

DU MSc in Bio Sci N MSc PhD Comb degree in Bio Sci

Topic:- BIOSCI MSC

1) Which of the following statements are true?

- A. Taxol is anticancer drug isolated from *Taxus brevifolia*
- B. Vincristine is anti-cancer drug isolated from *Vinca rosea*
- C. Vinblastin is anti-inflammatory drug isolated from *Vinca rosea*
- D. Camptothecin is anti-inflammatory drug isolated from *Camptotheca acuminata*

Choose the correct answer from the options given below:

[Question ID = 4572]

1. A and C only

[Option ID = 18285]

2. B and D only

[Option ID = 18286]

3. A and B only

[Option ID = 18287]

4. C and D only

[Option ID = 18288]

2) Which of the following statements are true?

- A. The alkanes are more reactive than alkenes
- B. The alkenes absorb in UV-Vis region of electromagnetic spectrum.
- C. Alkenes readily undergo addition reaction
- D. Alkenes do not undergo polymerization

Choose the correct answer from the options given below:

[Question ID = 4573]

1. B and C only

[Option ID = 18289]

2. A and D only

[Option ID = 18290]

3. A and B only

[Option ID = 18291]

4. C and D only

[Option ID = 18292]

3) Match List I with List II

List I	List II
Name Reaction	Rearrangement
A. Beckmann	I. The conversion of acyl azide to amine
B. Curtius	II. The carbocation 1,2-rearrangement migration
C. Wagner-Meerwein	III. The conversion of amide to amine
D. Hofmann Bromamide	IV. The conversion of oxime to amine

Choose the correct answer from the options given below:

[Question ID = 4574]

1. A - I, B - II, C - III, D - IV [Option ID = 18293]

2. A - II, B - III, C - IV, D - I [Option ID = 18294]

3. A - III, B - IV, C - I, D - II [Option ID = 18295]

4. A - IV, B - I, C - II, D - III [Option ID = 18296]

4) Match List I with List II

List I	List II
Parameter	Name
A. LFER for field, inductive, and resonance effects	I. Vander Waal's
B. Effect of Substituents on biological activity	II. Taft equation
C. Non-bonding interaction in proteins	III. Hammett equation

D. LFER for the steric effects of a substituent | IV. SAR

Choose the correct answer from the options given below:

[Question ID = 4575]

1. A - I, B - II, C - III, D - IV [Option ID = 18297]
2. A-II, B-IV, C-I, D-III [Option ID = 18298]
3. A - III, B - IV, C - I, D - II [Option ID = 18299]
4. A - IV, B - I, C - III, D - II [Option ID = 18300]

5) Match List I with List II

List I	List II
Drug parameter	Measures
A. Therapeutic Window	I. The ratio of LD^{50} to ED^{50}
B. Therapeutic index	II. ED^{50}
C. Potency	III. Maximal response of a drug
D. Efficacy	IV. Relative safety of a drug

Choose the correct answer from the options given below:

[Question ID = 4576]

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

[Option ID = 18301]

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

[Option ID = 18302]

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

[Option ID = 18303]

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

[Option ID = 18304]

6) Match List I with List II

List I	List II
Organic compound	Application
A. Isoprene	I. Fuel gas
B. Ethylene	II. Synthetic rubber
C. Propylene	III. Natural rubber
D. Butadiene	IV. Plastic preparation

Choose the correct answer from the options given below:

[Question ID = 4577]

1. A-I, B-II, C-III, D-IV [Option ID = 18305]
2. A - IV, B - I, C - II, D - III [Option ID = 18306]
3. A - III, B - IV, C - I, D - II [Option ID = 18307]
4. A - II, B - III, C - IV, D - I [Option ID = 18308]

7) Which of the following statements are true?

- A. Maltose is a monosaccharide
- B. Lactose is a disaccharide
- C. Melibiose is trisaccharide
- D. Mannose is tetra-saccharide

Choose the correct answer from the options given below:

[Question ID = 4578]

1. A and C only

[Option ID = 18309]

2. B and C only

[Option ID = 18310]

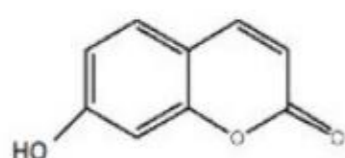
3. A and D only

[Option ID = 18311]

4. B only

[Option ID = 18312]

8) Which one of the following is the correct biogenic precursor for the biosynthesis of the natural product Umbelliferone?



Umbelliferone

- A. L-tryptophan
- B. Cinnamic acid
- C. L-methionine
- D. L-phenylalanine

Choose the correct answer from the options given below

[Question ID = 4579]

1. A and B only

[Option ID = 18313]

2. B and D only

[Option ID = 18314]

3. B and C only

[Option ID = 18315]

4. C and D only

[Option ID = 18316]

9) Match List I with List II

List I	List II
Name of ORE	Salt
A. Bauxite	I. NaCl
B. Pyrite	II. CaCO ₃
C. Calcite	III. Al ₂ O ₃
D. Halite	IV. FeS ₂

Choose the correct answer from the options given below:

[Question ID = 4580]

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

[Option ID = 18317]

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

[Option ID = 18318]

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

[Option ID = 18319]

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

[Option ID = 18320]

10) Which of the following statements are true?

- A. Ruby is composed of aluminium oxide with traces of chromium
- B. Topaz is a silicate mineral of aluminium and fluorine
- C. Sapphire is aluminium oxide with chromium and titanium
- D. Emerald is mineral beryl with traces of chromium

Choose the correct answer from the options given below:

[Question ID = 4581]

1. A and C only

[Option ID = 18321]

2. B and D only

[Option ID = 18322]

3. A, B, C and D

[Option ID = 18323]

4. None of the statements

[Option ID = 18324]

11) Commercial sodium bicarbonate is known as [Question ID = 4582]

- 1. Washing soda [Option ID = 18325]
- 2. Baking soda [Option ID = 18326]
- 3. Bleaching soda [Option ID = 18327]
- 4. Soda ash [Option ID = 18328]

12) The reaction between methane and chlorine in diffused sunlight is [Question ID = 4583]

- 1. Oxidation [Option ID = 18329]
- 2. Reduction [Option ID = 18330]
- 3. Polymerization [Option ID = 18331]

4. Substitution [Option ID = 18332]

13) Which one of the following is not a chemical change?[Question ID = 4584]

1. Burning of coal in air [Option ID = 18333]
2. Fermentation of sugarcane juice [Option ID = 18334]
3. Cracking of petroleum [Option ID = 18335]
4. Crystallization of table salt from sea water [Option ID = 18336]

14) Which chemical is used as a fixer in photography?[Question ID = 4585]

1. Sodium sulphate [Option ID = 18337]
2. Borax [Option ID = 18338]
3. Sodium thiosulphate [Option ID = 18339]
4. Ammonium sulphate [Option ID = 18340]

15) Which among the following is NOT a property of ionic bond?[Question ID = 4586]

1. Losing of electrons [Option ID = 18341]
2. Gain of electrons [Option ID = 18342]
3. Sharing of electrons [Option ID = 18343]
4. Transfer of electrons [Option ID = 18344]

16) Potassium ion K^+ has the same electronic configuration as that of which noble gases mentioned below?[Question ID = 4587]

1. Krypton [Option ID = 18345]
2. Xenon [Option ID = 18346]
3. Argon [Option ID = 18347]
4. Radon [Option ID = 18348]

17) Ten covalent bonds in the Lewis structure of Propane will account for how many valence electrons?[Question ID = 4588]

1. 10 [Option ID = 18349]
2. 20 [Option ID = 18350]
3. 14 [Option ID = 18351]
4. 12 [Option ID = 18352]

18) Which among the following is NOT a physical method?[Question ID = 4589]

1. X-ray fluorescence spectroscopy [Option ID = 18353]
2. Atomic emission spectroscopy [Option ID = 18354]
3. Inert gas fusion [Option ID = 18355]
4. Fluorescence spectroscopy [Option ID = 18356]

19) Which among these is not a structural isomer of the compound C_4H_8 ?[Question ID = 4590]

1. But-1-ene [Option ID = 18357]
2. But-2-ene [Option ID = 18358]
3. But-3-ene [Option ID = 18359]
4. 2-methylpropene [Option ID = 18360]

20) Which is NOT CORRECT for Paracetamol?[Question ID = 4591]

1. Inhibits COX-1 [Option ID = 18361]
2. Inhibits COX-2 [Option ID = 18362]
3. Increases Prostaglandin Synthesis [Option ID = 18363]
4. Reduces Prostaglandin Synthesis [Option ID = 18364]

21) The sweetener Aspartame belongs to the category of?[Question ID = 4592]

1. Oligosaccharide [Option ID = 18365]
2. Amide [Option ID = 18366]
3. Lipid [Option ID = 18367]
4. Disaccharide [Option ID = 18368]

22) Identify the INCORRECT statement regarding cycloalkanes[Question ID = 4593]

1. These have sp^3 hybridized carbons [Option ID = 18369]
2. These have trigonal bond angles [Option ID = 18370]
3. Stability of the cycloalkanes varies directly with their respective size [Option ID = 18371]
4. These undergo nucleophilic substitution reactions [Option ID = 18372]

23) Which will react faster in the SN^2 nucleophilic substitution reaction?[Question ID = 4594]

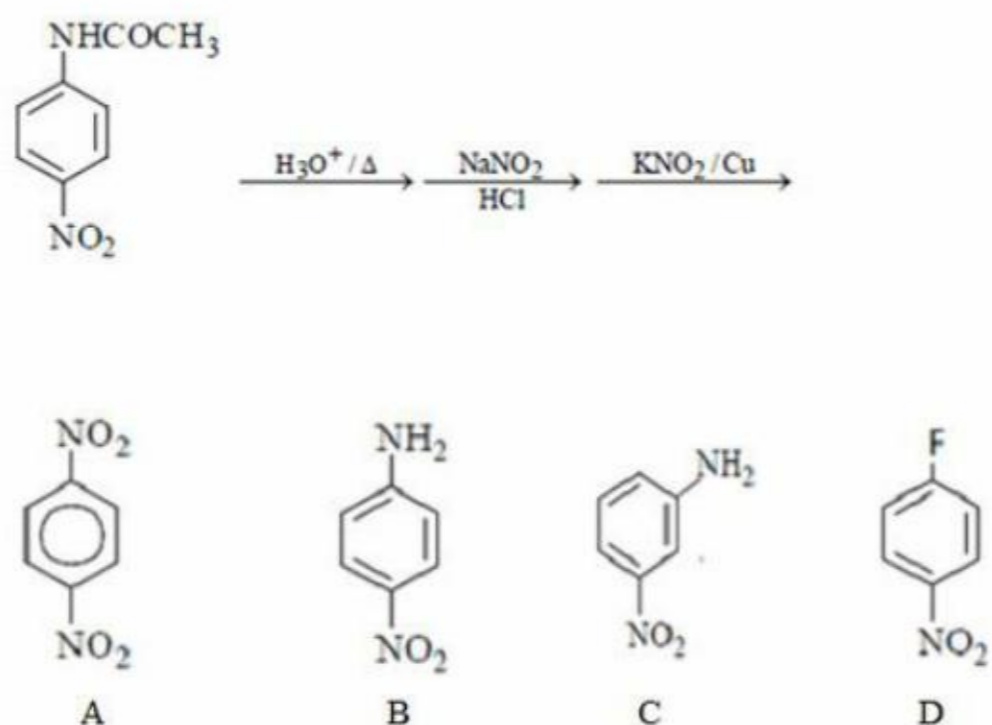
1. $CH_3-CH=CH-Br$ [Option ID = 18373]
2. $CH_2=CH-CH_2-Br$ [Option ID = 18374]
3. $CH_3-CH_2-CH-Br_2$ [Option ID = 18375]
4. $CH_3-CH_2-CH_2-Br$ [Option ID = 18376]

24) Which of the following is NOT TRUE for SN^1 reactions?[Question ID = 4595]

1. They occur through a single step concerted reaction [Option ID = 18377]
2. They are favored by polar solvents [Option ID = 18378]

3. Tertiary alkyl halides generally react through S_N1 mechanism [Option ID = 18379]
 4. Concentration of nucleophile does not affect the rate of such reactions [Option ID = 18380]

25) What will be the final product in the following sequence of reactions?



[Question ID = 4596]

- A [Option ID = 18381]
- B [Option ID = 18382]
- C [Option ID = 18383]
- D [Option ID = 18384]

26) Ester based local anaesthesia (LA) is short acting and safer (cocaine), however, amide based anaesthesia is long acting, more potent and has less therapeutic index. Most of the LAs are vasodilator except cocaine, levobupivacaine and ropivacaine. Which one of the following is most toxic anesthesia? [Question ID = 4597]

- Procaine [Option ID = 18385]
- Mepivacaine [Option ID = 18386]
- Lidocaine [Option ID = 18387]
- Bupivacaine [Option ID = 18388]

27) Markovnikov rule illustrates that the addition of protic acid HX to an alkene or alkyne. Which one of the following is the CORRECT statement? [Question ID = 4598]

- The hydrogen atom of acid becomes bonded to the carbon atom that had the greatest number of hydrogen atoms in the starting alkene or alkyne [Option ID = 18389]
- The hydrogen atom of acid becomes bonded to the carbon atom that had the lowest number of hydrogen atoms in the starting alkene or alkyne [Option ID = 18390]
- The substituted carbocation does not allow hyperconjugation and induction to happen [Option ID = 18391]
- A hydrohalogenation reaction is the nucleophilic substitution reaction [Option ID = 18392]

28) Compound A on reaction with HBr gave compound B, which on reaction with sodium azide followed by Pd/C reduction gave compound C. Identify the correct sequence for the formation of A, B and C [Question ID = 4599]

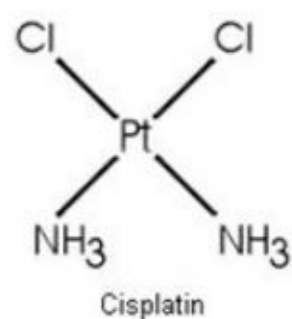
- Benzyl alcohol, benzyl bromide, benzyl azide [Option ID = 18393]
- Benzyl alcohol, benzyl bromide, aniline [Option ID = 18394]
- Propanol, Propyl bromide, propyl azide [Option ID = 18395]
- Propanol, propyl bromide, propylamine [Option ID = 18396]

29) Ultraviolet and visible radiation interacts with matter which causes electronic transitions (promotion of electrons from the ground state to a high energy state), which pair of the following transition fall in Visible Range?

[Question ID = 4600]

- $\pi - \pi^*$ (pi to pi star transition) and $n - \pi^*$ (n to pi star transition) [Option ID = 18397]
- $\sigma - \sigma^*$ (sigma to sigma star transition) and $n - \sigma^*$ (n to sigma star transition) [Option ID = 18398]
- $\sigma - \sigma^*$ (sigma to sigma star transition) and $\pi - \pi^*$ (pi to pi star transition) [Option ID = 18399]
- $\pi - \sigma^*$ (pi to sigma star transition) and $\sigma^* - \pi^*$ (sigma star to pi star transition) [Option ID = 18400]

30) Which of the one of the following statements correctly represent the Cisplatin?



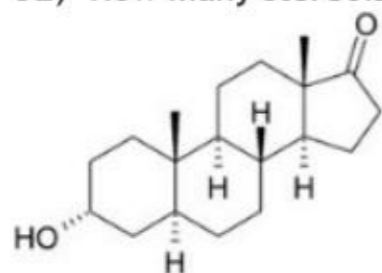
[Question ID = 4601]

1. It is an effective anti-HIV agent
[Option ID = 18401]
2. It has a square planar structure
[Option ID = 18402]
3. Two chloride atoms and two ammonia molecules extend as tetragonal
[Option ID = 18403]
4. It is used as adjuvant in heart disease therapy
[Option ID = 18404]

31) Which one of the following compounds has maximum density?[Question ID = 4602]

1. Chloroform [Option ID = 18405]
2. Water [Option ID = 18406]
3. Benzene [Option ID = 18407]
4. Ice [Option ID = 18408]

32) How many stereoisomers will be obtained from the steroid andosterone?



Andosterone[Question ID = 4603]

1. 8 [Option ID = 18409]
2. 16 [Option ID = 18410]
3. 64 [Option ID = 18411]
4. 128 [Option ID = 18412]

33) The intensity of light beam decreased by 50% when it passes through a sample of 1.0 cm path length. The percentage of transmission of the light passing through the same sample, but of 3.0 cm path length would be[Question ID = 4604]

1. 50 [Option ID = 18413]
2. 25 [Option ID = 18414]
3. 16.67 [Option ID = 18415]
4. 12.5 [Option ID = 18416]

34) Peptide synthesis involves removal of water from the reacting aminoacids, the reaction is represented by following sequence of events[Question ID = 4605]

1. Activation, Protection, Coupling [Option ID = 18417]
2. Coupling, Protection, Activation [Option ID = 18418]
3. Protection, Coupling, Activation [Option ID = 18419]
4. Protection, Activation, Coupling [Option ID = 18420]

35) Example(s) of major plasma proteins NOT important for drug binding[Question ID = 4606]

1. Lipoproteins [Option ID = 18421]
2. alpha1-acidic glycoproteins [Option ID = 18422]
3. Albumin [Option ID = 18423]
4. Fibrin [Option ID = 18424]

36) 2.5 μM concentration of a stock solution of dNTP required a volume of 25 μl in a PCR assay. What volume of dNTP will be used from the stock solution of 25 nM for carrying the PCR assay?[Question ID = 4607]

1. 0.5 ml [Option ID = 18425]
2. 0.25 ml [Option ID = 18426]
3. 1 ml [Option ID = 18427]
4. 2.5 ml [Option ID = 18428]

37) During photosynthesis, PS II absorbs energy at or below[Question ID = 4608]

1. 700nm [Option ID = 18429]
2. 670nm [Option ID = 18430]
3. 680nm [Option ID = 18431]
4. 780nm [Option ID = 18432]

38) Principal protein in milk is[Question ID = 4609]

1. Albumin [Option ID = 18433]
2. Lactalbumin [Option ID = 18434]
3. Casein [Option ID = 18435]
4. Globulin [Option ID = 18436]

39) Which of the following is an anticoagulant?[Question ID = 4610]

1. Amoxicillin [Option ID = 18437]
2. Diltiazem [Option ID = 18438]
3. Heparin [Option ID = 18439]
4. Epinephrine [Option ID = 18440]

40) Which one of the following drugs has the most abuse liability?[Question ID = 4611]

1. Caffeine [Option ID = 18441]
2. Benzodiazepines [Option ID = 18442]
3. Cocaine [Option ID = 18443]
4. Aspirin [Option ID = 18444]

41) Simvastatin interacts with[Question ID = 4612]

1. DHFR [Option ID = 18445]
2. HGPRT [Option ID = 18446]
3. ACE [Option ID = 18447]
4. HMG CoA [Option ID = 18448]

**42) Mixture of which one of the following pair of gases is the cause of occurrence of most of the explosion in mines?
[Question ID = 4613]**

1. Hydrogen and oxygen [Option ID = 18449]
2. Oxygen and acetylene [Option ID = 18450]
3. Methane and air [Option ID = 18451]
4. Carbon dioxide and methane [Option ID = 18452]

43) Bagasse, a by-product of sugar manufacturing industry, gives heat and electricity in sugar mills and is also used for the production of[Question ID = 4614]

1. Nylon [Option ID = 18453]
2. Glass [Option ID = 18454]
3. Paper [Option ID = 18455]
4. Alcohol [Option ID = 18456]

44) Bleaching action of chlorine is[Question ID = 4615]

1. Oxidation [Option ID = 18457]
2. Reduction [Option ID = 18458]
3. Esterification [Option ID = 18459]
4. Hydrolysis [Option ID = 18460]

45) Isotopes differ in[Question ID = 4616]

1. Atomic number [Option ID = 18461]
2. Number of protons [Option ID = 18462]
3. Number of electrons [Option ID = 18463]
4. Atomic mass [Option ID = 18464]

46) Human bone does not contain[Question ID = 4617]

1. Calcium [Option ID = 18465]
2. Carbon [Option ID = 18466]
3. Beryllium [Option ID = 18467]
4. Phosphorous [Option ID = 18468]

47) Which one of the following non-metals is NOT a poor conductor of electricity?[Question ID = 4618]

1. Sulphur [Option ID = 18469]
2. Selenium [Option ID = 18470]
3. Bromine [Option ID = 18471]
4. Phosphorus [Option ID = 18472]

48) Radon is[Question ID = 4619]

1. Germanium [Option ID = 18473]
2. Inert gas [Option ID = 18474]
3. Artificial fibre [Option ID = 18475]
4. An explosive [Option ID = 18476]

49) Which of one the following amino acid is present in β -turn of a protein?

[Question ID = 4620]

1. Aspartae

[Option ID = 18477]

2. Leucine

[Option ID = 18478]

3. Phenyl alanine

[Option ID = 18479]

4. Proline

[Option ID = 18480]

50) Which one among the following is called philosophers wool?[Question ID = 4621]

1. Zinc bromide [Option ID = 18481]
2. Zinc nitrate [Option ID = 18482]
3. Zinc oxide [Option ID = 18483]
4. Zinc chloride [Option ID = 18484]

51) Match List I with List II

List I	List II
Enzyme	Product
A. Tyrosine transaminase	I. DOPA
B. Dopamine beta-hydroxylase	II. Epinephrine
C. Methyl transferase	III. Nor-epinephrine
D. Tyrosine hydroxylase	IV. P-hydroxyphenyl pyruvate

Choose the CORRECT answer from the options given below:

[Question ID = 4642]

1. A - II, B - I, C - IV, D - III [Option ID = 18565]
2. A - I, B - II, C - III, D - IV [Option ID = 18566]
3. A - III, B - IV, C - I, D - II [Option ID = 18567]
4. A - IV, B - III, C - II, D - I [Option ID = 18568]

52) In eukaryotic DNA replication the letters ORC are used to refer to which of the following?[Question ID = 4643]

1. Original Replication Centre [Option ID = 18569]
2. Order Reorganization Complex [Option ID = 18570]
3. Origin Recognition Complex [Option ID = 18571]
4. Ordinary Recombination Centre [Option ID = 18572]

53) Adult hemoglobin contains:

[Question ID = 4644]

1. 1 β and 1 α globin chains

[Option ID = 18573]

2. 2 β and 1 α globin chains

[Option ID = 18574]

3. 1 β and 2 α globin chains

[Option ID = 18575]

4. 2 β and 2 α globin chains

[Option ID = 18576]

54) Deficiency of glucose-6-phosphate dehydrogenase is the disorder of which pathway?[Question ID = 4645]

1. Pentose phosphate pathway [Option ID = 18577]
2. Glycolysis [Option ID = 18578]
3. Gluconeogenesis [Option ID = 18579]
4. Glycogen metabolism [Option ID = 18580]

55) Which of the following vitamins is involved in transamination of amino acids?[Question ID = 4646]

1. Folate [Option ID = 18581]
2. Niacin [Option ID = 18582]
3. Thiamin [Option ID = 18583]
4. Vitamin B6 [Option ID = 18584]

56) Which one of the following groups of amino acids contain side chain hydroxyl groups?[Question ID = 4647]

1. Aspartate, Glutamate and Arginine [Option ID = 18585]
2. Serine, Threonine and Tyrosine [Option ID = 18586]
3. Lysine, Arginine and Proline [Option ID = 18587]
4. Proline, Phenylalanine and Arginine [Option ID = 18588]

57) In chordates, four common features appear at some point during development. Which among the following is an INCORRECT feature?[Question ID = 4648]

1. A notochord [Option ID = 18589]
2. A ventral nerve cord and a dorsal heart [Option ID = 18590]

3. Pharyngeal slits [Option ID = 18591]
4. Post-anal tail [Option ID = 18592]

58) Which of the following statements is INCORRECT?

[Question ID = 4649]

1. *Bombyx mori* is a domestic silk moth.
[Option ID = 18593]
2. The silkworm is the larva or caterpillar of a silk moth.
[Option ID = 18594]
3. A silkworm's preferred food is mulberry leaves.
[Option ID = 18595]
4. *Bombyx mandarina* is a domestic silk moth.
[Option ID = 18596]

59) The spindle apparatus is formed during which phase of mitosis?[Question ID = 4650]

1. Telophase [Option ID = 18597]
2. Metaphase [Option ID = 18598]
3. Prophase [Option ID = 18599]
4. Anaphase [Option ID = 18600]

60) Match List I with List II

List I	List II
Scientists	Discoveries
A. Howard Temin and David Baltimore	I. Transposons
B. Barbara McClintock	II. DNA polymerase
C. Arthur Kornberg	III. PCR
D. Kary Mullis	IV. Reverse Transcriptase

Choose the CORRECT answer from the options given below:

[Question ID = 4651]

1. A - II, B - I, C - IV, D - III [Option ID = 18601]
2. A - IV, B - I, C - II, D - III [Option ID = 18602]
3. A - III, B - IV, C - II, D - I [Option ID = 18603]
4. A - IV, B - III, C - II, D - I [Option ID = 18604]

61) Genomic DNA replication in E.coli is:[Question ID = 4652]

1. Unidirectional, with multiple origins of replication [Option ID = 18605]
2. Bidirectional with multiple origins of replications [Option ID = 18606]
3. Unidirectional with single origin of replication [Option ID = 18607]
4. Bidirectional with single origin of replication [Option ID = 18608]

62) Which of the following statements is INCORRECT about Satellite DNA?[Question ID = 4653]

1. It consists of multi-copy tandemly repeated DNA sequences [Option ID = 18609]
2. It consists of coding DNA with protein coding functions [Option ID = 18610]
3. Satellite DNA is the main component of functional centromeres [Option ID = 18611]
4. It forms the main structural constituent of heterochromatin [Option ID = 18612]

63) Programmed cell death is termed as:[Question ID = 4654]

1. Metastasis [Option ID = 18613]
2. Apoptosis [Option ID = 18614]
3. Proliferation [Option ID = 18615]
4. Mitotic termination [Option ID = 18616]

64) Which of the statements is INCORRECT about lysosome?[Question ID = 4655]

1. Hydrolytic enzyme moves to the lysosome via vesicular transport [Option ID = 18617]
2. Material phagocytosed into the cell move to the lysosomes [Option ID = 18618]
3. The pH of the lysosomes is more acidic that those of the cytoplasm [Option ID = 18619]
4. Hydrolytic enzymes are transported to lysosomes directly from the cytosol [Option ID = 18620]

65) Which of the following arm of t-RNA serves as the site of attachment for amino acid?[Question ID = 4656]

1. Acceptor arm [Option ID = 18621]
2. D- arm [Option ID = 18622]
3. Anticodon arm [Option ID = 18623]
4. t-psi arm [Option ID = 18624]

66) Which of the following acts as a secondary messenger in regulation of metabolism?[Question ID = 4657]

1. cAMP [Option ID = 18625]
2. NADH [Option ID = 18626]
3. FAD [Option ID = 18627]
4. NAD [Option ID = 18628]

67) Cilia in eukaryotic cells are made up of which of the following proteins?[Question ID = 4658]

1. Keratin & Desmin [Option ID = 18629]
2. Dynein & Tubulin [Option ID = 18630]
3. Lamin & Keratin [Option ID = 18631]
4. Desmin & Lamin [Option ID = 18632]

68) Which of the following is a microfilament inhibitor?[Question ID = 4659]

1. Ampicillin [Option ID = 18633]
2. Cytochalasin B [Option ID = 18634]
3. Aspirin [Option ID = 18635]
4. Amphotericin [Option ID = 18636]

69) Dicer is a:[Question ID = 4660]

1. DNase [Option ID = 18637]
2. RNase III enzyme [Option ID = 18638]
3. Component of DNA polymerase [Option ID = 18639]
4. Protease [Option ID = 18640]

70) What is true for Kozak and Shine-Dalgarno sequences:[Question ID = 4661]

1. Both are present in Prokaryotes only [Option ID = 18641]
2. Both are present in Eukaryotes only [Option ID = 18642]
3. Shine-Dalgarno is present in eukaryotes and Kozak is present in prokaryotes [Option ID = 18643]
4. Kozak is present in eukaryotes and Shine-Dalgarno is present in prokaryotes [Option ID = 18644]

71) Full form of MALDI is:[Question ID = 4662]

1. Multiple Assisted Laser Disintegration Ionization [Option ID = 18645]
2. Matrix Assisted Laser Desorption Ionization [Option ID = 18646]
3. Mass Assisted Light Desorption Ionization [Option ID = 18647]
4. Multiple Assisted Light Disintegration Ionization [Option ID = 18648]

72) Protein gel (SDS-PAGE) are usually run vertically whereas DNA gels (agarose) are usually run horizontally. A student desires to run a protein gel horizontally and DNA gel vertically. Which of the following statements will best explain his results?[Question ID = 4663]

1. The protein gel experiment will not work because the proteins need gravity to move. The DNA gel will be fine. [Option ID = 18649]
2. Both the protein and the DNA gel experiments will not work. Protein gels have to be run vertically and DNA gels have to be run horizontally. [Option ID = 18650]
3. Both the protein and the DNA gel experiments will work as the principles behind their functioning do not depend upon gravity. [Option ID = 18651]
4. The protein gel experiment will work but the DNA gel experiment will not. [Option ID = 18652]

73) Methanogens belong to the domain:[Question ID = 4664]

1. Eubacteria [Option ID = 18653]
2. Archaea [Option ID = 18654]
3. Dinoflagellates [Option ID = 18655]
4. Slime moulds [Option ID = 18656]

74) Which of the following statements are true (T) or False (F) about the differential Gram staining?

- A. Crystal violet differentially stains Gram positive cells.
- B. Crystal violet differentially stains Gram negative cells.
- C. Saffron red differentially stains Gram positive cells.
- D. Saffron red differentially stains Gram negative cells.

[Question ID = 4665]

1. A - T, B - T, C - F, D - T
[Option ID = 18657]
2. A - F, B - F, C - T, D - T
[Option ID = 18658]
3. A - T, B - F, C - T, D - F
[Option ID = 18659]
4. A - T, B - F, C - F, D - T
[Option ID = 18660]

75) Which one of the following is not an example of exotoxins produced by bacteria?[Question ID = 4666]

1. Botulinum Toxin [Option ID = 18661]
2. Lipopolysaccharide [Option ID = 18662]
3. Tetanospasmin [Option ID = 18663]
4. Shiga Toxin [Option ID = 18664]

76) The Golden Rice variety is rich in:[Question ID = 4667]

1. Vitamin C [Option ID = 18665]

2. Vitamin A [Option ID = 18666]
3. Biotin [Option ID = 18667]
4. Lysine [Option ID = 18668]

77) Which of the following diseases are related to corona virus?[Question ID = 4668]

1. MERS [Option ID = 18669]
2. SARS [Option ID = 18670]
3. Both 1 and 2 [Option ID = 18671]
4. Neither 1 nor 2 [Option ID = 18672]

78) Remdesivir is a prodrug that inhibits:[Question ID = 4669]

1. Virus-host interaction [Option ID = 18673]
2. RNA Genome replication [Option ID = 18674]
3. Endosome maturation [Option ID = 18675]
4. Viral packaging [Option ID = 18676]

79) Tetanus toxoid is a protein that has been chemically treated to retain its:[Question ID = 4670]

1. Toxicity and antigenicity [Option ID = 18677]
2. Toxicity and immunogenicity [Option ID = 18678]
3. Immunogenicity and not its toxicity [Option ID = 18679]
4. Neither antigenicity and nor toxicity [Option ID = 18680]

80) MHC class-II presents peptides to:[Question ID = 4671]

1. NK -T cells [Option ID = 18681]
2. CD4⁺ T cells [Option ID = 18682]
3. CD8⁺ T cells [Option ID = 18683]
4. $\gamma\delta$ - T cells [Option ID = 18684]

81) B cells are produced in:[Question ID = 4672]

1. Bone marrow [Option ID = 18685]
2. The liver [Option ID = 18686]
3. The spleen [Option ID = 18687]
4. The lymph nodes [Option ID = 18688]

82) Match List I with List II

List I	List II
T Cells	Functions
A. Helper T cells	I. Inhibit immune responses.
B. Cytotoxic T cells	II. Bind to MHC Class II molecules
C. Suppressor T cells	III. Are programmed to recognize the reappearance of the original invading antigen.
D. Memory T cells	IV. Bind to MHC Class I molecules

Choose the CORRECT answer from the options given below:

[Question ID = 4673]

1. A - II, B - IV, C - I, D - III [Option ID = 18689]
2. A - IV, B - I, C - II, D - II [Option ID = 18690]
3. A - III, B - IV, C - II, D - I [Option ID = 18691]
4. A - IV, B - III, C - II, D - I [Option ID = 18692]

83) Gene mapping does not offer evidence about:[Question ID = 4674]

1. If a disease is transmitted from parent to child is linked to one or more genes. [Option ID = 18693]
2. Which chromosome contains the gene. [Option ID = 18694]
3. The precise location of the gene in the chromosome. [Option ID = 18695]
4. The physical distance between genes on the chromosome. [Option ID = 18696]

84) Which of the following is not true about proto-oncogene?[Question ID = 4675]

1. They cause normal cells to become cancerous when mutated. [Option ID = 18697]
2. Myc is an example of proto-oncogene. [Option ID = 18698]
3. They encode proteins that function to inhibit cell differentiation [Option ID = 18699]
4. They encode proteins that promote cell death [Option ID = 18700]

85) Which of the statements is not true about sickle cell anaemia? [Question ID = 4676]

1. The gene for beta globin is mutated. [Option ID = 18701]
2. The sixth amino acid in the chain is valine, rather than glutamic acid. [Option ID = 18702]
3. Molecules of sickle-cell hemoglobin stick to one another, forming rigid rods. [Option ID = 18703]
4. The sixth amino acid in the chain is Glutamic acid, rather than Valine. [Option ID = 18704]

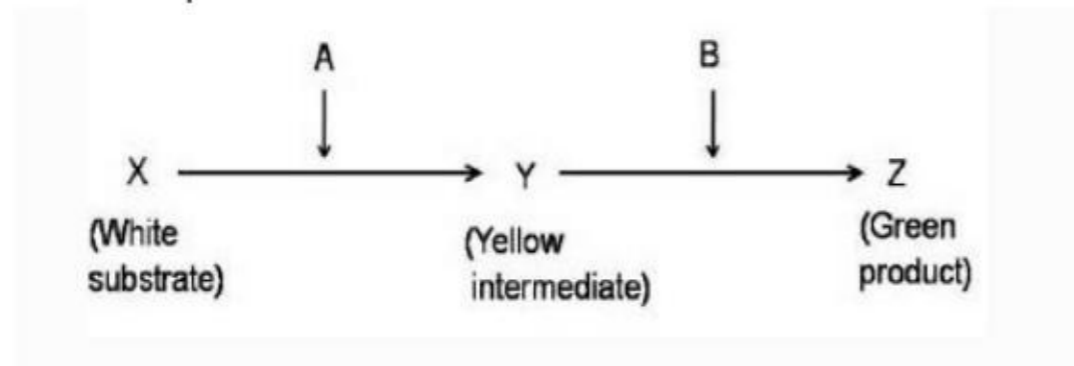
86) How many different kinds of F2 genotypes are possible from AABBCC X aabbcc?[Question ID = 4677]

1. 9 [Option ID = 18705]
2. 8 [Option ID = 18706]
3. 36 [Option ID = 18707]
4. 27 [Option ID = 18708]

87) What is the characteristic of an acrocentric chromosome? [Question ID = 4678]

1. Short 'q' arm and exceptionally long 'p' arm [Option ID = 18709]
2. Short 'p' arm and exceptionally long 'q' arm [Option ID = 18710]
3. Both 'p' and 'q' arms are short [Option ID = 18711]
4. Both 'p' and 'q' arms are long [Option ID = 18712]

88) Following is a hypothetical biochemical pathway responsible for pigmentation of leaves. The pathway is controlled by two independently assorting genes 'A' and 'B' encoding enzymes as shown below. Mutant 'A' and 'B' code for non-functional proteins.



What is the expected progeny after selfing a plant with the genotype AaBb? [Question ID = 4679]

1. Green (9): White (4): Yellow (3) [Option ID = 18713]
2. Green (9): Yellow (4): White (3) [Option ID = 18714]
3. Green (9): Yellow (6): White (1) [Option ID = 18715]
4. Green (9): White (7) [Option ID = 18716]

89) The resting potential of a myelinated nerve fiber is primarily dependent on the concentration gradient of which of the following ions? [Question ID = 4680]

1. Ca^{2+} [Option ID = 18717]
2. HCO_3^- [Option ID = 18718]
3. K^+ [Option ID = 18719]
4. Na^+ [Option ID = 18720]

90) Match List I with List II

List I	List II
Hormones	Functions
A. Secretin	I. Stimulates gastric gland to release gastric juice
B. Cholecystokinin	II. Stimulates secretion of pancreatic enzymes
C. Gastrin	III. Secretion of pancreatic juice and intestinal juice
D. Gastric inhibitory polypeptide	IV. Stimulate insulin secretion

Choose the CORRECT answer from the options given below:

[Question ID = 4681]

1. A - II, B - IV, C - I, D - III [Option ID = 18721]
2. A - IV, B - I, C - II, D - III [Option ID = 18722]
3. A - III, B - IV, C - II, D - I [Option ID = 18723]
4. A - III, B - II, C - I, D - IV [Option ID = 18724]

91) Where are the parotid glands located? [Question ID = 4682]

1. Below the stomach [Option ID = 18725]
2. Behind the pancreas [Option ID = 18726]
3. In front of the ear [Option ID = 18727]
4. On top of both kidneys [Option ID = 18728]

92) Match List I with List II

List I	List II
Parts of cardiac conduction system	Functions
A. SA node	I. Impulses conduction in ventricles
B. AV node	II. Located at the interventricular septum
C. Bundle of HIS	III. Initiates nerve impulses
D. Purkinje fibers	IV. Impulses flow from atria to the ventricles

Choose the CORRECT answer from the options given below:

[Question ID = 4683]

1. A - II, B - IV, C - I, D - III [Option ID = 18729]
2. A - IV, B - I, C - II, D - III [Option ID = 18730]
3. A - III, B - IV, C - II, D - I [Option ID = 18731]
4. A - III, B - II, C - I, D - IV [Option ID = 18732]

93) State which of the following statements are true (T) and false (F) about the excitation-contraction (EC) coupling in skeletal muscle?

- A. Initiation and propagation of an action potential occurs in the transverse tubule system.
- B. Dihydropyridine receptors (DHPR) detects changes in membrane potential.

C. Allosteric interaction between DHPR and sarcoplasmic reticulum (SR) ryanodine receptors (RyR) cause release of Ca^{2+} from the SR.

D. Ca^{2+} disappearance from the myoplasm is mediated mainly by its reuptake by the SR.

[Question ID = 4684]

1. A - T, B - T, C - F, D - T

[Option ID = 18733]

2. A - F, B - F, C - T, D - T

[Option ID = 18734]

3. A - T, B - F, C - T, D - F

[Option ID = 18735]

4. A - F, B - T, C - T, D - T

[Option ID = 18736]

94) During the first trimester of pregnancy, which is the predominant site of red blood cell production?[Question ID = 4685]

1. Yolk sac [Option ID = 18737]

2. Bone marrow [Option ID = 18738]

3. Lymph nodes [Option ID = 18739]

4. Liver [Option ID = 18740]

95) In persons who are totally color deficient and can only see in shades of black and white, what type of colour blindness do they have?[Question ID = 4686]

1. Protanopia [Option ID = 18741]

2. Deuteranopia [Option ID = 18742]

3. Tritanopia [Option ID = 18743]

4. Achromatopia [Option ID = 18744]

96) Match List I with List II

List I	List II
Cranial nerves	Functions
A. Oculomotor	I. Somatosensory information (touch, pain) from the face and head; muscles for chewing.
B. Optic nerve	II. Eye movement
C. Trochlear	III. Movement of the eye & constriction of pupil
D. Trigeminal	IV. Transmits sensory information for vision

Choose the CORRECT answer from the options given below:

[Question ID = 4687]

1. A - II, B - IV, C - I, D - III [Option ID = 18745]

2. A - III, B - IV, C - II, D - I [Option ID = 18746]

3. A - I, B - II, C - III, D - IV [Option ID = 18747]

4. A - III, B - II, C - I, D - IV [Option ID = 18748]

97) Which neuroglia are responsible for forming the myelin sheath around axons in the peripheral nervous system?[Question ID = 4688]

1. Microglia [Option ID = 18749]

2. Astrocytes [Option ID = 18750]

3. Schwann cells [Option ID = 18751]

4. Oligodendrocytes [Option ID = 18752]

98) Altitude sickness is typically caused due to:[Question ID = 4689]

1. Decrease in partial pressure of oxygen [Option ID = 18753]

2. Decreased levels of CO_2 [Option ID = 18754]

3. Increased levels of Nitrogen [Option ID = 18755]

4. Increase in partial pressure of oxygen [Option ID = 18756]

99) Which of the following vitamin deficiency can be seen mostly in vegetarians?[Question ID = 4690]

1. Vitamin A [Option ID = 18757]

2. Vitamin B_{12} [Option ID = 18758]

3. Vitamin D [Option ID = 18759]

4. Vitamin C [Option ID = 18760]

100) Emphysema is characterized by:[Question ID = 4691]

1. Loss of peripheral vision [Option ID = 18761]

2. Shortness of breath [Option ID = 18762]

3. Chronic Diarrhoea [Option ID = 18763]

4. Slow clotting from wounds [Option ID = 18764]

