pol II [Option ID = 1838]
3. DNA Pol III [Option ID = 1839]
4. DNA Pol IV [Option ID = 1840]

51) Histones are tightly bound to DNA because:[Question ID = 461][Question Description = 151_GATBS1_SECTION-A_APR22_Q51]
1. histones are positively charged proteins. [Option ID = 1841]
2. histones are negatively charged proteins. [Option ID = 1842]
3. histones get acetylated by the action of acyltransferases. [Option ID = 1843]
4. histones are highly hydrophobic in nature. [Option ID = 1844]

52) Given below are two statements:

Statement I: A single gene can affect multiple phenotypic expressions.
Statement II: In a polygenic trait, multiple genes contribute to a phenotypic expression.

In the light of the above statements, choose the most appropriate answer from the options given below.

[Question ID = 462][Question Description = 152_GATBS1_SECTION-A_APR22_Q52]
1. Both I and II are correct

   [Option ID = 1845]
2. Both I and II are incorrect

   [Option ID = 1846]
3. I is correct but II is incorrect

   [Option ID = 1847]
4. I is incorrect but II is correct

   [Option ID = 1848]

53) Interferons secreted by virus-infected cells induce:[Question ID = 463][Question Description = 153_GATBS1_SECTION-A_APR22_Q53]
1. antiviral response [Option ID = 1849]
2. pro-viral response [Option ID = 1850]
3. apoptosis [Option ID = 1851]
4. cell proliferation [Option ID = 1852]

54) Lung cancer can be detected at an early stage by:[Question ID = 464][Question Description = 154_GATBS1_SECTION-A_APR22_Q54]
1. bone marrow test [Option ID = 1853]
2. blood test [Option ID = 1854]
3. MRI scans [Option ID = 1855]
4. Gene sequencing [Option ID = 1856]

55) Which one of the following is an autosomal dominant disorder?[Question ID = 465][Question Description = 155_GATBS1_SECTION-A_APR22_Q55]
1. Sickle cell anaemia [Option ID = 1857]
2. Cystic fibrosis [Option ID = 1858]
3. Tay-Sachs disease [Option ID = 1859]
4. Huntington's disease [Option ID = 1860]

56) Which one of the following statements correctly describes type IIP restriction enzymes?

A. They cut nucleotides only from the ends of the DNA.
B. They act on only palindromic nucleotide sequences in the DNA.
C. They recognize only GC rich sequences.
D. They recognize only AT rich sequences.

Choose the correct answer from the options given below.

[Question ID = 466][Question Description = 156_GATBS1_SECTION-A_APR22_Q56]
1. A and B Only

   [Option ID = 1861]
2. B Only

   [Option ID = 1862]
3. A, B and C Only

   [Option ID = 1863]
4. A, B and D Only

   [Option ID = 1864]

57) Match items in List I with items in List II

List I	List II
A. Incomplete dominance	I. ABO Blood types
B. Recessive epistasis	II. Flower color in 4 o'clock plant
C. Dominant epistasis	III. Coat color in mice
D. Co-dominance	IV. Fruit color in summer squash

Choose the correct answer from the options given below:

[Question ID = 467][Question Description = 157_GATBS1_SECTION-A_APR22_Q57]

1. A – II, B – IV, C – III, D – I

   [Option ID = 1865]
2. A – I, B – IV, C – III, D – II

   [Option ID = 1866]
3. A – I, B – III, C – IV, D – II

   [Option ID = 1867]
4. A – II, B – III, C – IV, D – I

   [Option ID = 1868]

58) Given below are two statements:

Statement I: Activation energy is the difference between the energy level of substrate and its transition state during the reaction.
Statement II: Enzymes increase the activation energy enhancing the rate of reaction.

In the light of the above statements, choose the correct answer from the options given below.

[Question ID = 468][Question Description = 158_GATBS1_SECTION-A_APR22_Q58]

1. Both Statement I and Statement II are true

   [Option ID = 1869]
2. Both Statement I and Statement II are false

   [Option ID = 1870]
3. Statement I is true but Statement II is false

   [Option ID = 1871]
4. Statement I is false but Statement II is true

   [Option ID = 1872]

59) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Inhibition of succinate dehydrogenase by malonate represents competitive inhibition.
Reason R: Malonate and succinate bind at different sites of the enzyme.

In light of the above statements, choose the most appropriate answer from the options given below.

[Question ID = 469][Question Description = 159_GATBS1_SECTION-A_APR22_Q59]

1. Both A and R are correct and R is the correct explanation of A

   [Option ID = 1873]
2. Both A and R are correct but R is NOT the correct explanation of A

   [Option ID = 1874]
3. A is correct but R is not correct

   [Option ID = 1875]
4. A is not correct but R is correct

   [Option ID = 1876]

60) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Bt toxin does not kill *Bacillus thuringiensis*.
Reason R: The Bt toxin gets activated due to the alkaline pH of the insect gut.

In the light of the above statements, choose the most appropriate answer from the options given below.

[Question ID = 470][Question Description = 160_GATBS1_SECTION-A_APR22_Q60]

1. Both A and R are correct and R is the correct explanation of A

   [Option ID = 1877]
2. Both A and R are correct but R is not the correct explanation of A

   [Option ID = 1878]
3. A is correct but R is not correct

   [Option ID = 1879]
4. A is not correct but R is correct

   [Option ID = 1880]

Topic:- GAT SECTION S1 B

1) Which one of the following techniques can be used to determine the copy number of a gene?[Question ID = 471] [Question Description = 161_GATBS1_SECTION-B_APR22_Q61]

1. Chromatin Immunoprecipitation [Option ID = 1881]
2. Northern Blotting [Option ID = 1882]
3. ELISA [Option ID = 1883]
4. Real time PCR [Option ID = 1884]

2) Given below are two statements:

Statement I: In plants, the genes for smaller subunit of ribulose-1, 5-bisphosphate carboxylase/ oxygenase (Rubisco) enzyme is present in the plastid genome.
Statement II: The genes for larger subunit of Rubisco enzyme is present in the nuclear genome.

Choose the *most appropriate* answer from the options given below:

[Question ID = 472][Question Description = 162_GATBS1_SECTION-B_APR22_Q62]

1. Both Statement I and Statement II are correct.

   [Option ID = 1885]
2. Both Statement I and Statement II are incorrect.

   [Option ID = 1886]
3. Statement I is correct but Statement II is incorrect.

   [Option ID = 1887]
4. Statement I is incorrect but Statement II is correct.

   [Option ID = 1888]

3) Which enzyme catalyzes strand separation at the replication fork?[Question ID = 473][Question Description = 163_GATBS1_SECTION-B_APR22_Q63]

1. Replication protein A [Option ID = 1889]
2. DNA helicase [Option ID = 1890]
3. DNA topoisomerase [Option ID = 1891]
4. DNA polymerase [Option ID = 1892]

4) Which one of the following small RNAs in plants DO NOT regulate gene expression by cleavage of mRNAs?

[Question ID = 474][Question Description = 164_GATBS1_SECTION-B_APR22_Q64]

1. MicroRNAs (miRNAs)

   [Option ID = 1893]
2. Short interfering RNA (siRNA)

   [Option ID = 1894]
3. Heterochromatin siRNAs (hcsiRNAs)

   [Option ID = 1895]
4. Trans-acting siRNAs (tasiRNAs)

   [Option ID = 1896]

5) Which is a type of multigenic interaction?[Question ID = 475][Question Description = 165_GATBS1_SECTION-B_APR22_Q65]

1. Lethal allele [Option ID = 1897]
2. Co-dominance [Option ID = 1898]

3. Epistasis [Option ID = 1899]
4. ABO genotype [Option ID = 1900]

6) Given below are two statements:

Statement I: Bisexual flowers promote self-pollination.
Statement II: Self-incompatibility and male-sterility prevent self-pollination.

Choose the *most appropriate* answer:

[Question ID = 476][Question Description = 166_GATBS1_SECTION-B_APR22_Q66]
1. Both Statement I and Statement II are correct

[Option ID = 1901]
2. Both Statement I and Statement II are incorrect

[Option ID = 1902]
3. Statement I is correct but Statement II is incorrect

[Option ID = 1903]
4. Statement I is incorrect but Statement II is correct

[Option ID = 1904]

7) Which is the class of Nitrogen containing plant secondary metabolites? [Question ID = 477][Question Description = 167_GATBS1_SECTION-B_APR22_Q67]
1. Terpenoids [Option ID = 1905]
2. Flavonoids [Option ID = 1906]
3. Alkaloids [Option ID = 1907]
4. Brassinosteroids [Option ID = 1908]

8) In a random mating population, the frequency of allele A1 and A2 in the gene pool is 0.8 and 0.2, respectively. In a population of 200 plants, how many will have the genotype A1A2?[Question ID = 478][Question Description = 168_GATBS1_SECTION-B_APR22_Q68]
1. 8 [Option ID = 1909]
2. 128 [Option ID = 1910]
3. 64 [Option ID = 1911]
4. 32 [Option ID = 1912]

9) During protoplast fusion, the product has the nucleus of one of the parents in which the chromosome elimination took place in subsequent cell division and the cytoplasm was contributed by both the parents. Such a product will be called: [Question ID = 479][Question Description = 169_GATBS1_SECTION-B_APR22_Q69]
1. Symmetric hybrid [Option ID = 1913]
2. Asymmetric hybrid [Option ID = 1914]
3. Cybrid [Option ID = 1915]
4. Homokaryons [Option ID = 1916]

10) How many clones must you get to make a representative genomic library of a plant with a genome of a billion base pairs (bp), provided your vector carrying capacity is 10 kbp. Remember to allow a redundancy of at least one order of magnitude.[Question ID = 480][Question Description = 170_GATBS1_SECTION-B_APR22_Q70]
1. Thousand [Option ID = 1917]
2. Million [Option ID = 1918]
3. Lakh [Option ID = 1919]
4. Hundred [Option ID = 1920]

11) Given below are two statements:

Statement I: Virulence trait of *Agrobacterium tumefaciens* is borne on genomic DNA.
Statement II: The technique used to introduce genes in dicot is Ti-plasmid infection.

Choose the correct answer:

[Question ID = 481][Question Description = 171_GATBS1_SECTION-B_APR22_Q71]
1. Both Statement I and Statement II are true.

[Option ID = 1921]
2. Both Statement I and Statement II are false.

[Option ID = 1922]

3. Statement I is true but Statement II is false.

   [Option ID = 1923]
4. Statement I is false but Statement II is true.

   [Option ID = 1924]

12) Why is golden rice pale yellow in color? [Question ID = 482][Question Description = 172_GATBS1_SECTION-B_APR22_Q72]
1. It is rich in chlorophyll a. [Option ID = 1925]
2. It is rich in beta-carotene. [Option ID = 1926]
3. It is rich in chlorophyll b. [Option ID = 1927]
4. It is rich in phycobilins. [Option ID = 1928]

13) Simple sequence repeats (SSRs) are best utilized for:[Question ID = 483][Question Description = 173_GATBS1_SECTION-B_APR22_Q73]
1. Phenotyping [Option ID = 1929]
2. Genotyping [Option ID = 1930]
3. Karyotyping [Option ID = 1931]
4. Gene Silencing [Option ID = 1932]

14) Given below are two statements:

Statement I: The fragments of DNA generated after cleavage with a restriction enzyme have a phosphate group on their 3' ends and a –OH group on their 5' ends.
Statement II: Cohesive ends generated by restriction digestion reanneal with complementary DNA fragment.

Choose the correct answer:

[Question ID = 484][Question Description = 174_GATBS1_SECTION-B_APR22_Q74]
1. Both Statement I and Statement II are true.

   [Option ID = 1933]
2. Both Statement I and Statement II are false.

   [Option ID = 1934]
3. Statement I is true but Statement II is false.

   [Option ID = 1935]
4. Statement I is false but Statement II is true.

   [Option ID = 1936]

15) Given below are two statements:

Statement I: After immobilization, plant cells are subjected to stress to induce secondary metabolite production.
Statement II: Cells derived from different explants in culture always produce the same set of secondary metabolites.

Choose the correct answer:

[Question ID = 485][Question Description = 175_GATBS1_SECTION-B_APR22_Q75]
1. Both Statement I and Statement II are true.

   [Option ID = 1937]
2. Both Statement I and Statement II are false.

   [Option ID = 1938]
3. Statement I is true but Statement II is false.

   [Option ID = 1939]
4. Statement I is false but Statement II is true.

   [Option ID = 1940]

16) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: A linear DNA molecule containing three recognition sites for a restriction enzyme will generate multiple DNA fragments on partial digestion.
Reason R: Partial digestion by restriction enzymes leads to a heterogeneous population of DNA fragments.

Choose the *most appropriate* answer:

[Question ID = 486][Question Description = 176_GATBS1_SECTION-B_APR22_Q76]
1. Both A and R are correct and R is the correct explanation of A.

   [Option ID = 1941]
2. Both A and R are correct but R is not the correct explanation of A.

   [Option ID = 1942]
3. A is correct but R is not correct.

   [Option ID = 1943]
4. A is not correct but R is correct.

   [Option ID = 1944]

17) Given below are few statements related to plant tissue culture:

A. Regeneration frequencies of different types of explants derived from the same plant would always be identical.
B. A higher auxin: cytokinin ratio would induce production of roots under culture conditions.
C. Embryos can be obtained from somatic tissues of plants under in vitro culture conditions.
D. Since plants can photosynthesize, addition of a carbon source in tissue culture media is not advisable.

Choose the correct statements:

[Question ID = 487][Question Description = 177_GATBS1_SECTION-B_APR22_Q77]
1. A and C Only

   [Option ID = 1945]
2. B and D Only

   [Option ID = 1946]
3. B and C Only

   [Option ID = 1947]
4. A and D Only

   [Option ID = 1948]

18) Match items List I with items in List II

List I	List II
A. Northern Hybridization	I. Transcriptome analysis
B. Next generation sequencing	II. Detection of proteins in specific cell types
C. Sanger's DNA sequencing	III. Analysis of splice variants
D. In-situ immunolocalization	IV. Capillary sequencers

Choose the *correct* answer from the options given below:

[Question ID = 488][Question Description = 178_GATBS1_SECTION-B_APR22_Q78]
1. A-II, B-III, C-IV, D-III

   [Option ID = 1949]
2. A-IV, B-I, C-II, D-III

   [Option ID = 1950]
3. A-III, B-I, C-IV, D-II

   [Option ID = 1951]
4. A-IV, B-III, C-I, D-II

   [Option ID = 1952]

19) Match items in List I with items in List II

List I	List II
A. *bar*	I. virus-free plants
B. meristem culture	II. herbicide resistance
C. Chalcone Synthase	III. dwarf wheat
D. *gai*	IV. flower color

Choose the *correct* answer from the options given below:

[Question ID = 489][Question Description = 179_GATBS1_SECTION-B_APR22_Q79]

1. A-III, B-I, C-IV, D-II

   [Option ID = 1953]
2. A-IV, B-III, C-II, D-I

   [Option ID = 1954]
3. A-III, B-IV, C-I, D-II

   [Option ID = 1955]
4. A-II, B-I, C-IV, D-III

   [Option ID = 1956]

20) **Given below are two statements about hnRNA processing:**

Statement I: Capping occurs by addition of methyl adenosine triphosphate to the 5' end.
Statement II: During tailing, about 200-300 adenylate residues are added to its 3' end.

Choose the correct answer:

[Question ID = 490][Question Description = 180_GATBS1_SECTION-B_APR22_Q80]

1. Both Statement I and Statement II are true.

   [Option ID = 1957]
2. Both Statement I and Statement II are false.

   [Option ID = 1958]
3. Statement I is true but Statement II is false.

   [Option ID = 1959]
4. Statement I is false but Statement II is true.

   [Option ID = 1960]

21) **The vector which is most commonly used in crop improvement is:[Question ID = 491][Question Description = 181_GATBS1_SECTION-B_APR22_Q81]**
1. Bacterial Artificial Chromosome (BAC) [Option ID = 1961]
2. Agrobacterium [Option ID = 1962]
3. T4 phage [Option ID = 1963]
4. Cosmid [Option ID = 1964]

22) **Lac repressor of *E. coli* contains _____ DNA binding motifs.[Question ID = 492][Question Description = 182_GATBS1_SECTION-B_APR22_Q82]**
1. Helix turn helix [Option ID = 1965]
2. Helix loop helix [Option ID = 1966]
3. Leucine zipper [Option ID = 1967]
4. Zinc finger [Option ID = 1968]

23) **Knockout mice are usually created by:[Question ID = 493][Question Description = 183_GATBS1_SECTION-B_APR22_Q83]**
1. chemically mutagenizing a mouse and selecting for mutant offspring. [Option ID = 1969]
2. creating a chimera by fusing cells from two different cell lines. [Option ID = 1970]
3. infecting the mouse with a retrovirus. [Option ID = 1971]
4. transfecting embryonic stem cells with an inactivated gene. [Option ID = 1972]

24) **RNAi or post-transcriptional gene silencing is a conserved biological response to the presence of:[Question ID = 494][Question Description = 184_GATBS1_SECTION-B_APR22_Q84]**
1. ssDNA [Option ID = 1973]
2. dsDNA [Option ID = 1974]
3. ssRNA [Option ID = 1975]
4. dsRNA [Option ID = 1976]

25) **Which protein is required to seal a nick during Okazaki fragment maturation?[Question ID = 495][Question Description = 185_GATBS1_SECTION-B_APR22_Q85]**
1. DNA Ligase [Option ID = 1977]
2. DNA helicase [Option ID = 1978]
3. DNA topoisomerase [Option ID = 1979]
4. DNA polymerase [Option ID = 1980]

26) Self splicing introns are an example of:[Question ID = 496][Question Description = 186_GATBS1_SECTION-B_APR22_Q86]

1. Spliceosomes [Option ID = 1981]
2. Ribozymes [Option ID = 1982]
3. Mitrons [Option ID = 1983]
4. Inteins [Option ID = 1984]

27) Which of the following can be a restriction site for type II restriction enzyme?[Question ID = 497][Question Description = 187_GATBS1_SECTION-B_APR22_Q87]

1. 5' AAGG 3'
   3' TTCC 5' [Option ID = 1985]
2. 3' AGTC 5'
   5' TCAG 3' [Option ID = 1986]
3. 5' GGCC 3'
   3' CCGG 5' [Option ID = 1987]
4. 5' ACCA 3'
   3' TGGT 5' [Option ID = 1988]

28) A mutant bacterial cell has a defective aminoacyl synthetase that attaches a lysine to tRNAs with the anticodon AAA instead of the normal phenylalanine. During protein synthesis:[Question ID = 498][Question Description = 188_GATBS1_SECTION-B_APR22_Q88]

1. none of the proteins in the cell will contain phenylalanine. [Option ID = 1989]
2. lysine will partially replace phenylalanine at certain positions. [Option ID = 1990]
3. the cell will compensate for the defect by attaching phenylalanine to tRNAs with lysine-specifying anticodons. [Option ID = 1991]
4. lysine will replace phenylalanine at all amino acids positions. [Option ID = 1992]

29) A double-stranded genomic DNA has 40% (A+T) content. What is the average size (base pairs) of the fragments generated by digestion with the restriction enzyme *Hae*III (GGCC)?

[Question ID = 499][Question Description = 189_GATBS1_SECTION-B_APR22_Q89]

1. 81

   [Option ID = 1993]
2. 123

   [Option ID = 1994]
3. 256

   [Option ID = 1995]
4. 4096

   [Option ID = 1996]

30) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Attenuation of the *trp* operon is possible in bacteria
Reason R: Transcription and translation are coupled.

In the light of the above statements, choose the *correct* answer from the options given below.

[Question ID = 500][Question Description = 190_GATBS1_SECTION-B_APR22_Q90]

1. Both A and R are true and R is the correct explanation of A

   [Option ID = 1997]
2. Both A and R are true but R is not the correct explanation of A

   [Option ID = 1998]
3. A is true but R is false

   [Option ID = 1999]
4. A is false but R is true

   [Option ID = 2000]

31) Which is the correct order of progressively higher levels of chromatin organization?

A. Nucleosome
B. 30 nm chromatin fibre
C. Looped domain

Choose the correct answer:

[Question ID = 501][Question Description = 191_GATBS1_SECTION-B_APR22_Q91]

1. A→ B→C

    [Option ID = 2001]
2. C→ B→A

    [Option ID = 2002]
3. C→ A→B

    [Option ID = 2003]
4. A→ C→B

    [Option ID = 2004]

32) The following diagram represents a restriction enzyme site:
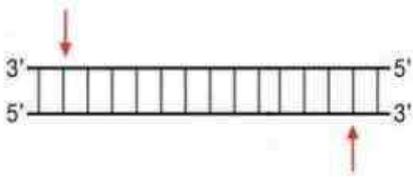
Statement I: After digestion cohesive ends will be formed.
Statement II: These cohesive ends will have phosphate groups at 3` and 5` ends.

Choose the *most appropriate* answer from the options given below.

[Question ID = 502][Question Description = 192_GATBS1_SECTION-B_APR22_Q92]

1. Both Statement I and Statement II are correct

    [Option ID = 2005]
2. Both Statement I and Statement II are incorrect

    [Option ID = 2006]
3. Statement I is correct but Statement II is incorrect

    [Option ID = 2007]
4. Statement I is incorrect but Statement II is correct

    [Option ID = 2008]

33) The following figure shows agarose gel electrophoresis of linear DNA, after digestion with *Bam*HI in lane C and *Eco*RI in lane D. The uncut DNA is shown in lane B.
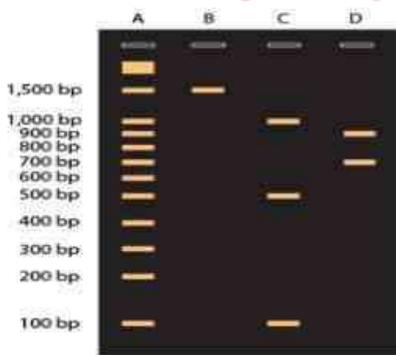
Statement I: This DNA has two restriction sites for *Bam*HI and one restriction site for *Eco*RI.
Statement II: Double digestion with *Bam*HI and *Eco*RI will yield 5 fragments.

In the light of the above statements, choose the *correct* answer from the options given below.

[Question ID = 503][Question Description = 193_GATBS1_SECTION-B_APR22_Q93]

1. Both Statement I and Statement II are true

    [Option ID = 2009]
2. Both Statement I and Statement II are false

[Option ID = 2010]

3. Statement I is true but Statement II is false

   [Option ID = 2011]

4. Statement I is false but Statement II is true

   [Option ID = 2012]

34) During replication, DNA polymerases distinguish between ribonucleoside and deoxyribonucleoside triphosphates (rNTPs and dNTPs) while synthesizing new DNA strand. Although rNTPs are present at approximately 10-fold higher concentration in the cell, they are incorporated at a rate that is more than 1000-fold lower than dNTPs. This is because:[Question ID = 504][Question Description = 194_GATBS1_SECTION-B_APR22_Q94]

1. DNA polymerases selectively cleave rNTPs. [Option ID = 2013]
2. rNTPs are cyclized by DNA polymerase. [Option ID = 2014]
3. Steric exclusion of rNTPs from the DNA polymerase active site. [Option ID = 2015]
4. dNTPs are more stable than rNTPs. [Option ID = 2016]

35) Regulation of lac operon is negative as:[Question ID = 505][Question Description = 195_GATBS1_SECTION-B_APR22_Q95]

1. operon is expressed at low level to allow lactose entry. [Option ID = 2017]
2. lactose binds with the inducer to activate the operon. [Option ID = 2018]
3. expression of operon is blocked by an active repressor. [Option ID = 2019]
4. lactose needs a transporter to enter the cell. [Option ID = 2020]

36) Recombinants with insertional inactivation of β-galactosidase are identified by their inability to:[Question ID = 506][Question Description = 196_GATBS1_SECTION-B_APR22_Q96]

1. grow on the galactose-rich medium [Option ID = 2021]
2. grow on lactose rich medium [Option ID = 2022]
3. develop resistance to antibiotics [Option ID = 2023]
4. produce color in the presence of a chromogenic substrate [Option ID = 2024]

37) The level of expression of recombinant protein can be gauged by[Question ID = 507][Question Description = 197_GATBS1_SECTION-B_APR22_Q97]

1. number of transformants obtained. [Option ID = 2025]
2. nutrient utilization rate. [Option ID = 2026]
3. the level of resistance to antibiotic. [Option ID = 2027]
4. Western blotting. [Option ID = 2028]

38) The percentage of sequence identity for the following aligned sequence is:
VKSFLWTQAL
VPSFRWTQSL
[Question ID = 508][Question Description = 198_GATBS1_SECTION-B_APR22_Q98]

1. 10% [Option ID = 2029]
2. 80% [Option ID = 2030]
3. 30% [Option ID = 2031]
4. 70% [Option ID = 2032]

39) At the time of completion of protein synthesis, the sequence in which they leave the ribosome is:[Question ID = 509][Question Description = 199_GATBS1_SECTION-B_APR22_Q99]

1. Polypeptide chain, m-RNA, t-RNA [Option ID = 2033]
2. t-RNA, m-RNA, Polypeptide chain [Option ID = 2034]
3. Polypeptide chain, t-RNA, m-RNA [Option ID = 2035]
4. m-RNA, Polypeptide chain, t-RNA [Option ID = 2036]

40) Subtractive hybridization is useful to: [Question ID = 510][Question Description = 200_GATBS1_SECTION-B_APR22_Q100]

1. eliminates incomplete cDNA from a gene library. [Option ID = 2037]
2. create expression libraries based on genes that are currently being expressed. [Option ID = 2038]
3. identify and construct new probes for southern hybridization. [Option ID = 2039]
4. identify sets of genes that are only expressed under certain conditions. [Option ID = 2040]

41) NK cells are immunologically significant as they recognize and kill:[Question ID = 511][Question Description = 201_GATBS1_SECTION-B_APR22_Q101]

1. intracellular bacteria reservoirs. [Option ID = 2041]
2. cells with upregulated MHC-I molecules. [Option ID = 2042]
3. cells with downregulated MHC-I molecules. [Option ID = 2043]

4. cells with self-marker on their surface. [Option ID = 2044]

42) The primary function of the class I and class II MHC molecules is:[Question ID = 512][Question Description = 202_GATBS1_SECTION-B_APR22_Q102]

1. binding peptide antigens for recognition by antigen-specific receptors on T-cells. [Option ID = 2045]
2. mediation of T-independent B-cell responses. [Option ID = 2046]
3. helping in endocytosis of antigens by phagocytic cells. [Option ID = 2047]
4. aid opsonization of foreign particle. [Option ID = 2048]

43) What is the advantage of using the *neo* gene to disrupt the function of a gene in knockout mice?

[Question ID = 513][Question Description = 203_GATBS1_SECTION-B_APR22_Q103]

1. The *neo* gene produces an antibiotic that kills unwanted cells.

   [Option ID = 2049]
2. The *neo* gene is the right size for disabling other genes.

   [Option ID = 2050]
3. The *neo* gene provides a selectable marker.

   [Option ID = 2051]
4. The *neo* gene produces a repressor that inhibits transcription of the target gene.

   [Option ID = 2052]

44) The selection of cells whose T-cell receptors respond to self-MHC is known as: [Question ID = 514][Question Description = 204_GATBS1_SECTION-B_APR22_Q104]

1. Negative selection [Option ID = 2053]
2. MHC restriction [Option ID = 2054]
3. Affinity maturation [Option ID = 2055]
4. Lineage commitment [Option ID = 2056]

45) Match items in List I with items in List II

List I	List II
A. Inactivated Vaccines B. Live attenuated Vaccines C. Conjugate Vaccines D. Toxoid Vaccines	I. Based on the poisonous protein made by the pathogen II. Based on the killed or altered disease-causing germ. III. Based on the weakened form of the pathogen. IV. Based on the combination of the weak antigen coat of Pathogen and strong carrier proteins.

Choose the *correct* answer from the options given below.

[Question ID = 515][Question Description = 205_GATBS1_SECTION-B_APR22_Q105]

1. A-II, B-I, C-III, D-IV

   [Option ID = 2057]
2. A-II, B-III, C-I, D-IV

   [Option ID = 2058]
3. A-III, B-I, C-IV, D-II

   [Option ID = 2059]
4. A-II, B-III, C-IV, D-I

   [Option ID = 2060]

46) Which one of the following are Professional Antigen Presenting Cells?[Question ID = 516][Question Description = 206_GATBS1_SECTION-B_APR22_Q106]

1. Fibroblasts [Option ID = 2061]
2. Neutrophils [Option ID = 2062]
3. Dendritic cells [Option ID = 2063]
4. Epithelial cells [Option ID = 2064]

47) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Polyclonal antibodies bind to the same antigen but recognize different epitopes.
Reason R: Polyclonal antibodies are produced by different B cell clones in the body.

In the light of the above statements, choose the most appropriate answer from the options given below.

[Question ID = 517][Question Description = 207_GATBS1_SECTION-B_APR22_Q107]
1. Both A and R are correct and R is the correct explanation of A

   [Option ID = 2065]
2. Both A and R are correct but R is not the correct explanation of A

   [Option ID = 2066]
3. A is correct but R is not correct

   [Option ID = 2067]
4. A is not correct but R is correct

   [Option ID = 2068]

48) Identify the statement that is NOT applicable to enzyme catalyzed reaction.

[Question ID = 518][Question Description = 208_GATBS1_SECTION-B_APR22_Q108]
1. The reaction proceeds with the conversion of the substrate to a higher energy transition state.

   [Option ID = 2069]
2. Enzymes alter the equilibrium constant of the reaction.

   [Option ID = 2070]
3. Enzymes decrease the energy of activation required for the reaction.

   [Option ID = 2071]
4. Some enzymes involve multiple steps of electron transfer.

   [Option ID = 2072]

49) Match items in List I with items in List II

List I	List II
A. Cytochrome oxidase	I. Molybdenum ions
B. DNA polymerase	II. Nickel ions
C. Nitrate reductase	III. Magnesium ions
D. Urease	IV. Copper ions

Choose the correct answer from the options given below.

[Question ID = 519][Question Description = 209_GATBS1_SECTION-B_APR22_Q109]
1. A-IV, B-III, C-II, D-I

   [Option ID = 2073]
2. A-IV, B-III, C-I, D-II

   [Option ID = 2074]
3. A-III, B-I, C-IV, D-II

   [Option ID = 2075]
4. A-II, B-III, C-IV, D-I

   [Option ID = 2076]

50) Which of the following amino acids are both glucogenic and ketogenic?

A. Isoleucine
B. Serine
C. Tryptophan
D. Proline
E. Phenylalanine

Choose the correct answer from the options given below.

[Question ID = 520][Question Description = 210_GATBS1_SECTION-B_APR22_Q110]
1. A, B and C only

   [Option ID = 2077]
2. A, C and E only

   [Option ID = 2078]
3. C and E only

[Option ID = 2079]

4. B and D only

[Option ID = 2080]

51) A peptide containing only aromatic amino acids (tryptophan, phenylalanine, and tyrosine) has a molecular weight of 11,000. The likely number of amino acid residues in the peptide is:[Question ID = 521][Question Description = 211_GATBS1_SECTION-B_APR22_Q111]

1. 60 [Option ID = 2081]
2. 100 [Option ID = 2082]
3. 125 [Option ID = 2083]
4. 150 [Option ID = 2084]

52) Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: The major source of energy for the basic functioning of the cell is derived from oxidative metabolism.
Reason R: Mitochondria oxidize substrates to CO_2, transferring the high energy electron from molecular oxygen to glucose.

In light of the above statements, choose the correct answer from the options given below.

[Question ID = 522][Question Description = 212_GATBS1_SECTION-B_APR22_Q112]

1. Both A and R are true and R is the correct explanation of A

[Option ID = 2085]

2. Both A and R are true but R is not the correct explanation of A

[Option ID = 2086]

3. A is true but R is false

[Option ID = 2087]

4. A is false but R is true

[Option ID = 2088]

53) The melting point of fatty acids in plant derived oils is influenced by: [Question ID = 523][Question Description = 213_GATBS1_SECTION-B_APR22_Q113]

1. length and degree of unsaturation of hydrocarbon chain [Option ID = 2089]
2. degree of unsaturation only [Option ID = 2090]
3. length of hydrocarbon chain only [Option ID = 2091]
4. Number of side and branch chains present [Option ID = 2092]

54) Which of the following is NOT a mucopolysaccharide?

[Question ID = 524][Question Description = 214_GATBS1_SECTION-B_APR22_Q114]

1. Chondroitin

[Option ID = 2093]

2. Inulin

[Option ID = 2094]

3. Hyaluronic acid

[Option ID = 2095]

4. Heparin

[Option ID = 2096]

55) Given below are two statements:

Statement I: Fatty acid synthase is an example of a tetramer of a multienzyme polypeptide.
Statement II: Each polypeptide harbors seven independent enzymatic functions.

In light of the above statements, choose the correct answer from the options given below.

[Question ID = 525][Question Description = 215_GATBS1_SECTION-B_APR22_Q115]

1. Both Statement I and Statement II are true

[Option ID = 2097]

2. Both Statement I and Statement II are false

[Option ID = 2098]

3. Statement I is true but Statement II is false

[Option ID = 2099]

4. Statement I is false but Statement II is true

[Option ID = 2100]

56) In Michaelis-Menten kinetics what value of [S], as a fraction of K_m, is required to obtain a velocity equal to 80% V_{max}?

[Question ID = 526][Question Description = 216_GATBS1_SECTION-B_APR22_Q116]

1. $2 K_m$

[Option ID = 2101]

2. $4 K_m$

[Option ID = 2102]

3. $0.8 K_m$

[Option ID = 2103]

4. K_m

[Option ID = 2104]

57) Major limitation of using NMR to determine protein structure is:

[Question ID = 527][Question Description = 217_GATBS1_SECTION-B_APR22_Q117]

1. resolution is poor.

[Option ID = 2105]

2. resolved structure is not reliable.

[Option ID = 2106]

3. difficult to interpret the data for larger proteins (>50 KDa).

[Option ID = 2107]

4. difficult to interpret the data for smaller proteins (<15 KDa).

[Option ID = 2108]

58) Immobilization of enzymes:

A. increases the specificity of the enzyme in batch reaction
B. leads to an increase in the apparent K_m.
C. makes it unsuitable for its use in a continuous reactor system
D. decrease the operational cost of the industrial process

Choose the correct answer from the options given below:

[Question ID = 528][Question Description = 218_GATBS1_SECTION-B_APR22_Q118]

1. B and D Only

[Option ID = 2109]

2. A and D Only

[Option ID = 2110]

3. A and C Only

[Option ID = 2111]

4. C and D Only

[Option ID = 2112]

59) The hormone that activates the enzyme adenylate cyclase is:[Question ID = 529][Question Description = 219_GATBS1_SECTION-B_APR22_Q119]

1. Epinephrine [Option ID = 2113]
2. Insulin [Option ID = 2114]
3. Estrogen [Option ID = 2115]
4. Progesterone [Option ID = 2116]

60) The rate of sedimentation of a particle is dependent on the: [Question ID = 530][Question Description = 220_GATBS1_SECTION-B_APR22_Q120]

1. density of the particle only. [Option ID = 2117]
2. size of the particle only. [Option ID = 2118]
3. viscosity of the medium only. [Option ID = 2119]
4. size and density of the particle along with the viscosity of the medium. [Option ID = 2120]

61) Resolution power of transmission electron microscope is of the sub nanometer level. This is because:[Question ID = 531] [Question Description = 221_GATBS1_SECTION-B_APR22_Q121]

1. the focal length of the electron microscope is significantly larger. [Option ID = 2121]
2. the contrast is enhanced by staining with atoms of heavy metal. [Option ID = 2122]
3. electron beams have much shorter wavelengths than visible light. [Option ID = 2123]
4. the electron microscope has a much greater ratio of image size to real size. [Option ID = 2124]

62) Which of the following represents the correct sequence of MAP kinase signal transduction pathway?

A. Ras
B. Raf
C. ERK
D. Mek

Choose the correct answer from the options given below.

[Question ID = 532][Question Description = 222_GATBS1_SECTION-B_APR22_Q122]

1. A→ B→C→D

[Option ID = 2125]
2. A→ B→D→C

[Option ID = 2126]
3. A→ C→B→D

[Option ID = 2127]
4. B→ A→C→D

[Option ID = 2128]

63) Arrange the following in correct sequence of steps in erythrocytic cycle of malarial parasite.

A. Parasite feeds on the hemoglobin in the RBCs
B. Parasite forms a schizont by multiple fissions
C. The nucleus of the parasite moves on one side
D. The food vacuole of the parasite increases in size
E. The haemozoin granules are formed

Choose the correct answer from the options given below.

[Question ID = 533][Question Description = 223_GATBS1_SECTION-B_APR22_Q123]

1. B→C→E→D→A

[Option ID = 2129]
2. A→D→C→E→B

[Option ID = 2130]
3. C→A→E→B→D

[Option ID = 2131]
4. D→E→B→C→A

[Option ID = 2132]

64) Which of the following describes cyclin-dependent kinase (Cdk)?

A. Cdk is inactive, or "turned off", in the presence of cyclin
B. Cdk is present throughout the cell cycle
C. Cdk is an enzyme that attaches phosphate groups to other proteins

Choose the correct answer from the options given below.

[Question ID = 534][Question Description = 224_GATBS1_SECTION-B_APR22_Q124]

1. A and B Only

[Option ID = 2133]
2. B Only
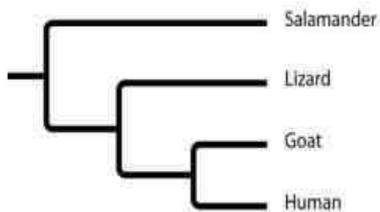
[Option ID = 2134]
3. B and C Only

[Option ID = 2135]

4. C Only

   [Option ID = 2136]

65) **Once the cell passes the G1 checkpoint and enters S phase: [Question ID = 535][Question Description = 225_GATBS1_SECTION-B_APR22_Q125]**
1. the cell cycle is completed bypassing the M phase. [Option ID = 2137]
2. the cell cycle is completed bypassing the G2 checkpoint. [Option ID = 2138]
3. completion of cell cycle will depend on G2 checkpoint. [Option ID = 2139]
4. the cell will next enter M phase bypassing the G2 checkpoint. [Option ID = 2140]

66) **The probability of mutation in a base-pair per round of replication is 5×10^{-10} and the genome length of bacteria is 5 Mb. The number of bacterial cells required so that there is one mutation on an average per replication cycle is:[Question ID = 536][Question Description = 226_GATBS1_SECTION-B_APR22_Q126]**
1. 1000 [Option ID = 2141]
2. 10000 [Option ID = 2142]
3. 100000 [Option ID = 2143]
4. 1000000 [Option ID = 2144]

67) **The fractional conversion from an immobilized enzyme continuous stirred tank reactor under steady state operation increases with an increase in agitation speed. This behavior can be attributed to:[Question ID = 537][Question Description = 227_GATBS1_SECTION-B_APR22_Q127]**
1. reduced internal pore diffusion. [Option ID = 2145]
2. Reduced external film diffusion. [Option ID = 2146]
3. decrease in energy of activation for the enzyme. [Option ID = 2147]
4. enhanced enzyme activity due to mechanical shear. [Option ID = 2148]

68) **In power law model for fluid rheology, if the value of the flow behavior index (n) is <1, then with increase in shear stress, the apparent viscosity:**

[Question ID = 538][Question Description = 228_GATBS1_SECTION-B_APR22_Q128]
1. remains unchanged.

   [Option ID = 2149]
2. increases.

   [Option ID = 2150]
3. decreases.

   [Option ID = 2151]
4. increases initially followed by a decrease.

   [Option ID = 2152]

69) **The growth pattern that you will obtain for a media containing two different carbon sources one of which is preferentially utilized will be a:[Question ID = 539][Question Description = 229_GATBS1_SECTION-B_APR22_Q129]**
1. diauxic growth. [Option ID = 2153]
2. exponential growth. [Option ID = 2154]
3. linear growth. [Option ID = 2155]
4. lag phase followed by log phase growth. [Option ID = 2156]

70) **Match the coefficients in List I with their corresponding downstream processing steps given in List II.**

List I	List II
A. Sedimentation coefficient	I. aqueous two-phase extraction
B. Partition Coefficient	II. ultrafiltration
C. Rejection coefficient	III. dialysis
D. Activity coefficient	IV. centrifugation

Choose the correct answer from the options given below.

[Question ID = 540][Question Description = 230_GATBS1_SECTION-B_APR22_Q130]
1. A-III, B-I, C-IV, D-II

   [Option ID = 2157]
2. A-II, B-I, C-IV, D-III

   [Option ID = 2158]
3. A-IV, B-III, C-I, D-II

   [Option ID = 2159]

4. A-IV, B-I, C-II, D-III

   [Option ID = 2160]

71) Match List I with List II- Match the industrial application of the following enzymes:

List I	List II
A. Pencillinase	I. Pharmaceutical
B. Pectinase	II. Leather
C. Trypsin	III. Wine
D. Renin	IV. Dairy

Choose the correct answer from the options given below.

[Question ID = 541][Question Description = 231_GATBS1_SECTION-B_APR22_Q131]
1. A-IV, B-III, C-I, D-II

   [Option ID = 2161]
2. A-I, B-III, C-II, D-IV

   [Option ID = 2162]
3. A-I, B-II, C-III, D-IV

   [Option ID = 2163]
4. A-IV, B-II, C-III, D-I

   [Option ID = 2164]

72) In animal cell culture, a CO_2 enriched atmosphere in the incubation chamber is used:[Question ID = 542][Question Description = 232_GATBS1_SECTION-B_APR22_Q132]
1. for supplying CO_2 for the metabolic reaction. [Option ID = 2165]
2. to control pH by generating carbonic acid. [Option ID = 2166]
3. to control pH by generating bicarbonate. [Option ID = 2167]
4. to aid photosynthetic reaction. [Option ID = 2168]

73) For a batch microbial process the specific rate of substrate utilization is 0.25 h^{-1} and specific product formation rate is 0.20 h^{-1}. The yield of product based on substrate consumed will be:[Question ID = 543][Question Description = 233_GATBS1_SECTION-B_APR22_Q133]
1. 0.80 [Option ID = 2169]
2. 1.25 [Option ID = 2170]
3. 0.05 [Option ID = 2171]
4. 0.45 [Option ID = 2172]

74) Increasing the agitation rate in a reactor breaks larger bubbles into smaller bubbles. If gas hold-up does not change and the average bubble diameter reduces to half; then the gas-liquid interfacial area:[Question ID = 544][Question Description = 234_GATBS1_SECTION-B_APR22_Q134]
1. reduces by 50% [Option ID = 2173]
2. remains unchanged [Option ID = 2174]
3. increases by 100% [Option ID = 2175]
4. increases by 300% [Option ID = 2176]

75) In Michaelis-Menten kinetics to increase the reaction velocity by 9 fold from 10% of V_{max} to 90% of V_{max} the substrate concentration has to increased by:[Question ID = 545][Question Description = 235_GATBS1_SECTION-B_APR22_Q135]
1. 3 fold [Option ID = 2177]
2. 9 fold [Option ID = 2178]
3. 27 fold [Option ID = 2179]
4. 81 fold [Option ID = 2180]

76) Acid Fast bacteria:[Question ID = 546][Question Description = 236_GATBS1_SECTION-B_APR22_Q136]
1. have cell wall with mycolic acid [Option ID = 2181]
2. thrive well in acidic environment [Option ID = 2182]
3. are fastidious bacteria [Option ID = 2183]
4. cause acid depletion in soil [Option ID = 2184]

77) Corona virus is a: [Question ID = 547][Question Description = 237_GATBS1_SECTION-B_APR22_Q137]
1. positive sense single stranded RNA virus [Option ID = 2185]
2. negative sense single stranded RNA virus [Option ID = 2186]
3. double stranded RNA virus without segmented genome [Option ID = 2187]

4. double stranded RNA virus with segmented genome [Option ID = 2188]

78) Penicillin consists of a thiazolidine ring fused to a β-lactam ring to which a variable R group is attached. This antibiotic inhibits cell wall synthesis by inhibiting:[Question ID = 548][Question Description = 238_GATBS1_SECTION-B_APR22_Q138]
1. β -lactamase [Option ID = 2189]
2. Phosphodiesterase [Option ID = 2190]
3. Transesterase [Option ID = 2191]
4. Glycopeptide transpeptidase [Option ID = 2192]

79) Match items in List I with items in List II

List I	List II
A. *Rickettsia prowazekii*	I. Relapsing fever
B. *Variola major*	II. Epidemic typhus
C. *Varicella zoster* Virus	III. Small pox
D. *Borrelia recurrentis*	IV. Shingles

Choose the correct answer from the options given below.

[Question ID = 549][Question Description = 239_GATBS1_SECTION-B_APR22_Q139]
1. A-I, B-II, C-III, D-IV

   [Option ID = 2193]
2. A-IV, B-I, C-II, D-III

   [Option ID = 2194]
3. A-III, B-IV, C-I, D-II

   [Option ID = 2195]
4. A-II, B-III, C-IV, D-I

   [Option ID = 2196]

80) Which of the following mechanisms of antibiotic action is/are NOT correct ?

A. Tetracycline: Inihibits aminoacyl-tRNA binding to A-site.
B. Rifampicin: Blocks correct positioning of A-site aminoacyl-tRNA for peptidyl transfer reaction
C. Chloramphenicol: Inhibits EF-Tu function
D. Ciproflaxicin: Inhibits Topoisomerases
E. Puromycin: Causes premature chain termination during translation; mimics 3' end of aminoacyl-tRNA in A-site and acts as acceptor.

[Question ID = 550][Question Description = 240_GATBS1_SECTION-B_APR22_Q140]
1. B only

   [Option ID = 2197]
2. A, C and D only

   [Option ID = 2198]
3. B and C only

   [Option ID = 2199]
4. D and E only

   [Option ID = 2200]

81) Given below are two statements:

Statement I: The recombination frequency of genes vary from 50% to 80%.
Statement II: Recombination can occur anywhere along the length of chromosome.

Choose the correct answer from the options given below:-

[Question ID = 551][Question Description = 241_GATBS1_SECTION-B_APR22_Q141]
1. Both statement I and statement II are correct

   [Option ID = 2201]
2. Both statement I and statement II are incorrect

[Option ID = 2202]
3. Statement I is correct but statement II is not correct

[Option ID = 2203]
4. Statement I is not correct but statement II is correct

[Option ID = 2204]

82) Match items in List I with items in List II

List I	List II
A. Silent mutation	I. Amino acid codon is changed to a stop codon.
B. Missense mutation	II. Amino acid sequence beyond the site of mutation is changed.
C. Nonsense mutation	III. Amino acid sequence is changed in one amino acid.
D. Frameshift mutation	IV. Amino acid sequence is unchanged.

Choose the *correct* answer from the options given below:

[Question ID = 552][Question Description = 242_GATBS1_SECTION-B_APR22_Q142]
1. A – I, B – II, C – III, D – IV

[Option ID = 2205]
2. A – IV, B – I, C – III, D – II

[Option ID = 2206]
3. A – IV, B – III, C – I, D – II

[Option ID = 2207]
4. A – III, B – I, C – II, D – IV

[Option ID = 2208]

83) Given below are two statements:

Statement I: Sickle cell trait protects humans from malaria.
Statement II: Sickle cell trait can be transmitted even if both the parents are heterozygous for the ß-globin gene.

In the light of the above statements, choose the *most appropriate* answer from the options given below.

[Question ID = 553][Question Description = 243_GATBS1_SECTION-B_APR22_Q143]
1. Both Statement I and Statement II are correct

[Option ID = 2209]
2. Both Statement I and Statement II are incorrect.

[Option ID = 2210]
3. Statement I is correct but Statement II is incorrect.

[Option ID = 2211]
4. Statement I is incorrect but Statement II is correct.

[Option ID = 2212]

84) In which of the following genotypes of lac operon the enzyme synthesis would be constitutive?

A. $I^+O^+Z^+Y^+/ I^+O^+Z^+Y^+$
B. $I^+O^cZ^+Y^+/ I^+O^cZ^+Y^+$
C. $I^-O^+Z^+Y^+/ I^+O^+Z^+Y^+$
D. $I^-O^+Z^+Y^+/ I^-O^+Z^+Y^+$

Choose the correct answer from the options given below.

[Question ID = 554][Question Description = 244_GATBS1_SECTION-B_APR22_Q144]
1. A and B Only

[Option ID = 2213]
2. B and C Only

[Option ID = 2214]
3. B and D Only

[Option ID = 2215]
4. C and D Only

[Option ID = 2216]

85) Assume that height in a plant is controlled by three genes (A, B and C) and each additive allele contributes equally. The base height of plant is 20 cm and the maximum possible height is 38 cm. The height of a plant with genotype AAbbCc will be:[Question ID = 555][Question Description = 245_GATBS1_SECTION-B_APR22_Q145]

1. 32 cm [Option ID = 2217]
2. 29 cm [Option ID = 2218]
3. 19 cm [Option ID = 2219]
4. 25.4 cm [Option ID = 2220]

86) Based on this phylogenetic tree, which statement is NOT correct?

[Question ID = 556][Question Description = 246_GATBS1_SECTION-B_APR22_Q146]

1. The salamander lineage is a basal taxon.

   [Option ID = 2221]
2. Salamanders are a sister group to the group containing lizards, goats, and humans.

   [Option ID = 2222]
3. Salamanders are as closely related to goats as to humans.

   [Option ID = 2223]
4. Lizards are more closely related to salamanders than to humans.

   [Option ID = 2224]

87) In the human ABO blood group system, the alleles A and B are dominant to O, what will be the number of different possible genotypes?[Question ID = 557][Question Description = 247_GATBS1_SECTION-B_APR22_Q147]

1. 4 [Option ID = 2225]
2. 8 [Option ID = 2226]
3. 6 [Option ID = 2227]
4. 12 [Option ID = 2228]

88) The stop codons lead to termination of translation because:[Question ID = 558][Question Description = 248_GATBS1_SECTION-B_APR22_Q148]

1. there are no tRNAs corresponding to stop codons. [Option ID = 2229]
2. the corresponding tRNA do not have an amino acid. [Option ID = 2230]
3. the corresponding tRNA cannot bind to ribosome binding site. [Option ID = 2231]
4. stop codon codes for pseudo amino acid. [Option ID = 2232]

89) In a family, if the father is affected by X- linked dominant trait and mother is normal, then[Question ID = 559][Question Description = 249_GATBS1_SECTION-B_APR22_Q149]

1. some of the daughters can be normal. [Option ID = 2233]
2. all the daughters will be affected. [Option ID = 2234]
3. all the daughters and none of the sons will be affected. [Option ID = 2235]
4. all the sons and some of the daughters will be affected. [Option ID = 2236]

90) Which one the following is a protein prediction server based on artificial intelligence?[Question ID = 560][Question Description = 250_GATBS1_SECTION-B_APR22_Q150]

1. M-fold [Option ID = 2237]
2. Alpha-fold [Option ID = 2238]
3. PDB [Option ID = 2239]
4. Swiss-Model [Option ID = 2240]

91) Given below are two statements:

Statement I: BLAST compares protein as well as nucleotide sequences in order to identify areas of similarity.
Statement II: Genbank is a repository of data on the phenotypic results of gene knockouts in humans.

In light of the above statements, choose the most appropriate answer from the options given below:

[Question ID = 561][Question Description = 251_GATBS1_SECTION-B_APR22_Q151]
1. Both Statement I and Statement II are correct

   [Option ID = 2241]
2. Both Statement I and Statement II are incorrect

   [Option ID = 2242]
3. Statement I is correct but Statement II is incorrect

   [Option ID = 2243]
4. Statement I is incorrect but Statement II is correct

   [Option ID = 2244]

92) RNA Viruses are entirely dependent on the host for:[Question ID = 562][Question Description = 252_GATBS1_SECTION-B_APR22_Q152]
1. replication machinery [Option ID = 2245]
2. transcriptional machinery [Option ID = 2246]
3. RNA capping machinery [Option ID = 2247]
4. protein translation machinery [Option ID = 2248]

93) RNA virus generally replicates in:[Question ID = 563][Question Description = 253_GATBS1_SECTION-B_APR22_Q153]
1. Cytoplasm [Option ID = 2249]
2. Nucleus [Option ID = 2250]
3. Mitochondria [Option ID = 2251]
4. Late endosomes [Option ID = 2252]

94) The following statement is NOT true for the receptor binding site of a virus.

[Question ID = 564][Question Description = 254_GATBS1_SECTION-B_APR22_Q154]
1. Binds specifically to a cellular receptor.

   [Option ID = 2253]
2. Cannot bind to neutralizing antibodies.

   [Option ID = 2254]
3. Interacts with the cellular receptor leading to activation of endocytosis.

   [Option ID = 2255]
4. Is composed of unique structural domains.

   [Option ID = 2256]

95) Which of the following hypersensitivity reactions involves the complement activation?[Question ID = 565][Question Description = 255_GATBS1_SECTION-B_APR22_Q155]
1. Both Type I and Type III hypersensitivity [Option ID = 2257]
2. Only Type I hypersensitivity [Option ID = 2258]
3. Both Type I and Type II hypersensitivity [Option ID = 2259]
4. Both Type II and Type III hypersensitivity [Option ID = 2260]

96) Which of the following phagocytic cells is NOT a tissue-specific macrophage cell?

[Question ID = 566][Question Description = 256_GATBS1_SECTION-B_APR22_Q156]
1. Histiocyte

   [Option ID = 2261]
2. Kupffer cell

   [Option ID = 2262]
3. Langerhans cell

   [Option ID = 2263]
4. Dendritic cell

   [Option ID = 2264]

97) Which of the following statements is NOT TRUE about myeloma cells used in the hybridoma technique for the production of monoclonal antibodies?

[Question ID = 567][Question Description = 257_GATBS1_SECTION-B_APR22_Q157]

1. These are cancerous B cells

    [Option ID = 2265]
2. They can divide indefinitely in a culture

    [Option ID = 2266]
3. Their HGPRT gene is non-functional

    [Option ID = 2267]
4. They can produce antibodies

    [Option ID = 2268]

98) Which of the following is an inactivated vaccine?[Question ID = 568][Question Description = 258_GATBS1_SECTION-B_APR22_Q158]

1. Covishield [Option ID = 2269]
2. Sputnik V [Option ID = 2270]
3. Covaxin [Option ID = 2271]
4. Moderna mRNA-1273 [Option ID = 2272]

99) A plant species nearing its extinction due to virus infection has been given for tissue culture and micropropagation. What should scientists choose from the following four explants for culturing?[Question ID = 569][Question Description = 259_GATBS1_SECTION-B_APR22_Q159]

1. Shoot apical meristem [Option ID = 2273]
2. Internode [Option ID = 2274]
3. Leaf disc [Option ID = 2275]
4. Root tip [Option ID = 2276]

100) The '*Flavr Savr*' tomato was the first genetically engineered crop product commercialized for human consumption. This transgenic tomato is known for:

[Question ID = 570][Question Description = 260_GATBS1_SECTION-B_APR22_Q160]

1. increased bioactive compounds.

    [Option ID = 2277]
2. fortified Fe and Zn contents.

    [Option ID = 2278]
3. enhanced shelf-life.

    [Option ID = 2279]
4. bigger and pulpier fruits.

    [Option ID = 2280]

राष्ट्रीय परीक्षा एजेंसी
National Testing Agency
Excellence in Assessment

View Your Responses   Challenge of Questions   View Challenged Questions

Kamakshi Srivastava loggedin. **[Logout]**

Challenge of Questions

#	Post Name	Question Id	Correct Option	Option Id For Challenge					Remarks
1	GAT-B	411	1644	☐ 1641	☐ 1642	☐ 1643	☐ 1644	☐ None of These	
2	GAT-B	412	1648	☐ 1645	☐ 1646	☐ 1647	☐ 1648	☐ None of These	
3	GAT-B	413	1649	☐ 1649	☐ 1650	☐ 1651	☐ 1652	☐ None of These	
4	GAT-B	414	1656	☐ 1653	☐ 1654	☐ 1655	☐ 1656	☐ None of These	
5	GAT-B	415	1658	☐ 1657	☐ 1658	☐ 1659	☐ 1660	☐ None of These	
6	GAT-B	416	1663	☐ 1661	☐ 1662	☐ 1663	☐ 1664	☐ None of These	
7	GAT-B	417	1668	☐ 1665	☐ 1666	☐ 1667	☐ 1668	☐ None of These	
8	GAT-B	418	1671	☐ 1669	☐ 1670	☐ 1671	☐ 1672	☐ None of These	
9	GAT-B	419	1676	☐ 1673	☐ 1674	☐ 1675	☐ 1676	☐ None of These	
10	GAT-B	420	1677	☐ 1677	☐ 1678	☐ 1679	☐ 1680	☐ None of These	
11	GAT-B	421	1684	☐ 1681	☐ 1682	☐ 1683	☐ 1684	☐ None of These	
12	GAT-B	422	1685	☐ 1685	☐ 1686	☐ 1687	☐ 1688	☐ None of These	
13	GAT-B	423	1691	☐ 1689	☐ 1690	☐ 1691	☐ 1692	☐ None of These	
14	GAT-B	424	1693	☐ 1693	☐ 1694	☐ 1695	☐ 1696	☐ None of These	
15	GAT-B	425	1697	☐ 1697	☐ 1698	☐ 1699	☐ 1700	☐ None of These	
16	GAT-B	426	1702	☐ 1701	☐ 1702	☐ 1703	☐ 1704	☐ None of These	
17	GAT-B	427	1708	☐ 1705	☐ 1706	☐ 1707	☐ 1708	☐ None of These	
18	GAT-B	428	1712	☐ 1709	☐ 1710	☐ 1711	☐ 1712	☐ None of These	

19	GAT-B	429	1714	☐ 1713	☐ 1714	☐ 1715	☐ 1716	☐ None of These	
20	GAT-B	430	1717	☐ 1717	☐ 1718	☐ 1719	☐ 1720	☐ None of These	
21	GAT-B	431	1723	☐ 1721	☐ 1722	☐ 1723	☐ 1724	☐ None of These	
22	GAT-B	432	1726	☐ 1725	☐ 1726	☐ 1727	☐ 1728	☐ None of These	
23	GAT-B	433	1730	☐ 1729	☐ 1730	☐ 1731	☐ 1732	☐ None of These	
24	GAT-B	434	1735	☐ 1733	☐ 1734	☐ 1735	☐ 1736	☐ None of These	
25	GAT-B	435	1738	☐ 1737	☐ 1738	☐ 1739	☐ 1740	☐ None of These	
26	GAT-B	436	1743	☐ 1741	☐ 1742	☐ 1743	☐ 1744	☐ None of These	
27	GAT-B	437	1747	☐ 1745	☐ 1746	☐ 1747	☐ 1748	☐ None of These	
28	GAT-B	438	1749	☐ 1749	☐ 1750	☐ 1751	☐ 1752	☐ None of These	
29	GAT-B	439	1754	☐ 1753	☐ 1754	☐ 1755	☐ 1756	☐ None of These	
30	GAT-B	440	1757	☐ 1757	☐ 1758	☐ 1759	☐ 1760	☐ None of These	
31	GAT-B	441	1762	☐ 1761	☐ 1762	☐ 1763	☐ 1764	☐ None of These	
32	GAT-B	442	1767	☐ 1765	☐ 1766	☐ 1767	☐ 1768	☐ None of These	
33	GAT-B	443	1770	☐ 1769	☐ 1770	☐ 1771	☐ 1772	☐ None of These	
34	GAT-B	444	1773	☐ 1773	☐ 1774	☐ 1775	☐ 1776	☐ None of These	
35	GAT-B	445	1777	☐ 1777	☐ 1778	☐ 1779	☐ 1780	☐ None of These	
36	GAT-B	446	1782	☐ 1781	☐ 1782	☐ 1783	☐ 1784	☐ None of These	
37	GAT-B	447	1786	☐ 1785	☐ 1786	☐ 1787	☐ 1788	☐ None of These	
38	GAT-B	448	1789	☐ 1789	☐ 1790	☐ 1791	☐ 1792	☐ None of These	
39	GAT-B	449	1795	☐ 1793	☐ 1794	☐ 1795	☐ 1796	☐ None of These	
40	GAT-B	450	1798	☐ 1797	☐ 1798	☐ 1799	☐ 1800	☐ None of These	

41	GAT-B	451	1802	☐ 1801	☐ 1802	☐ 1803	☐ 1804	☐ None of These	
42	GAT-B	452	1806	☐ 1805	☐ 1806	☐ 1807	☐ 1808	☐ None of These	
43	GAT-B	453	1812	☐ 1809	☐ 1810	☐ 1811	☐ 1812	☐ None of These	
44	GAT-B	454	1815	☐ 1813	☐ 1814	☐ 1815	☐ 1816	☐ None of These	
45	GAT-B	455	1817	☐ 1817	☐ 1818	☐ 1819	☐ 1820	☐ None of These	
46	GAT-B	456	1821	☐ 1821	☐ 1822	☐ 1823	☐ 1824	☐ None of These	
47	GAT-B	457	1825	☐ 1825	☐ 1826	☐ 1827	☐ 1828	☐ None of These	
48	GAT-B	458	1831	☐ 1829	☐ 1830	☐ 1831	☐ 1832	☐ None of These	
49	GAT-B	459	1835	☐ 1833	☐ 1834	☐ 1835	☐ 1836	☐ None of These	
50	GAT-B	460	1839	☐ 1837	☐ 1838	☐ 1839	☐ 1840	☐ None of These	
51	GAT-B	461	1841	☐ 1841	☐ 1842	☐ 1843	☐ 1844	☐ None of These	
52	GAT-B	462	1845	☐ 1845	☐ 1846	☐ 1847	☐ 1848	☐ None of These	
53	GAT-B	463	1849	☐ 1849	☐ 1850	☐ 1851	☐ 1852	☐ None of These	
54	GAT-B	464	1855	☐ 1853	☐ 1854	☐ 1855	☐ 1856	☐ None of These	
55	GAT-B	465	1860	☐ 1857	☐ 1858	☐ 1859	☐ 1860	☐ None of These	
56	GAT-B	466	1862	☐ 1861	☐ 1862	☐ 1863	☐ 1864	☐ None of These	
57	GAT-B	467	1868	☐ 1865	☐ 1866	☐ 1867	☐ 1868	☐ None of These	
58	GAT-B	468	1871	☐ 1869	☐ 1870	☐ 1871	☐ 1872	☐ None of These	
59	GAT-B	469	1875	☐ 1873	☐ 1874	☐ 1875	☐ 1876	☐ None of These	
60	GAT-B	470	1878	☐ 1877	☐ 1878	☐ 1879	☐ 1880	☐ None of These	
61	GAT-B	471	1884	☐ 1881	☐ 1882	☐ 1883	☐ 1884	☐ None of These	

62	GAT-B	472	1886	☐ 1885	☐ 1886	☐ 1887	☐ 1888	☐ **None of These**	
63	GAT-B	473	1890	☐ 1889	☐ 1890	☐ 1891	☐ 1892	☐ **None of These**	
64	GAT-B	474	1895	☐ 1893	☐ 1894	☐ 1895	☐ 1896	☐ **None of These**	
65	GAT-B	475	1899	☐ 1897	☐ 1898	☐ 1899	☐ 1900	☐ **None of These**	
66	GAT-B	476	1901	☐ 1901	☐ 1902	☐ 1903	☐ 1904	☐ **None of These**	
67	GAT-B	477	1907	☐ 1905	☐ 1906	☐ 1907	☐ 1908	☐ **None of These**	
68	GAT-B	478	1911	☐ 1909	☐ 1910	☐ 1911	☐ 1912	☐ **None of These**	
69	GAT-B	479	1914	☐ 1913	☐ 1914	☐ 1915	☐ 1916	☐ **None of These**	
70	GAT-B	480	1918	☐ 1917	☐ 1918	☐ 1919	☐ 1920	☐ **None of These**	
71	GAT-B	481	1924	☐ 1921	☐ 1922	☐ 1923	☐ 1924	☐ **None of These**	
72	GAT-B	482	1926	☐ 1925	☐ 1926	☐ 1927	☐ 1928	☐ **None of These**	
73	GAT-B	483	1930	☐ 1929	☐ 1930	☐ 1931	☐ 1932	☐ **None of These**	
74	GAT-B	484	1936	☐ 1933	☐ 1934	☐ 1935	☐ 1936	☐ **None of These**	
75	GAT-B	485	1939	☐ 1937	☐ 1938	☐ 1939	☐ 1940	☐ **None of These**	
76	GAT-B	486	1941	☐ 1941	☐ 1942	☐ 1943	☐ 1944	☐ **None of These**	
77	GAT-B	487	1947	☐ 1945	☐ 1946	☐ 1947	☐ 1948	☐ **None of These**	
78	GAT-B	488	1951	☐ 1949	☐ 1950	☐ 1951	☐ 1952	☐ **None of These**	
79	GAT-B	489	1956	☐ 1953	☐ 1954	☐ 1955	☐ 1956	☐ **None of These**	
80	GAT-B	490	1960	☐ 1957	☐ 1958	☐ 1959	☐ 1960	☐ **None of These**	
81	GAT-B	491	1962	☐ 1961	☐ 1962	☐ 1963	☐ 1964	☐ **None of These**	
82	GAT-B	492	1965	☐ 1965	☐ 1966	☐ 1967	☐ 1968	☐ **None of These**	

83	GAT-B	493	1972	☐ 1969	☐ 1970	☐ 1971	☐ 1972	☐ None of These	
84	GAT-B	494	1976	☐ 1973	☐ 1974	☐ 1975	☐ 1976	☐ None of These	
85	GAT-B	495	1977	☐ 1977	☐ 1978	☐ 1979	☐ 1980	☐ None of These	
86	GAT-B	496	1982	☐ 1981	☐ 1982	☐ 1983	☐ 1984	☐ None of These	
87	GAT-B	497	1987	☐ 1985	☐ 1986	☐ 1987	☐ 1988	☐ None of These	
88	GAT-B	498	1990	☐ 1989	☐ 1990	☐ 1991	☐ 1992	☐ None of These	
89	GAT-B	499	1994	☐ 1993	☐ 1994	☐ 1995	☐ 1996	☐ None of These	
90	GAT-B	500	1997	☐ 1997	☐ 1998	☐ 1999	☐ 2000	☐ None of These	
91	GAT-B	501	2001	☐ 2001	☐ 2002	☐ 2003	☐ 2004	☐ None of These	
92	GAT-B	502	2007	☐ 2005	☐ 2006	☐ 2007	☐ 2008	☐ None of These	
93	GAT-B	503	2011	☐ 2009	☐ 2010	☐ 2011	☐ 2012	☐ None of These	
94	GAT-B	504	2015	☐ 2013	☐ 2014	☐ 2015	☐ 2016	☐ None of These	
95	GAT-B	505	2019	☐ 2017	☐ 2018	☐ 2019	☐ 2020	☐ None of These	
96	GAT-B	506	2024	☐ 2021	☐ 2022	☐ 2023	☐ 2024	☐ None of These	
97	GAT-B	507	2028	☐ 2025	☐ 2026	☐ 2027	☐ 2028	☐ None of These	
98	GAT-B	508	2032	☐ 2029	☐ 2030	☐ 2031	☐ 2032	☐ None of These	
99	GAT-B	509	2035	☐ 2033	☐ 2034	☐ 2035	☐ 2036	☐ None of These	
100	GAT-B	510	2040	☐ 2037	☐ 2038	☐ 2039	☐ 2040	☐ None of These	
101	GAT-B	511	2043	☐ 2041	☐ 2042	☐ 2043	☐ 2044	☐ None of These	
102	GAT-B	512	2045	☐ 2045	☐ 2046	☐ 2047	☐ 2048	☐ None of These	
103	GAT-B	513	2051	☐ 2049	☐ 2050	☐ 2051	☐ 2052	☐ None of These	

104	GAT-B	514	2054	☐ 2053	☐ 2054	☐ 2055	☐ 2056	☐ None of These	
105	GAT-B	515	2060	☐ 2057	☐ 2058	☐ 2059	☐ 2060	☐ None of These	
106	GAT-B	516	2063	☐ 2061	☐ 2062	☐ 2063	☐ 2064	☐ None of These	
107	GAT-B	517	2065	☐ 2065	☐ 2066	☐ 2067	☐ 2068	☐ None of These	
108	GAT-B	518	2070	☐ 2069	☐ 2070	☐ 2071	☐ 2072	☐ None of These	
109	GAT-B	519	2074	☐ 2073	☐ 2074	☐ 2075	☐ 2076	☐ None of These	
110	GAT-B	520	2078	☐ 2077	☐ 2078	☐ 2079	☐ 2080	☐ None of These	
111	GAT-B	521	2081	☐ 2081	☐ 2082	☐ 2083	☐ 2084	☐ None of These	
112	GAT-B	522	2087	☐ 2085	☐ 2086	☐ 2087	☐ 2088	☐ None of These	
113	GAT-B	523	2089	☐ 2089	☐ 2090	☐ 2091	☐ 2092	☐ None of These	
114	GAT-B	524	2094	☐ 2093	☐ 2094	☐ 2095	☐ 2096	☐ None of These	
115	GAT-B	525	2100	☐ 2097	☐ 2098	☐ 2099	☐ 2100	☐ None of These	
116	GAT-B	526	2102	☐ 2101	☐ 2102	☐ 2103	☐ 2104	☐ None of These	
117	GAT-B	527	2107	☐ 2105	☐ 2106	☐ 2107	☐ 2108	☐ None of These	
118	GAT-B	528	2109	☐ 2109	☐ 2110	☐ 2111	☐ 2112	☐ None of These	
119	GAT-B	529	2113	☐ 2113	☐ 2114	☐ 2115	☐ 2116	☐ None of These	
120	GAT-B	530	2120	☐ 2117	☐ 2118	☐ 2119	☐ 2120	☐ None of These	
121	GAT-B	531	2123	☐ 2121	☐ 2122	☐ 2123	☐ 2124	☐ None of These	
122	GAT-B	532	2126	☐ 2125	☐ 2126	☐ 2127	☐ 2128	☐ None of These	
123	GAT-B	533	2130	☐ 2129	☐ 2130	☐ 2131	☐ 2132	☐ None of These	
124	GAT-B	534	2135	☐ 2133	☐ 2134	☐ 2135	☐ 2136	☐ None of These	

125	GAT-B	535	2139	☐ 2137	☐ 2138	☐ 2139	☐ 2140	☐ None of These	
126	GAT-B	536	2142	☐ 2141	☐ 2142	☐ 2143	☐ 2144	☐ None of These	
127	GAT-B	537	2146	☐ 2145	☐ 2146	☐ 2147	☐ 2148	☐ None of These	
128	GAT-B	538	2151	☐ 2149	☐ 2150	☐ 2151	☐ 2152	☐ None of These	
129	GAT-B	539	2153	☐ 2153	☐ 2154	☐ 2155	☐ 2156	☐ None of These	
130	GAT-B	540	2160	☐ 2157	☐ 2158	☐ 2159	☐ 2160	☐ None of These	
131	GAT-B	541	2162	☐ 2161	☐ 2162	☐ 2163	☐ 2164	☐ None of These	
132	GAT-B	542	2166	☐ 2165	☐ 2166	☐ 2167	☐ 2168	☐ None of These	
133	GAT-B	543	2169	☐ 2169	☐ 2170	☐ 2171	☐ 2172	☐ None of These	
134	GAT-B	544	2175	☐ 2173	☐ 2174	☐ 2175	☐ 2176	☐ None of These	
135	GAT-B	545	2180	☐ 2177	☐ 2178	☐ 2179	☐ 2180	☐ None of These	
136	GAT-B	546	2181	☐ 2181	☐ 2182	☐ 2183	☐ 2184	☐ None of These	
137	GAT-B	547	2185	☐ 2185	☐ 2186	☐ 2187	☐ 2188	☐ None of These	
138	GAT-B	548	2192	☐ 2189	☐ 2190	☐ 2191	☐ 2192	☐ None of These	
139	GAT-B	549	2196	☐ 2193	☐ 2194	☐ 2195	☐ 2196	☐ None of These	
140	GAT-B	550	2199	☐ 2197	☐ 2198	☐ 2199	☐ 2200	☐ None of These	
141	GAT-B	551	2204	☐ 2201	☐ 2202	☐ 2203	☐ 2204	☐ None of These	
142	GAT-B	552	2207	☐ 2205	☐ 2206	☐ 2207	☐ 2208	☐ None of These	
143	GAT-B	553	2210	☐ 2209	☐ 2210	☐ 2211	☐ 2212	☐ None of These	
144	GAT-B	554	2215	☐ 2213	☐ 2214	☐ 2215	☐ 2216	☐ None of These	
145	GAT-B	555	2218	☐ 2217	☐ 2218	☐ 2219	☐ 2220	☐ None of These	

146	GAT-B	556	2224	☐ 2221	☐ 2222	☐ 2223	☐ 2224	☐ None of These
147	GAT-B	557	2227	☐ 2225	☐ 2226	☐ 2227	☐ 2228	☐ None of These
148	GAT-B	558	2229	☐ 2229	☐ 2230	☐ 2231	☐ 2232	☐ None of These
149	GAT-B	559	2234	☐ 2233	☐ 2234	☐ 2235	☐ 2236	☐ None of These
150	GAT-B	560	2238	☐ 2237	☐ 2238	☐ 2239	☐ 2240	☐ None of These
151	GAT-B	561	2243	☐ 2241	☐ 2242	☐ 2243	☐ 2244	☐ None of These
152	GAT-B	562	2248	☐ 2245	☐ 2246	☐ 2247	☐ 2248	☐ None of These
153	GAT-B	563	2249	☐ 2249	☐ 2250	☐ 2251	☐ 2252	☐ None of These
154	GAT-B	564	2254	☐ 2253	☐ 2254	☐ 2255	☐ 2256	☐ None of These
155	GAT-B	565	2260	☐ 2257	☐ 2258	☐ 2259	☐ 2260	☐ None of These
156	GAT-B	566	2264	☐ 2261	☐ 2262	☐ 2263	☐ 2264	☐ None of These
157	GAT-B	567	2268	☐ 2265	☐ 2266	☐ 2267	☐ 2268	☐ None of These
158	GAT-B	568	2271	☐ 2269	☐ 2270	☐ 2271	☐ 2272	☐ None of These
159	GAT-B	569	2273	☐ 2273	☐ 2274	☐ 2275	☐ 2276	☐ None of These
160	GAT-B	570	2279	☐ 2277	☐ 2278	☐ 2279	☐ 2280	☐ None of These

Upload Scanned Image(PDF or JPG) Choose File No file chosen

Challenge Question