

# DU MSc Plant Molecular Biology N Biotech

Topic:- DU\_J19\_MSC\_PMBB

## 1) Which of the following statements is NOT true of mitosis?

[Question ID = 581]

1. A single nucleus gives rise to two identical daughter nuclei [Option ID = 2321]
2. Homologous chromosomes synapse in prophase [Option ID = 2324]
3. The centromere divides at the onset of anaphase [Option ID = 2323]
4. The daughter nuclei are genetically identical to the parent nucleus [Option ID = 2322]

**Correct Answer :-**

- A single nucleus gives rise to two identical daughter nuclei [Option ID = 2321]

## 2) Which of the following statements about cellular energy is FALSE?

[Question ID = 585]

1. When the need for ATP temporarily outstrips the capacity to produce ATP, vertebrates rely on phosphocreatine energy stores. [Option ID = 2338]
2. Another form of energy currency commonly used in the cell (other than ATP) is GTP. [Option ID = 2340]
3. The energy level of a cell is directly proportional to the concentration of ATP in the cell. [Option ID = 2337]
4. The "phosphorylation potential" gives an indication of how much free energy is associated with ATP hydrolysis, and is expressed by the relative concentrations of ATP, ADP, and Pi in the cell. [Option ID = 2339]

**Correct Answer :-**

- The energy level of a cell is directly proportional to the concentration of ATP in the cell. [Option ID = 2337]

## 3) Which of the following databases is primarily a protein-centric database?

[Question ID = 596]

1. GenBank [Option ID = 2381]
2. DDBJ [Option ID = 2384]
3. Pubmed [Option ID = 2382]
4. Uniprot [Option ID = 2383]

**Correct Answer :-**

- GenBank [Option ID = 2381]

## 4) Which of the following is responsible for softening of tomato fruit during ripening?

[Question ID = 513]

1. Lycopene beta cyclase [Option ID = 2049]
2. Polygalacturonase [Option ID = 2050]
3. Polyamine [Option ID = 2052]
4. Carotene [Option ID = 2051]

**Correct Answer :-**

- Lycopene beta cyclase [Option ID = 2049]

**5) Which of the following is NOT a plant hormone?**

**[Question ID = 576]**

1. Prolamin [Option ID = 2303]
2. Nitric oxide [Option ID = 2302]
3. Jasmonate [Option ID = 2301]
4. Brassinosteroid [Option ID = 2304]

**Correct Answer :-**

- Jasmonate [Option ID = 2301]

**6) Which of the following is NOT a glucose polymer?**

**[Question ID = 544]**

1. Cellulose [Option ID = 2175]
2. Dextrin [Option ID = 2176]
3. Insulin [Option ID = 2174]
4. Amylose [Option ID = 2173]

**Correct Answer :-**

- Amylose [Option ID = 2173]

**7) Which of the following TCA cycle enzyme participates in oxidative phosphorylation?**

**[Question ID = 515]**

1. Malate dehydrogenase [Option ID = 2058]
2. Cis-aconitase [Option ID = 2060]
3. Citrate synthase [Option ID = 2057]
4. Succinate dehydrogenase [Option ID = 2059]

**Correct Answer :-**

- Citrate synthase [Option ID = 2057]

**8) Which of the following primers would allow copying of the single-stranded DNA sequence 5'-ATGCCTAGGTC-3'?**

**[Question ID = 583]**

1. 5'-GACCT-3' [Option ID = 2332]
2. 5'-TACGG-3' [Option ID = 2329]
3. 5'-CTGGA-3' [Option ID = 2330]
4. 5'-GGCAT-3' [Option ID = 2331]

**Correct Answer :-**

- 5'-TACGG-3' [Option ID = 2329]

**9) Which of the following scientists was awarded Nobel Prize for DNA sequencing?**

**[Question ID = 556]**

1. P. Berg [Option ID = 2221]
2. W. Arber [Option ID = 2223]
3. W. Gilbert [Option ID = 2224]
4. A. Klug [Option ID = 2222]

**Correct Answer :-**

- P. Berg [Option ID = 2221]

**10) Which of the following versions of 'BLAST' sequence analysis tool performs search against a protein database?**

**[Question ID = 571]**

1. Primer-Blast [Option ID = 2284]
2. tBLASTn [Option ID = 2283]
3. Blastn [Option ID = 2281]
4. Blastx [Option ID = 2282]

**Correct Answer :-**

- Blastn [Option ID = 2281]

**11) Which of the following is employed for Gram staining of bacteria?**

**[Question ID = 525]**

1. SYBR green [Option ID = 2100]
2. Giemsa stain [Option ID = 2099]
3. Trypan blue [Option ID = 2098]
4. Crystal violet [Option ID = 2097]

**Correct Answer :-**

- Crystal violet [Option ID = 2097]

**12) Which of the following hormones is a modified amino acid?**

**[Question ID = 526]**

1. Testosterone. [Option ID = 2104]
2. Progesterone [Option ID = 2103]
3. Epinephrine [Option ID = 2101]
4. Prostaglandin [Option ID = 2102]

**Correct Answer :-**

- Epinephrine [Option ID = 2101]

**13) Which of the following is a synthetic cytokinin?**

**[Question ID = 602]**

1. Kinetin [Option ID = 2407]
2. Adenine [Option ID = 2405]
3. Zeatin [Option ID = 2408]
4. Isopentyl adenine [Option ID = 2406]

**Correct Answer :-**

- Adenine [Option ID = 2405]

**14) Which of the following is a type of hemicellulose?**

**[Question ID = 514]**

1. Polygalacturonic acid [Option ID = 2053]
2. Rhamnogalacturonan [Option ID = 2054]
3. Xyloglucan [Option ID = 2056]
4. Xylogalacturonan [Option ID = 2055]

**Correct Answer :-**

- Polygalacturonic acid [Option ID = 2053]

**15) Which of the following type of sequences have the least inherent level of redundancy?**

**[Question ID = 597]**

1. cDNA [Option ID = 2388]
2. EST [Option ID = 2386]
3. Protein [Option ID = 2385]
4. Genome [Option ID = 2387]

**Correct Answer :-**

- Protein [Option ID = 2385]

**16) Which of the following sugars CANNOT be measured by Fehling's reagent?**

**[Question ID = 516]**

1. Maltose [Option ID = 2064]
2. Glucose [Option ID = 2061]
3. Lactose [Option ID = 2063]
4. Sucrose [Option ID = 2062]

**Correct Answer :-**

- Glucose [Option ID = 2061]

**17) Which of the following is better suited for long-term storage of energy?**

**[Question ID = 512]**

1. Phospholipids [Option ID = 2047]
2. Glucose [Option ID = 2045]
3. Triglycerides [Option ID = 2048]
4. Starch [Option ID = 2046]

**Correct Answer :-**

- Glucose [Option ID = 2045]

**18) Which of the following techniques can be used to identify the transcription factor-binding site within the gene promoter?**

**[Question ID = 609]**

1. 5' RACE [Option ID = 2433]
2. Yeast-2-hybrid analysis [Option ID = 2436]
3. DNA footprinting [Option ID = 2434]
4. Southern blotting analysis [Option ID = 2435]

**Correct Answer :-**

- 5' RACE [Option ID = 2433]

**19) Which of the following transgenic crops is commercially grown in India?**

**[Question ID = 548]**

1. Rice [Option ID = 2189]
2. Cotton [Option ID = 2192]
3. Cucumber [Option ID = 2190]
4. Chickpea [Option ID = 2191]

**Correct Answer :-**

- Rice [Option ID = 2189]

**20) Which of the following is an 'organism-specific' database?**

**[Question ID = 598]**

1. Genbank [Option ID = 2389]
2. WormBase [Option ID = 2391]
3. DDBJ [Option ID = 2392]
4. Uniprot [Option ID = 2390]

**Correct Answer :-**

- Genbank [Option ID = 2389]

**21) Which of the following is an international treaty governing the movements of living modified organisms (LMOs), resulting from modern biotechnology, from one country to another?**

**[Question ID = 593]**

1. Cartagena protocol [Option ID = 2370]
2. Montreal protocol [Option ID = 2372]
3. Nagoya protocol [Option ID = 2369]
4. Kyoto protocol [Option ID = 2371]

**Correct Answer :-**

- Nagoya protocol [Option ID = 2369]

**22) Which of the following bacteria is used to transform plants?**

**[Question ID = 547]**

1. *Pseudomonas* [Option ID = 2187]
2. *Rhizobium* [Option ID = 2188]
3. *Azotobacter* [Option ID = 2186]
4. *Agrobacterium* [Option ID = 2185]

**Correct Answer :-**

- *Agrobacterium* [Option ID = 2185]

**23) Which of the following does NOT have a porphyrin ring?**

**[Question ID = 536]**

1. Plastoquinone [Option ID = 2141]
2. Cytochrome [Option ID = 2144]
3. Phaeophytin. [Option ID = 2142]
4. Chlorophyll [Option ID = 2143]

**Correct Answer :-**

- Plastoquinone [Option ID = 2141]

**24) Which of the following does NOT contain actin filaments?**

**[Question ID = 541]**

1. Skeletal muscle [Option ID = 2162]
2. Contractile ring of dividing eukaryotic cell [Option ID = 2163]
3. Stress fiber of fibroblast [Option ID = 2164]
4. Flagella of bacteria [Option ID = 2161]

**Correct Answer :-**

- Flagella of bacteria [Option ID = 2161]

**25) Which of the amino acids is precursor for IAA?**

**[Question ID = 521]**

1. Glycine [Option ID = 2084]
2. Tryptophan [Option ID = 2081]
3. Cysteine [Option ID = 2083]
4. Methionine [Option ID = 2082]

**Correct Answer :-**

- Tryptophan [Option ID = 2081]

**26) Which compound has a major adverse effect on the atmospheric ozone layer?**

**[Question ID = 563]**

1. Oxygen [Option ID = 2252]
2. Nitric oxide [Option ID = 2249]
3. Methane [Option ID = 2250]

4. Chlorofluorocarbons [Option ID = 2251]

**Correct Answer :-**

- Nitric oxide [Option ID = 2249]

**27) Which organelle from rat liver exhibits highest succinate dehydrogenase activity?**

**[Question ID = 542]**

1. Lysosomes [Option ID = 2166]
2. Peroxisomes [Option ID = 2167]
3. Nuclei [Option ID = 2165]
4. Mitochondria [Option ID = 2168]

**Correct Answer :-**

- Nuclei [Option ID = 2165]

**28) Which organelle is involved in vesicular transport in the eukaryotic cell?**

**[Question ID = 540]**

1. Golgi apparatus [Option ID = 2157]
2. Centrosome [Option ID = 2159]
3. Peroxisome [Option ID = 2160]
4. Nucleus [Option ID = 2158]

**Correct Answer :-**

- Golgi apparatus [Option ID = 2157]

**29) Which one of these is a FALSE statement?**

**[Question ID = 539]**

1. Animal cells also have vacuoles like plants [Option ID = 2153]
2. Plant vacuoles also function as reservoir for ions [Option ID = 2156]
3. Plant vacuoles are also considered as lysosomes [Option ID = 2154]
4. Tonoplast is the membrane of plant vacuole [Option ID = 2155]

**Correct Answer :-**

- Animal cells also have vacuoles like plants [Option ID = 2153]

**30) Which one of the following statements is NOT true?**

**[Question ID = 604]**

1. *Chlamydomonas* mitochondrial DNA is circular in nature [Option ID = 2414]
2. *Tetrahymena* mitochondrial DNA is linear in nature [Option ID = 2416]
3. Plasmodium mitochondrial DNA is linear in nature [Option ID = 2415]
4. Higher plant mitochondrial DNA is circular in nature [Option ID = 2413]

**Correct Answer :-**

- Higher plant mitochondrial DNA is circular in nature [Option ID = 2413]

**31) Which molecular biology method played a crucial role in deciphering the genetic code?**

**[Question ID = 535]**

1. Proflavin-induced mutations in bacteriophages [Option ID = 2140]
2. cDNA synthesis of differentially-expressed transcripts [Option ID = 2138]
3. DNA sequencing [Option ID = 2137]
4. Filter-binding assays using radioactive amino acids [Option ID = 2139]

**Correct Answer :-**

- DNA sequencing [Option ID = 2137]

**32) Which plant organelle exhibits highest acid phosphatase activity?**

**[Question ID = 603]**

1. Peroxisomes [Option ID = 2411]
2. Nuclei [Option ID = 2409]
3. Mitochondria [Option ID = 2412]
4. Vacuoles [Option ID = 2410]

**Correct Answer :-**

- Nuclei [Option ID = 2409]

**33) Which enzyme can help in generation of ATP during anaerobic conditions?**

**[Question ID = 517]**

1. Pyruvate dehydrogenase [Option ID = 2066]
2. Lactate dehydrogenase [Option ID = 2067]
3. Alpha-ketoglutarate dehydrogenase [Option ID = 2065]
4. Succinate dehydrogenase [Option ID = 2068]

**Correct Answer :-**

- Alpha-ketoglutarate dehydrogenase [Option ID = 2065]

**34) Which country is the largest producer of rice in the World?**

**[Question ID = 520]**

1. USA [Option ID = 2079]
2. France [Option ID = 2080]
3. India [Option ID = 2077]
4. China [Option ID = 2078]

**Correct Answer :-**

- India [Option ID = 2077]

**35) UV irradiation of bacterial cells causes mutations in DNA because of:**

**[Question ID = 532]**

1. Deamination of bases [Option ID = 2127]
2. Double-stranded breaks in DNA [Option ID = 2126]
3. Tautomerization of bases [Option ID = 2125]



4. Formation of thymidine dimers. [Option ID = 2128]

**Correct Answer :-**

- Tautomerization of bases [Option ID = 2125]

**36) At maturity, anthers in angiosperms split open due to programmed cell death of:**

**[Question ID = 589]**

1. Pollen. [Option ID = 2356]
2. Tapetal cells [Option ID = 2353]
3. Stomium cells [Option ID = 2354]
4. Endothelial cells [Option ID = 2355]

**Correct Answer :-**

- Tapetal cells [Option ID = 2353]

**37) Teosinte is ancestral plant of:**

**[Question ID = 564]**

1. Maize [Option ID = 2253]
2. Rice [Option ID = 2254]
3. Cotton [Option ID = 2255]
4. Wheat. [Option ID = 2256]

**Correct Answer :-**

- Maize [Option ID = 2253]

**38) A female aphid can asexually produce 50-100 offsprings from her own gametes (ova) in a process called:**

**[Question ID = 588]**

1. Oogenesis. [Option ID = 2352]
2. Hermaphroditism [Option ID = 2351]
3. Parthenogenesis [Option ID = 2349]
4. Cloning [Option ID = 2350]

**Correct Answer :-**

- Parthenogenesis [Option ID = 2349]

**39) 2,4-D is commercially used as:**

**[Question ID = 606]**

1. Fungicide. [Option ID = 2424]
2. Florigen [Option ID = 2421]
3. Pesticide [Option ID = 2422]
4. Herbicide [Option ID = 2423]

**Correct Answer :-**

- Florigen [Option ID = 2421]

**40) Seymour Benzer carried out fine structure mapping of rII gene of bacteriophage T4 by:**

**[Question ID = 601]**

1. 2D gel electrophoresis of bacteriophage proteins [Option ID = 2403]
2. DNA sequencing of mutant bacteriophages [Option ID = 2401]
3. Transcript analysis of mutant bacteriophages [Option ID = 2402]
4. Recovery of wild type bacteriophages from crosses of mutant phages. [Option ID = 2404]

**Correct Answer :-**

- DNA sequencing of mutant bacteriophages [Option ID = 2401]

**41) A plant cell contains DNA in:**

**[Question ID = 550]**

1. Two organelles [Option ID = 2198]
2. Three organelles [Option ID = 2199]
3. Four organelles [Option ID = 2200]
4. One organelle [Option ID = 2197]

**Correct Answer :-**

- One organelle [Option ID = 2197]

**42) During development, a homeotic mutation**

**[Question ID = 572]**

1. results from transposon mediated mutagenesis. [Option ID = 2288]
2. results in developmental block. [Option ID = 2286]
3. is present only in one form in an individual. [Option ID = 2285]
4. substitutes one body part for another. [Option ID = 2287]

**Correct Answer :-**

- is present only in one form in an individual. [Option ID = 2285]

**43) During translation initiation, bacterial ribosomal subunits bind to mRNA at the**

**[Question ID = 528]**

1. Shine-Delgarno sequence. [Option ID = 2112]
2. AUG codon. [Option ID = 2109]
3. first intron. [Option ID = 2110]
4. TATA box. [Option ID = 2111]

**Correct Answer :-**

- AUG codon. [Option ID = 2109]

**44) Cell elongation in internodal regions in green plants takes place due to:**

**[Question ID = 611]**

1. Indole acetic acid. [Option ID = 2444]
2. Cytokinins [Option ID = 2441]
3. Gibberellins [Option ID = 2442]

4. Ethylene [Option ID = 2443]

**Correct Answer :-**

- Cytokinins [Option ID = 2441]

**45) Golden rice is aimed at curing deficiency of:**

**[Question ID = 567]**

1. Vitamin B [Option ID = 2265]
2. Vitamin K [Option ID = 2267]
3. Vitamin A [Option ID = 2266]
4. Vitamin C. [Option ID = 2268]

**Correct Answer :-**

- Vitamin B [Option ID = 2265]

**46) tRNA is synthesized by:**

**[Question ID = 551]**

1. RNA polymerase II [Option ID = 2202]
2. RNA polymerase III [Option ID = 2203]
3. RNA polymerase I [Option ID = 2201]
4. Reverse transcriptase. [Option ID = 2204]

**Correct Answer :-**

- RNA polymerase I [Option ID = 2201]

**47) Morgan's analysis of mutations in *Drosophila* revealed**

**[Question ID = 538]**

1. linkage of characters. [Option ID = 2150]
2. chromosomal basis of inheritance. [Option ID = 2149]
3. thermal stability of DNA. [Option ID = 2152]
4. recombination as a basis of variability. [Option ID = 2151]

**Correct Answer :-**

- chromosomal basis of inheritance. [Option ID = 2149]

**48) With respect to a chlorophyll molecule, which of the following is correct?**

**[Question ID = 580]**

1. Two pyrrole rings and 2 magnesium atoms [Option ID = 2320]
2. Four pyrrole rings and 4 magnesium atoms [Option ID = 2318]
3. Four pyrrole rings and 1 magnesium atom [Option ID = 2317]
4. One pyrrole ring and 1 magnesium atom [Option ID = 2319]

**Correct Answer :-**

- Four pyrrole rings and 1 magnesium atom [Option ID = 2317]

**49) Hyaluronic acid is composed of repeating disaccharide units of:**

**[Question ID = 522]**

1. N-acetylgalactosamine and D-glucuronic acid [Option ID = 2086]
2. N-acetylgalactosamine and L-uronic acid. [Option ID = 2088]
3. N-acetylglucosamine and D-glucuronic acid [Option ID = 2087]
4. N-acetylglucosamine and L-uronic acid [Option ID = 2085]

**Correct Answer :-**

- N-acetylglucosamine and L-uronic acid [Option ID = 2085]

**50) Late Mr. Manohar Parrikar was an alumnus of which of the following educational institutes?**

**[Question ID = 591]**

1. Indian Institute of Technology, Kanpur [Option ID = 2361]
2. Indian Institute of Technology, Bombay [Option ID = 2362]
3. Delhi School of Economics, New Delhi [Option ID = 2364]
4. St. Stephens college, New Delhi [Option ID = 2363]

**Correct Answer :-**

- Indian Institute of Technology, Kanpur [Option ID = 2361]

**51) X-ray crystallographic analysis of DNA was performed by:**

**[Question ID = 533]**

1. Erwin Chargaff [Option ID = 2130]
2. John Kendrew [Option ID = 2131]
3. James Watson. [Option ID = 2132]
4. Rosalind Franklin [Option ID = 2129]

**Correct Answer :-**

- Rosalind Franklin [Option ID = 2129]

**52) Plasma membrane of plant cell primarily consists of:**

**[Question ID = 546]**

1. Phospholipids and proteins [Option ID = 2183]
2. Ethers, proteins and carbohydrates [Option ID = 2181]
3. Fatty acid, steroids and proteins. [Option ID = 2184]
4. Carbohydrate, protein and esters [Option ID = 2182]

**Correct Answer :-**

- Ethers, proteins and carbohydrates [Option ID = 2181]

**53) Deficiency of which of the following enzymes would affect availability of NADPH?**

**[Question ID = 519]**

1. Glucose 6-phosphate dehydrogenase [Option ID = 2076]
2. Pyruvate dehydrogenase [Option ID = 2073]
3. Alcohol dehydrogenase [Option ID = 2075]

4. Lactate dehydrogenase [Option ID = 2074]

**Correct Answer :-**

- Pyruvate dehydrogenase [Option ID = 2073]

**54) Who is the current 'Chief Election Commissioner' of India?**

**[Question ID = 595]**

1. J. Satyanarayan [Option ID = 2380]
2. Amitabh Kant [Option ID = 2377]
3. Rajeev Mehishi [Option ID = 2379]
4. Sunil Arora [Option ID = 2378]

**Correct Answer :-**

- Amitabh Kant [Option ID = 2377]

**55) If the concentration of  $\text{Ca}^{2+}$  is higher outside a cell than inside, what kind of energy gradient is established?**

**[Question ID = 586]**

1. Thermal gradient [Option ID = 2344]
2. Electrochemical gradient [Option ID = 2341]
3. Electrical gradient only [Option ID = 2343]
4. Chemical gradient only [Option ID = 2342]

**Correct Answer :-**

- Electrochemical gradient [Option ID = 2341]

**56) A quaternary structure of protein contains:**

**[Question ID = 557]**

1. Multiple polypeptides [Option ID = 2225]
2. Homologous polypeptides [Option ID = 2226]
3. Heterologous polypeptides [Option ID = 2227]
4. One polypeptide with four motifs. [Option ID = 2228]

**Correct Answer :-**

- Multiple polypeptides [Option ID = 2225]

**57) How does pruning help in making the hedge plants dense?**

**[Question ID = 577]**

1. It frees the axillary buds from apical dominance [Option ID = 2306]
2. It induces differentiation of new shoots from the rootstock [Option ID = 2308]
3. The apical shoot grows faster [Option ID = 2307]
4. It releases wound hormones [Option ID = 2305]

**Correct Answer :-**

- It releases wound hormones [Option ID = 2305]

**58) Virus free plants can be obtained through:**

**[Question ID = 608]**

1. Root tip culture. [Option ID = 2432]
2. Shoot meristem culture [Option ID = 2430]
3. Antibiotic treatment [Option ID = 2429]
4. Bordeaux mixture [Option ID = 2431]

**Correct Answer :-**

- Antibiotic treatment [Option ID = 2429]

**59) Senescence in plants can be delayed with the help of the hormone:**

**[Question ID = 575]**

1. Auxins [Option ID = 2297]
2. Cytokinins [Option ID = 2299]
3. Ethylene [Option ID = 2298]
4. ABA. [Option ID = 2300]

**Correct Answer :-**

- Auxins [Option ID = 2297]

**60) QTL represents following:**

**[Question ID = 600]**

1. Qualitative trait locus. [Option ID = 2400]
2. Quantitative trait locus [Option ID = 2399]
3. Quantitative trait locus [Option ID = 2398]
4. Quantitative test locus [Option ID = 2397]

**Correct Answer :-**

- Quantitative test locus [Option ID = 2397]

**61) Introns (non-coding part) are removed at the level of:**

**[Question ID = 554]**

1. DNA and RNA [Option ID = 2214]
2. protein. [Option ID = 2216]
3. DNA [Option ID = 2213]
4. RNA [Option ID = 2215]

**Correct Answer :-**

- DNA [Option ID = 2213]

**62) Auxotrophic bacterial mutants can grow on minimal medium**

**[Question ID = 534]**

1. but not on complete medium. [Option ID = 2133]
2. supplemented with nutrients. [Option ID = 2135]
3. supplemented with antibiotics. [Option ID = 2134]

4. and complete medium. [Option ID = 2136]

**Correct Answer :-**

- but not on complete medium. [Option ID = 2133]

**63) Transcription factors can:**

**[Question ID = 549]**

1. always inhibit transcription. [Option ID = 2194]
2. always enhance transcription. [Option ID = 2193]
3. only initiate transcription. [Option ID = 2196]
4. both enhance and/or inhibit transcription. [Option ID = 2195]

**Correct Answer :-**

- always enhance transcription. [Option ID = 2193]

**64) A nonsense mutation within a coding region is expected to result in:**

**[Question ID = 531]**

1. Ribosomal frameshift [Option ID = 2123]
2. Decrease in mRNA stability [Option ID = 2121]
3. Fusion protein. [Option ID = 2124]
4. Formation of truncated protein [Option ID = 2122]

**Correct Answer :-**

- Decrease in mRNA stability [Option ID = 2121]

**65) A nonsense mutation involves:**

**[Question ID = 569]**

1. Creation of a stop codon. [Option ID = 2276]
2. Creation of a different amino acid [Option ID = 2275]
3. An AG splice acceptor site [Option ID = 2274]
4. A regulatory sequence [Option ID = 2273]

**Correct Answer :-**

- A regulatory sequence [Option ID = 2273]

**66) Photophosphorylation takes place in which of the following organelles?**

**[Question ID = 543]**

1. Lysosomes [Option ID = 2171]
2. Golgi apparatus [Option ID = 2172]
3. Mitochondria [Option ID = 2170]
4. Chloroplast [Option ID = 2169]

**Correct Answer :-**

- Chloroplast [Option ID = 2169]

**67) Treatment of seeds at low temperature to break its dormancy is called:**

**[Question ID = 579]**

1. Scarification [Option ID = 2313]
2. Chelation [Option ID = 2315]
3. Vernalization. [Option ID = 2316]
4. Stratification [Option ID = 2314]

**Correct Answer :-**

- Scarification [Option ID = 2313]

**68) Protein isoforms can be generated from a single gene by connecting together different combinations of exons. This process is known as:**

**[Question ID = 587]**

1. Alternative splicing [Option ID = 2345]
2. Unequal crossover. [Option ID = 2348]
3. Gene duplication [Option ID = 2346]
4. Genetic recombination [Option ID = 2347]

**Correct Answer :-**

- Alternative splicing [Option ID = 2345]

**69) Starch-filled plastids responsible for geotropism are known as:**

**[Question ID = 574]**

1. Elaioplasts [Option ID = 2293]
2. Proplastids. [Option ID = 2296]
3. Amyloplast [Option ID = 2295]
4. Chloroplasts [Option ID = 2294]

**Correct Answer :-**

- Elaioplasts [Option ID = 2293]

**70) Ganga-5 is a variety of:**

**[Question ID = 559]**

1. Maize [Option ID = 2233]
2. Mango [Option ID = 2235]
3. Rice [Option ID = 2234]
4. Wheat. [Option ID = 2236]

**Correct Answer :-**

- Maize [Option ID = 2233]

**71) Variations observed during tissue culture of some plants are known as:**

**[Question ID = 607]**

1. Somatic variations [Option ID = 2426]
2. Somaclonal variations. [Option ID = 2428]



3. Clonal variations [Option ID = 2425]
4. Tissue culture variations [Option ID = 2427]

**Correct Answer :-**

- Clonal variations [Option ID = 2425]

**72) 'Holliday junction' is observed during:**

**[Question ID = 566]**

1. DNA repair [Option ID = 2263]
2. Mitosis [Option ID = 2261]
3. Interphase [Option ID = 2262]
4. Recombination. [Option ID = 2264]

**Correct Answer :-**

- Mitosis [Option ID = 2261]

**73) 'FASTA' file format can be used to represent:**

**[Question ID = 599]**

1. Both DNA and protein sequences [Option ID = 2395]
2. DNA sequences only [Option ID = 2393]
3. Protein sequences only [Option ID = 2394]
4. Protein structure data. [Option ID = 2396]

**Correct Answer :-**

- DNA sequences only [Option ID = 2393]

**74) All nucleotides are composed of a \_\_\_\_\_ attached to a \_\_\_\_\_ linked to a \_\_\_\_\_.**

**[Question ID = 584]**

1. nitrogenous base; sugar; phosphate [Option ID = 2333]
2. nitrogenous base; protein; phosphate [Option ID = 2335]
3. purine; pyrimidine; phosphate [Option ID = 2336]
4. sugar; ribose; nitrogenous base [Option ID = 2334]

**Correct Answer :-**

- nitrogenous base; sugar; phosphate [Option ID = 2333]

**75) What is the approximate present-day World human population?**

**[Question ID = 562]**

1. 5.7 billions [Option ID = 2245]
2. 8.7 billions [Option ID = 2248]
3. 6.7 billions [Option ID = 2247]
4. 7.7 billions [Option ID = 2246]

**Correct Answer :-**

- 5.7 billions [Option ID = 2245]

**76) Gram staining used in classification of bacteria reacts with:**

**[Question ID = 568]**

1. Cell wall [Option ID = 2269]
2. Cell membrane [Option ID = 2270]
3. Nucleic acids. [Option ID = 2272]
4. Mitochondria [Option ID = 2271]

**Correct Answer :-**

- Cell wall [Option ID = 2269]

**77) The complete microtubular structure of flagella is called:**

**[Question ID = 545]**

1. Dynein. [Option ID = 2180]
2. Axoneme [Option ID = 2178]
3. Nexin [Option ID = 2179]
4. Radial spoke [Option ID = 2177]

**Correct Answer :-**

- Radial spoke [Option ID = 2177]

**78) The basic principle for the functioning of Geiger-Mueller counter is:**

**[Question ID = 523]**

1. Autoradiography [Option ID = 2090]
2. Gas ionization [Option ID = 2091]
3. Solid scintillation. [Option ID = 2092]
4. Liquid scintillation [Option ID = 2089]

**Correct Answer :-**

- Liquid scintillation [Option ID = 2089]

**79) The basis of separation of chemical substances by paper chromatography is:**

**[Question ID = 524]**

1. Molarity [Option ID = 2094]
2. Solubility and adsorption [Option ID = 2093]
3. Charge and molarity. [Option ID = 2096]
4. Conductivity [Option ID = 2095]

**Correct Answer :-**

- Solubility and adsorption [Option ID = 2093]

**80) The 'Next Generation Sequencing' (NGS) data is mostly stored in which file format?**

**[Question ID = 610]**

1. FastQ [Option ID = 2440]
2. Fasta [Option ID = 2437]

3. SAM [Option ID = 2439]
4. GFF [Option ID = 2438]

**Correct Answer :-**

- Fasta [Option ID = 2437]

**81) The "Foolish-seedling" disease of rice led to the discovery of:**

**[Question ID = 578]**

1. ABA [Option ID = 2311]
2. 2,4-D [Option ID = 2310]
3. IAA. [Option ID = 2312]
4. GA [Option ID = 2309]

**Correct Answer :-**

- GA [Option ID = 2309]

**82) The parts of the proteins that have highest flexibility are:**

**[Question ID = 570]**

1. Peptide bonds [Option ID = 2279]
2. Alpha-helices [Option ID = 2277]
3. Side chains. [Option ID = 2280]
4. Beta-sheets [Option ID = 2278]

**Correct Answer :-**

- Alpha-helices [Option ID = 2277]

**83) The country where Gregor Mendel was born is presently known as:**

**[Question ID = 565]**

1. Italy. [Option ID = 2260]
2. Poland [Option ID = 2259]
3. Germany [Option ID = 2257]
4. Czech Republic [Option ID = 2258]

**Correct Answer :-**

- Germany [Option ID = 2257]

**84) The recently re-opened seaport of 'Chabahar' known for its significance in the Indo-Persian trade since ancient times is located in:**

**[Question ID = 592]**

1. Iran [Option ID = 2365]
2. Egypt [Option ID = 2367]
3. Afganistan [Option ID = 2366]
4. Iraq. [Option ID = 2368]

**Correct Answer :-**

- Iran [Option ID = 2365]

**85) The *lac* operon can be induced by:**

**[Question ID = 529]**

1. ATP [Option ID = 2115]
2. IPTG. [Option ID = 2116]
3. X-gal [Option ID = 2113]
4. NADP [Option ID = 2114]

**Correct Answer :-**

- X-gal [Option ID = 2113]

**86) The arrangement of the antipodal, polar and synergid+egg nuclei in a normal embryo sac in the dicot plants is:**

**[Question ID = 590]**

1. 2+4+2 [Option ID = 2359]
2. 2+3+3 [Option ID = 2357]
3. 3+2+2. [Option ID = 2360]
4. 3+2+3 [Option ID = 2358]

**Correct Answer :-**

- 2+3+3 [Option ID = 2357]

**87) The most common form of sugar transported to different plant organs is:**

**[Question ID = 518]**

1. Mannose [Option ID = 2070]
2. Maltose [Option ID = 2071]
3. Glucose [Option ID = 2069]
4. Sucrose. [Option ID = 2072]

**Correct Answer :-**

- Glucose [Option ID = 2069]

**88) The Cholodny-Went model explains:**

**[Question ID = 573]**

1. Nitrate absorption by root hairs [Option ID = 2291]
2. Differentiation of secondary meristems. [Option ID = 2292]
3. Tropism in plants [Option ID = 2290]
4. Phloem loading in plants [Option ID = 2289]

**Correct Answer :-**

- Phloem loading in plants [Option ID = 2289]

**89) The scientific name of 'channa' is:**

**[Question ID = 560]**

1. *Cicer arietinum* [Option ID = 2239]

2. *Phaseolus vulgaris*. [Option ID = 2240]
3. *Vigna mungo* [Option ID = 2237]
4. *Cajanus cajan* [Option ID = 2238]

**Correct Answer :-**

- *Vigna mungo* [Option ID = 2237]

**90) The absorption maximum of DNA is measured at:**

**[Question ID = 527]**

1. 280 nm [Option ID = 2107]
2. 270 nm [Option ID = 2106]
3. 260 nm [Option ID = 2105]
4. 290 nm. [Option ID = 2108]

**Correct Answer :-**

- 260 nm [Option ID = 2105]

**91) The strongest interactions are:**

**[Question ID = 530]**

1. van der Waals forces [Option ID = 2119]
2. Covalent bonds [Option ID = 2118]
3. Hydrophobic interactions. [Option ID = 2120]
4. Non-covalent bonds [Option ID = 2117]

**Correct Answer :-**

- Non-covalent bonds [Option ID = 2117]

**92) The primary walls of endodermis are impregnated with:**

**[Question ID = 605]**

1. Suberin. [Option ID = 2420]
2. Wax [Option ID = 2417]
3. Lignin [Option ID = 2419]
4. Proteins [Option ID = 2418]

**Correct Answer :-**

- Wax [Option ID = 2417]

**93) The space between the stacked bases of DNA is:**

**[Question ID = 552]**

1. 3.4 femtometer. [Option ID = 2208]
2. 3.4 nanometer [Option ID = 2205]
3. 3.4 Angstrom [Option ID = 2207]
4. 3.4 picometer. [Option ID = 2206]

**Correct Answer :-**

- 3.4 nanometer [Option ID = 2205]

**94) The 2019 ICC Cricket World Cup (ODI) is hosted by:**

**[Question ID = 594]**

1. Australia. [Option ID = 2373]
2. England and Wales [Option ID = 2375]
3. West Indies. [Option ID = 2376]
4. South Africa. [Option ID = 2374]

**Correct Answer :-**

- Australia. [Option ID = 2373]

**95) The process of uptake of free DNA by bacterial cells is called:**

**[Question ID = 537]**

1. Transformation [Option ID = 2145]
2. Transduction [Option ID = 2147]
3. Conjugation [Option ID = 2146]
4. Recombination. [Option ID = 2148]

**Correct Answer :-**

- Transformation [Option ID = 2145]

**96) The natural end of a chromosome is called:**

**[Question ID = 555]**

1. Primosome [Option ID = 2220]
2. Centromere [Option ID = 2218]
3. Terminator [Option ID = 2219]
4. Telomere [Option ID = 2217]

**Correct Answer :-**

- Telomere [Option ID = 2217]

**97) The term 'Kharif' refers to:**

**[Question ID = 558]**

1. A crop season [Option ID = 2231]
2. An ancient river [Option ID = 2229]
3. An agricultural implement. [Option ID = 2232]
4. A flightless bird [Option ID = 2230]

**Correct Answer :-**

- An ancient river [Option ID = 2229]

**98) The Haber-Bosch method is associated with synthesis of which compound?**

**[Question ID = 561]**

1. Phosphine [Option ID = 2241]
2. Borax [Option ID = 2243]

3. Ammonium nitrate [Option ID = 2244]
4. Calcium sulphate [Option ID = 2242]

**Correct Answer :-**

- Phosphine [Option ID = 2241]

**99) The drug 'rifampicin' inhibits transcription by binding to**

**[Question ID = 582]**

1. beta subunit of RNA polymerase. [Option ID = 2327]
2. alpha subunit of RNA polymerase. [Option ID = 2325]
3. sigma subunit of RNA polymerase. [Option ID = 2326]
4. gamma subunit of RNA polymerase. [Option ID = 2328]

**Correct Answer :-**

- alpha subunit of RNA polymerase. [Option ID = 2325]

**100) Southern hybridization is related to detection of:**

**[Question ID = 553]**

1. DNA and RNA. [Option ID = 2212]
2. protein [Option ID = 2211]
3. DNA [Option ID = 2209]
4. RNA [Option ID = 2210]

**Correct Answer :-**

- DNA [Option ID = 2209]