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## Topic:- PMBB MSC S2

1) A bacterium, which loses its ability to synthesize one or more organic compounds, is called [Question ID = 3089]
1. Heterotroph [Option ID = 12350]
2. Prototroph [Option ID $=12351$ ]
3. Auxotroph [Option ID $=12352$ ]
4. Autotroph [Option ID $=12353$ ]

Correct Answer :-

- Auxotroph [Option ID = 12352]

2) Bacterial recombination, mediated by bacteriophages, is called
[Question ID = 3090]
1. Conjugation [Option ID $=12354$ ]
2. Transformation [Option ID $=12355$ ]
3. Transduction [Option ID $=12356$ ]
4. Segregation [Option ID = 12357]

Correct Answer :-

- Transduction [Option ID = 12356]

3) Complementation analysis using bacteriophages was performed by
[Question ID = 3091]
1. Joshua Lederberg [Option ID $=12358$ ]
2. Seymour Benzer [Option ID $=12359$ ]
3. Jacques Monod [Option ID $=12360$ ]
4. Alfred Hershey [Option ID $=12361$ ]

Correct Answer :-

- Seymour Benzer [Option ID = 12359]

4) During translation initiation, bacterial ribosomal subunits bind to mRNA at the
[Question ID = 3092]
1. AUG codon [Option ID $=12362$ ]
2. First intron [Option ID = 12363]
3. TATA box [Option ID $=12364$ ]
4. Shine-Delgarno sequence [Option ID = 12365]

## Correct Answer :-

- Shine-Delgarno sequence [Option ID = 12365]

5) The lac operon can be induced by
[Question ID = 3093]
1. X-gal
[Option ID = 12366]
2. NADP
[Option ID = 12367]
3. ATP
[Option ID = 12368]
4. IPTG
[Option ID = 12369]
Correct Answer :-

- IPTG
[Option ID = 12369]

6) Trp repressor controls an operon which encodes genes responsible for
[Question ID = 3094]
1. Conversion of tryptophan to phenylalanine [Option ID $=12370$ ]
2. Conversion of pinenytatanाme to tryptopinan [Option $1 \mathrm{D}=12371$ ]
3. Degradation of tryptophan [Option ID $=12372$ ]
4. Biosynthesis of tryptophan [Option ID = 12373]
5. tRNA [Option ID $=12374$ ]
6. siRNA [Option ID $=12375$ ]
7. rRNA [Option ID $=12376$ ]
8. mRNA [Option ID $=12377$ ]

## Correct Answer :-

- tRNA [Option ID = 12374]

8) Rust disease of wheat is caused by a
[Question ID = 3096]
1. Virus [Option ID $=12378$ ]
2. Bacterium [Option ID $=12379$ ]
3. Nematode [Option ID = 12380]
4. Fungus [Option $I D=12381$ ]

## Correct Answer :-

- Fungus [Option ID = 12381]

9) Upon pathogen attack, some plants exhibit a reaction known as Hypersensitive Response (HR), which involves [Question ID = 3097]
1. Rapid multiplication of infected cells [Option ID $=12382$ ]
2. Dedifferentiation of the affected tissue [Option ID =12383]
3. Increased vasculature in the infected region [Option ID = 12384]
4. Rapid localized cell death [Option ID $=12385$ ]

## Correct Answer :-

- Rapid localized cell death [Option ID $=12385$ ]

10) Which hormone is responsible for the "Witch's broom" disease?
[Question ID = 3098]
1. Cytokinin [Option ID $=12386$ ]
2. $A B A$ [Option $I D=12387$ ]
3. Gibberellin [Option ID $=12388$ ]
4. Ethylene [Option ID = 12389]

## Correct Answer :-

- Cytokinin [Option ID = 12386]


## 11) Precursor for ethylene biosynthesis is <br> [Question ID = 3099]

1. Tryptophan [Option ID = 12390]
2. Methionine [Option ID = 12391]
3. Arginine [Option ID = 12392]
4. Ornithine [Option $I D=12393$ ]

## Correct Answer :-

- Methionine [Option ID = 12391]


## 12) Which feature of the following is characteristic of a monocot embryo?

[Question ID = 3100]

1. Asymmetric division of the embryo [Option ID $=12394$ ]
2. Octant stage [Option ID = 12395]
3. Establishment of bilateral asymmetry [Option ID = 12396]
4. Lateral differentiation of the SAM [Option ID $=12397$ ]

## Correct Answer :-

- Lateral differentiation of the SAM [Option ID = 12397]


## 13) Seeds of which of the following plants are non-endospermic?

[Question ID = 3101]

1. Custard apple [Option ID $=12398$ ]
2. Orchid [Option ID = 12399]
3. Wheat [Option ID $=12400$ ]
4. Mango [Option ID $=12401]$

Correct Answer :-

- Orchid [Option_1D_12399]

Correct Answer :-

- Bitter almond [Option ID = 12405]

15) Which of the following photoreceptors in plants exists in two photo-interconvertible forms?

## [Question ID = 3103]

1. Cryptochrome [Option ID $=12406$ ]
2. Phytochrome [Option ID $=12407$ ]
3. Phototropin [Option ID $=12408$ ]
4. $B$-carotene [Option ID $=12409$ ]

## Correct Answer :-

- Phytochrome [Option ID = 12407]

16) Which of the following enzymes plays a role in light-induced stomatal opening?

## [Question ID = 3104]

1. $\mathrm{K}^{+}$-ATPase [Option ID $=12410$ ]
2. $\mathrm{Na}^{+}$-ATPase [Option ID $=12411$ ]
3. $\mathrm{Ca}^{2+}$-ATPase [Option ID $=12412$ ]
4. $\mathrm{H}^{+}$-ATPase [Option ID $=12413$ ]

## Correct Answer :-

- $\mathrm{H}^{+}$-ATPase [Option ID = 12413]

17) Exposure of DNA to ultraviolet light commonly leads to
[Question ID = 3105]
1. Formation of thymine dimers [Option $I D=12414$ ]
2. Formation of adenine dimers [Option ID = 12415]
3. Adenine to thymine conversion [Option ID $=12416$ ]
4. Thymine to adenine conversion [Option ID = 12417]

## Correct Answer :-

- Formation of thymine dimers [Option ID = 12414]

18) Movements in a compound leaf of leguminous plants occur due to ionic changes in [Question ID = 3106]
1. Petiole [Option ID $=12418$ ]
2. Pinnules [Option ID $=12419$ ]
3. Pulvinus [Option ID $=12420$ ]
4. Bundle sheath cells [Option ID $=12421$ ]

## Correct Answer :-

- Pulvinus [Option ID = 12420]

19) Which of the following hormones is involved in vivipary?
[Question ID = 3107]
1. Abscisic acid [Option ID $=12422$ ]
2. Jasmonic acid [Option ID = 12423]
3. Cytokinin [Option ID $=12424$ ]
4. Ethylene [Option ID = 12425]

Correct Answer :-

- Abscisic acid [Option ID = 12422]

20) In a germinating seed of barley, gibberellin is synthesized in the [Question ID = 3108]
1. Endosperm [Option ID = 12426]
2. Embyronic axis [Option ID $=12427$ ]
3. Seed coat [Option ID = 12428]
4. Aleurone layer [Option ID $=12429$ ]

Correct Answer :-

- Embyronic axis [Option ID = 12427]

21) The 'Acid-Growth Hypothesis' for auxin action was proposed by [Question ID = 3109]
22) The most common precursor of the plant hWAHOMeFixixs,tRanker.com
[Question ID = 3110]
1. Methionine [Option ID = 12434]
2. Phenyalanine [Option ID = 12435]
3. Tyrosine [Option ID = 12436]
4. Tryptophan [Option ID = 12437]

Correct Answer :-

- Tryptophan [Option ID = 12437]

23) During embryo development in plants, PIN proteins are primarily involved in
[Question ID = 3111]
1. Regulating cell division [Option ID $=12438$ ]
2. Regulating cell elongation [Option ID $=12439$ ]
3. Regulation of gene expression [Option ID = 12440]
4. Establishment of auxin gradient [Option ID $=12441$ ]

Correct Answer :-

- Establishment of auxin gradient [Option ID = 12441]

24) Which of the following processes is NOT carried out mainly by mitochondria?
[Question ID = 3112]
1. Biosynthesis of cardiolipin [Option ID $=12442$ ]
2. Biosynthesis of fatty acids [Option ID $=12443$ ]
3. Catabolism of amino acids [Option ID $=12444]$
4. Generation of reactive oxygen species [Option ID $=12445$ ]

## Correct Answer :-

- Biosynthesis of fatty acids [Option ID = 12443]

25) Which of the following molecules CANNOT serve as a terminal electron acceptor in bacterial electron-transport chain?
[Question ID = 3113]
1. Oxygen [Option ID $=12446$ ]
2. Sulfate [Option ID $=12447$ ]
3. Fumarate [Option ID = 12448]
4. Magnesium [Option ID $=12449$ ]

## Correct Answer :-

- Magnesium [Option ID = 12449]

26) Which of the following is NOT universally encoded by the mitochondrial DNA?
[Question ID = 3114]
1. Small ribosomal RNA [Option ID $=12450$ ]
2. Large ribosomal RNA [Option ID = 12451]
3. A cytochrome oxidase subunit [Option ID $=12452$ ]
4. Transfer RNA [Option ID $=12453$ ]

## Correct Answer :-

- Transfer RNA [Option ID = 12453]

27) Which of the following cytoskeletal filaments are abundant in an animal cell nucleus?
[Question ID = 3115]
1. Microfilaments [Option ID $=12454$ ]
2. Microtubules [Option ID $=12455$ ]
3. Lamins [Option ID $=12456$ ]
4. Spectrin filaments [Option ID $=12457$ ]

## Correct Answer :-

- Lamins [Option ID = 12456]

28) Consider the structure of a sarcomere. Which of its features DOES NOT shorten during skeletal muscle contraction? [Question ID = 3116]
1. The dark band [Option $I D=12458$ ]
2. The light band [Option ID = 12459]
3. The distance from the $M$-line to the $Z$-disc [Option ID $=12460$ ]
4. The distance between two consecutive Z-discs [Option ID = 12461]

## Correct Answer:-

- The dark band [Option ID $=12458$ ]

Correct Answer :-

- Lignin [Option ID = 12464]

30) Which of the following statement is true for increasing the resolution of electron microscope?
[Question ID = 3118]
1. Electromagnetic lenses determine the resolution [Option ID = 12466]
2. Wavelength of electron beam determines the resolution [Option ID = 12467]
3. Thickness of specimen determines the resolution [Option ID = 12468]
4. Electron dense region in the specimen determines the resolution [Option ID = 12469]

Correct Answer :-

- Wavelength of electron beam determines the resolution [Option ID = 12467]

31) In a diploid organism, Law of Segregation results in

## [Question ID = 3119]

1. Separation of alleles [Option ID $=12470$ ]
2. Separation of genes on one chromosome [Option ID = 12471]
3. Segregation of individuals [Option ID = 12472]
4. Segregation of male and female gametes [Option ID = 12473]

## Correct Answer :-

- Separation of alleles [Option ID = 12470]


## 32) Plant protoplasts are

[Question ID = 3120]

1. Precursors of amyloplasts [Option ID $=12474$ ]
2. Plant cells without cell walls [Option ID = 12475]
3. Primitive cells [Option ID $=12476$ ]
4. Cytoplasm without plasma membrane [Option ID $=12477$ ]

## Correct Answer :-

- Plant cells without cell walls [Option ID = 12475]

33) Which of the following scientists discovered mobile genetic elements?
[Question ID = 3121]
1. S. Tonegawa [Option ID $=12478$ ]
2. S. Brenner [Option ID $=12479$ ]
3. B. McClintock [Option ID $=12480$ ]
4. L.B. Buck [Option ID $=12481$ ]

## Correct Answer :-

- B. McClintock [Option ID = 12480]

34) Transferred DNA from Ti-plasmid is maintained in a transgenic plant as

## [Question ID = 3122]

1. An independent linear replicon [Option ID $=12482$ ]
2. An independent circular replicon [Option ID $=12483$ ]
3. Integrated DNA in chromosome [Option ID = 12484]
4. Multiple independent copies of introduced DNA [Option ID $=12485$ ]

## Correct Answer :-

- Integrated DNA in chromosome [Option ID = 12484]

35) Metabolomics is primarily the study of the [Question ID = 3123]
1. Entire suite of metabolites [Option ID = 12486]
2. Metabolism [Option ID = 12487]
3. Proteins involved in metabolism [Option ID $=12488$ ]
4. Enzymes [Option ID = 12489]

## Correct Answer :-

- Entire suite of metabolites [Option ID = 12486]


## 36) Dideoxynucleotide lacks

## [Question ID-3124]

1. $3^{\prime} \mathrm{OH}$ [Option ID $=12490$ ]
2. 2'OH [Option ID = 12491]
3. Phosphate group [Option ID $=12492$ ]
4. $3^{\prime} \mathrm{OH}$ and $2^{\prime} \mathrm{OH}$ [Option ID $=12493$ ]
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37) Which of the following is a selectable marker gene?
[Question ID = 3125]
1. Gfp
[Option ID = 12494]
2. Luciferase
[Option ID = 12495]
3. gus
[Option ID = 12496]
4. nptll
[Option ID = 12497]
Correct Answer :-

- nptll
[Option ID = 12497]

38) A plant cell contains circular DNA in
[Question ID = 3126]
1. One organelle [Option ID $=12498$ ]
2. Two organelles [Option ID $=12499$ ]
3. Three organelles [Option ID $=12500$ ]
4. Four organelles [Option ID $=12501$ ]

## Correct Answer :-

- Two organelles [Option ID = 12499]


## 39) cDNA is synthesized by

[Question ID = 3127]

1. RNA polymerase I [Option ID $=12502$ ]
2. RNA polymerase II [Option ID $=12503$ ]
3. RNA polymerase III [Option ID $=12504]$
4. Reverse transcriptase [Option ID $=12505$ ]

## Correct Answer :-

- Reverse transcriptase [Option ID $=12505$ ]


## 40) Northern hybridization is related to

[Question ID = 3128]

1. Detection of DNA [Option ID $=12506$ ]
2. Detection of RNA [Option ID $=12507$ ]
3. Detection of protein [Option ID $=12508$ ]
4. Detection of DNA and RNA [Option ID $=12509$ ]

## Correct Answer :-

- Detection of RNA [Option ID = 12507]

41) Introns are present at the level of
[Question ID = 3129]
1. Genomic DNA [Option ID $=12510$ ]
2. cDNA [Option ID $=12511$ ]
3. mRNA [Option ID $=12512$ ]
4. Protein [Option ID $=12513$ ]

## Correct Answer :-

- Genomic DNA [Option ID = 12510]

42) Which of the following scientists was given Nobel Prize for discovery of restriction enzymes?
[Question ID = 3130]
1. P. Berg [Option ID $=12514$ ]
2. A. Klug [Option ID $=12515$ ]
3. W. Arber [Option ID $=12516$ ]
4. $F$. Sanger $[$ Option $I D=12517]$

Correct Answer :-
-W. Arber [Option ID = 12516]
[Option ID = 12519]
3. Taxus brevifolia
[Option ID = 12520]
4. Atropa belladonna
[Option ID = 12521]

## Correct Answer :-

- Taxus brevifolia
[Option ID = 12520]

44) Which of the following plants is a commercial source of an artificial sweetener?
[Question ID = 3132]
1. Stevia rebaudiana
[Option ID = 12522]
2. Atropa belladonna
[Option ID = 12523]
3. Papaver somnifera
[Option ID = 12524]
4. Cinchona officinalis
[Option ID = 12525]
Correct Answer :-

- Stevia rebaudiana
[Option ID = 12522]

45) Which of the following biological systems is a predominant source of the 'Luciferase' enzyme?
[Question ID = 3133]
1. Photinus pyralis
[Option ID = 12526]
2. Drosophila melanogaster
[Option ID = 12527]
3. Escherichia coli
[Option ID = 12528]
4. Saccharomyces cerevisiae
[Option ID = 12529]
Correct Answer :-

- Photinus pyralis
[Option ID = 12526]

46) Which of the following biological species is the predominant source of 'Taq polymerase enzyme'?
[Question ID = 3134]
1. Thermus aquaticus
[Option ID = 12530]
2. Thermus antranikianii
[Option ID = 12531]
3. Thermus igniterrae
[Option ID = 12532]
4. Thermus tengchongensis
[Option ID = 12533]
Correct Answer :-

- Thermus aquaticus
[Option ID = 12530]

Correct Answer :-

- K. Mullis [Option ID = 12534]

48) Which of the following scientists is credited for the "Green Revolution"?
[Question ID = 3136]
1. N. Borlaug [Option ID = 12538]
2. G. Haberlandt [Option ID = 12539]
3. G. Mendel [Option ID $=12540$ ]
4. C. Darwin [Option ID = 12541]

Correct Answer :-

- N. Borlaug [Option ID = 12538]

49) IR-8 is a popular variety of
[Question ID = 3137]
1. Wheat [Option ID $=12542$ ]
2. Rice [Option ID = 12543]
3. Maize [Option ID $=12544$ ]
4. Cotton [Option ID = 12545]

Correct Answer :-

- Rice [Option ID = 12543]

50) The golden colour of 'Golden rice' is due to excess levels of
[Question ID = 3138]
1. Xanthophyll [Option ID $=12546$ ]
2. Carotene [Option ID = 12547]
3. Phycoerythrin [Option ID $=12548$ ]
4. Bilirubin [Option ID $=12549$ ]

Correct Answer :-

- Carotene [Option ID = 12547]

51) RFLP analysis is a technique that
[Question ID = 3139]
1. Uses hybridization to detect specific DNA restriction fragments in genomics DNA [Option ID $=12550$ ]
2. Measures the transfer frequency of genes during conjugation [Option ID = 12551]
3. Is used to detect genetic variation at the protein level [Option ID $=12552$ ]
4. Is used to amplify genes for producing useful products [Option ID = 12553]

## Correct Answer :-

- Uses hybridization to detect specific DNA restriction fragments in genomics DNA [Option ID = 12550]


## 52) Plasmid cloning vectors

[Question ID = 3140]

1. Can generally accommodate larger inserts than phage vectors [Option ID $=12554$ ]
2. Can replicate within bacteria [Option ID = 12555]
3. Can accommodate inserts of over 100 kilobases [Option ID $=12556$ ]
4. Include centromeres to allow propagation in yeast. [Option ID = 12557]

## Correct Answer :-

- Can replicate within bacteria [Option ID = 12555]

53) On an average, how many fragments would a restriction enzyme which recognizes a specific 4 base sequence in DNA be expected to cleave a double-stranded bacteriophage with a genome size of $5,000 \mathrm{bp}$ into ?
[Question ID = 3141]
1. About 2 [Option ID $=12558$ ]
2. About 4 [Option ID $=12559$ ]
3. About 20 [Option $I D=12560$ ]
4. About 50 [Option ID $=12561$ ]

## Correct Answer :-

- About 20 [Option ID = 12560]


## 54) QTL analysis is used to

## [Question ID = 3142]

1. Identify RNA polymerase binding sites [Option ID $=125$ WWW.FirstRanker.com
2. Determine which genes are expressed at a developmental stage [Option ID = 12563]
3. Identify chromosome regions associated with a quantitative trait [Option ID = 12564]

57) Which one of the following enzymes is substrate inducible?
[Question ID = 3145]
1. Triose phosphate isomerase [Option ID $=12574$ ]
2. Glyceraldehyde phosphate dehydrogenase [Option ID $=12575$ ]
3. Nitrate reductase [Option ID $=12576$ ]
4. Hexose isomerase. [Option ID $=12577$ ]

## Correct Answer :-

- Nitrate reductase [Option ID = 12576]

58) The Lemma and Palea in cereal flowers are
[Question ID = 3146]
1. Modified sepals [Option ID $=12578$ ]
2. Fused sepals and petals [Option ID $=12579$ ]
3. Modified glumes [Option ID $=12580$ ]
4. Nectaries [Option ID $=12581$ ]

## Correct Answer :-

- Modified glumes [Option ID = 12580]


## 59) Oxytocin is a <br> [Question ID = 3147]

1. Peptidal hormone [Option ID $=12582$ ]
2. Steroidal hormone [Option ID $=12583$ ]
3. Transcriptional factor [Option ID $=12584$ ]
4. Hormonal receptor [Option ID $=12585$ ]

## Correct Answer :-

- Peptidal hormone [Option ID = 12582]

60) Which of the following is a zinc containing protein?
[Question ID = 3148]
1. Nitrogenase [Option ID $=12586$ ]
2. Calmodulin [Option ID $=12587$ ]
3. Nitrate reductase [Option ID $=12588$ ]
4. Alcohol dehydrogenase [Option ID $=12589$ ]

## Correct Answer :-

- Alcohol dehydrogenase [Option ID = 12589]


## 61) Which of the following is a metalloprotein? <br> [Question ID = 3149]

1. Nitrogenase [Option ID $=12590$ ]
2. Hexokinase [Option ID = 12591]
3. Triose phosphate isomerase [Option ID = 12592]
4. Desmosine_
5. $\mathrm{CH}_{2}[$ Option $\mathrm{ID}=12596$ ]
6. $\mathrm{CH}_{3}[$ Option $\mathrm{ID}=12597]$

Correct Answer :-

- $\mathrm{CH}_{2}$ [Option ID $=12596$ ]

63) If photosynthesis is carried out in presence of $\mathrm{CO}_{2}$ carrying labelled oxygen, which molecules produced would not carry radiolabel?
[Question ID = 3151]
1. 3-phospho glyceraldehyde
[Option ID = 12598]
2. Ribulose 5 phosphate
[Option ID = 12599]
3. Sedoheptulose
[Option ID = 12600]
4. Oxygen
[Option ID = 12601]

## Correct Answer :-

- Oxygen
[Option ID = 12601]

64) Which enzyme is involved in dissipation of energy in NADH as heat in plant mitochondria?
[Question ID = 3152]
1. Glycolate oxidase [Option ID $=12602$ ]
2. Alternative oxidase [Option ID $=12603$ ]
3. Succinate dehydrogenase [Option ID = 12604]
4. Cytochrome oxidase [Option ID $=12605$ ]

Correct Answer :-

- Alternative oxidase [Option ID = 12603]

65) When intact mitochondria are disrupted by treatment with detergent, the resulting membrane fragments can still catalyze electron transfer from succinate or NADH to $\mathrm{O}_{2}$, without ATP production. What is the reason for this?
[Question ID = 3153]
1. Inhibition of ATP synthase [Option ID = 12606]
2. Lack of ADP [Option ID = 12607]
3. Lack of proton gradient [Option ID $=12608$ ]
4. Inhibition of cytochrome oxidase by the detergent [Option ID = 12609]

## Correct Answer :-

- Lack of proton gradient [Option ID = 12608]

66) Chemical uncoupler 2,4-dinitrophenol (DNP) uncouples electron transport to ATP synthesis by
[Question ID = 3154]
1. Creating holes in mitochondrial membrane
[Option ID = 12610]
2. Inhibiting ATP synthase
[Option ID = 12611]
3. Inhibiting electron transport
[Option ID = 12612]
4. Disrupting proton gradient
[Option ID = 12613]

## Correct Answer :-

- Disrupting proton gradient
[Option ID = 12613]


## 

[Question ID = 3155]

1. Phospholipids [Option ID $=12614$ ]
2. Galactolipids [Option ID $=12615$ ]
3. Sphingolipids [Option ID $=12616$ ]
68) On equal mass basis, complete oxidation of which of the following to $\mathrm{CO}_{2}$ and $\mathrm{H}_{2} \mathrm{O}$ would produce more energy? [Question ID = 3156]
1. Diacylglycerol [Option ID $=12618$ ]
2. Phosphatidic acid [Option ID = 12619]
3. Triacylglycerol [Option ID $=12620$ ]
4. Starch [Option ID = 12621]

## Correct Answer :-

- Triacylglycerol [Option ID = 12620]

69) The enzyme acetyl-CoA carboxylase contains which of the following cofactors?
[Question ID = 3157]
1. Thymine pyrophosphate [Option ID $=12622$ ]
2. Molybdenum [Option ID $=12623$ ]
3. Biotin [Option ID $=12624]$
4. Zinc [Option ID $=12625$ ]

## Correct Answer :-

- Biotin [Option ID = 12624]

70) Which two cell organelles contain maximum amount of cellular lipid?
[Question ID = 3158]
1. Mitochondria and chloroplasts [Option ID $=12626$ ]
2. Mitochondria and ER [Option $\mathrm{ID}=12627$ ]
3. Vacuoles and chloroplasts [Option ID $=12628$ ]
4. Chloroplasts and ER [Option ID $=12629$ ]

Correct Answer :-

- Chloroplasts and ER [Option ID = 12629]

71) Synthesis of glutamine, using glutamate and $\mathrm{NH}_{4}{ }^{+}$, catalysed by glutamine synthetase is an example of [Question ID = 3159]
1. Transamination [Option ID $=12630$ ]
2. Oxidative amination [Option ID $=12631$ ]
3. Reductive amination [Option ID = 12632]
4. Denitrification [Option ID $=12633$ ]

## Correct Answer :-

- Reductive amination [Option ID = 12632]

72) Which enzyme is the target of common herbicide Basta?
[Question ID = 3160]
1. EPSP synthase [Option ID $=12634$ ]
2. Glutamate dehydrogenase [Option ID = 12635]
3. Glutamine synthetase [Option ID = 12636]
4. Acetohydroxy acid synthase [Option ID = 12637]

## Correct Answer :-

- Glutamine synthetase [Option ID = 12636]

73) Which of the following gene(s) involved in symbiotic nitrogen fixation in leguminous plants is of plant origin?
[Question ID = 3161]
1. $\operatorname{nod} D$
[Option ID = 12638]
2. nol
[Option ID = 12639]
3. fixL
[Option ID = 12640]
4. ENOD
[Option ID = 12641]

## Correct Answer :-

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[Option ID = 12642]
2. An efficient transfer of T-DNA into plant genome
[Option ID = 12643]
3. Selection of putative transformants
[Option ID = 12644]
4. Protection of transformants from bacterial infection
[Option ID = 12645]

## Correct Answer :-

- Selection of putative transformants
[Option ID = 12644]

75) Starch is a polymer of glucose with linkages of [Question ID = 3163]
1. $a(1-6), B(1-4)[O p t i o n ~ I D=12646]$
2. $a(1-4), B(1-6)[O p t i o n ~ I D=12647]$
3. $a(1-4), a(1-6)[O p t i o n ~ I D=12648]$
4. $B(1-4), B(1-6)[O p t i o n ~ I D=12649]$

Correct Answer :-

- $\alpha(1-4), ~ a(1-6)$ [Option ID $=12648]$

76) A gene that has originated through duplication within a species and has acquired new function is known as [Question ID = 3164]
1. Paralogous [Option ID $=12650$ ]
2. Orthologous [Option ID = 12651]
3. Heterologous [Option ID $=12652$ ]
4. Neologous [Option ID $=12653$ ]

Correct Answer :-

- Paralogous [Option ID = 12650]

77) A yeast artificial chromosome (YAC) contains all the following except
[Question ID = 3165]
1. $\operatorname{ARS}$ [Option ID $=12654]$
2. Telomeres [Option ID $=12655$ ]
3. Centromere [Option ID $=12656$ ]
4. Satellite DNA [Option ID $=12657$ ]

Correct Answer :-

- Satellite DNA [Option ID = 12657]

78) Isoelectric point of a protein is the pH at which its overall charge is
[Question ID = 3166]
1. 0 [Option ID = 12658]
2. 2 [Option ID = 12659]
3. -2 [Option ID $=12660$ ]
4. 1 [Option ID = 12661]

## Correct Answer :-

- 0 [Option ID = 12658]

79) Deamination of adenine results in the formation of
[Question ID = 3167]
1. Hypoxanthine [Option ID $=12662$ ]
2. Uracil [Option ID $=12663]$
3. Cytosine [Option ID $=12664$ ]
4. Guanine [Option ID $=12665$ ]

Correct Answer :-

- Hypoxanthine [Option ID = 12662]

80) Which of the following is a text-based database search tool?

## [Question ID-3168]

1. BLAST [Option ID $=12666$ ]
2. ENTREZ [Option ID $=12667$ ]
3. CLUSTAL [Option ID $=12668$ ]
4. RASMOL [Option ID = 12669]
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81) The 'PDB' file format can be used to store
[Question ID = 3169]
1. DNA sequence only [Option ID $=12670$ ]
2. Protein sequence only [Option ID = 12671]
3. Both DNA and protein sequences [Option ID $=12672$ ]
4. Protein structure data [Option ID $=12673$ ]

## Correct Answer :-

- Protein structure data [Option ID = 12673]

82) Which of the following has the smallest genome?
[Question ID = 3170]
1. Humans [Option ID $=12674$ ]
2. Wheat [Option ID = 12675]
3. Arabidopsis [Option ID $=12676$ ]
4. Tomato [Option ID $=12677$ ]

## Correct Answer :-

- Arabidopsis [Option ID = 12676]

83) Which of the following is a database dedicated to only a particular organism?
[Question ID = 3171]
1. GenBank [Option ID $=12678$ ]
2. Uniprot [Option ID $=12679$ ]
3. WormBase [Option ID $=12680$ ]
4. CATH [Option ID $=12681$ ]

## Correct Answer :-

- WormBase [Option ID = 12680]

84) Who is the first 'Chief of Defence Staff' of India?
[Question ID = 3172]
1. Gen. Bipin Rawat [Option ID $=12682$ ]
2. Gen. Manoj Mukund Naravane [Option ID = 12683]
3. Gen. Dalbir Singh Suhag [Option ID $=12684$ ]
4. Gen. Bikram Singh [Option ID $=12685$ ]

## Correct Answer :-

- Gen. Bipin Rawat [Option ID = 12682]

85) The Ultraviolet radiations in the stratosphere are absorbed by
[Question ID = 3173]
1. $\mathrm{SO}_{2}$ [Option $\mathrm{ID}=12686$ ]
2. Oxygen [Option ID $=12687$ ]
3. Ozone [Option ID $=12688$ ]
4. Argon [Option ID $=12689$ ]

Correct Answer :-

- Ozone [Option ID = 12688]

86) Which Indian women hockey player is the recipient of 'Padma Shri' award (2020)?
[Question ID = 3174]
1. Rani Rampal [Option ID $=12690$ ]
2. Navneet Kaur [Option ID = 12691]
3. Harmanpreet Kaur [Option ID $=12692$ ]
4. Smriti Mandhana [Option ID $=12693$ ]

## Correct Answer :-

- Rani Rampal [Option ID = 12690]

87) Which of the following countries had established a world record in the year 2018 by launching the maximum number of satellites (104) in a single attempt?
[Question ID = 3175]
1. USA [Option ID $=12694]$
2. Russia [Option ID $=12695$ ]
3. India [Option ID = 12696]
4. China [Option ID $=12697]$

91) The 'gene-for-gene concept' related to the genetics of plant-pathogen interaction, formulated by H. Flor, was developed using
[Question ID = 3179]
1. Potato [Option ID = 12710]
2. Maize [Option $I D=12711$ ]
3. Flax [Option ID = 12712]
4. Wheat [Option $I D=12713$ ]

Correct Answer :-

- Flax [Option ID = 12712]

92) Which of the following is a non-protein amino acid?
[Question ID = 3180]
1. Lysine [Option ID = 12714]
2. Morphine [Option ID = 12715]
3. Putrescine [Option ID = 12716]
4. Canavanine [Option ID = 12717]

Correct Answer :-

- Canavanine [Option ID = 12717]

93) The polyembryony commonly occurs in
[Question ID = 3181]
1. Tomato [Option ID = 12718]
2. Potato [Option ID = 12719]
3. Orange [Option ID $=12720$ ]
4. Turmeric [Option ID = 12721]

Correct Answer :-

- Orange [Option ID = 12720]

94) The nonvascular plants whose gametophytes are larger than their sporophytes are
[Question ID = 3182]
1. Algae [Option ID $=12722$ ]
2. Fungi [Option $I D=12723$ ]
3. Bryophytes [Option ID $=12724$ ]
4. Pteridophytes [Option ID $=12725$ ]

## Correct Answer :-

- Bryophytes [Option ID = 12724]


## 95) Coconut water and the edible part of the coconut are equivalent to [Question ID = 3183] <br> wWw.FirstRanker.com

1. Embryo [Option ID = 12726]
2. Mesocarp [Option $I D=12727$ ]
96) Sunflower belongs to the following family:
[Question ID = 3184]
1. Cruciferae [Option ID $=12730$ ]
2. Asteraceae [Option ID = 12731]
3. Liliaceae [Option ID = 12732]
4. Fabaceae [Option ID = 12733]

Correct Answer :-

- Asteraceae [Option ID = 12731]

97) Which of the following is NOT a common second messenger in cell signaling?
[Question ID = 3185]
1. $\mathrm{Ca}^{2+}$ [Option ID $=12734$ ]
2. Cyclic adenosine monophosphate [Option ID = 12735]
3. Tryptophan [Option ID = 12736]
4. Diacylglycerol [Option ID $=12737$ ]

Correct Answer :-

- Tryptophan [Option ID = 12736]

98) What would you need to know to determine quantum yield of photosynthesis accurately?
[Question ID = 3186]
1. Amount of $\mathrm{CO}_{2}$ fixed and $\mathrm{O}_{2}$ released [Option $\mathrm{ID}=12738$ ]
2. Amount of starch synthesized [Option ID = 12739]
3. Amount of 3 -phosphoglycerate synthesized [Option ID = 12740]
4. Amount of $\mathrm{O}_{2}$ evolved and light absorbed [Option ID = 12741]

## Correct Answer :-

- Amount of $\mathrm{O}_{2}$ evolved and light absorbed [Option ID = 12741]

99) Which of the following nucleic acids is the MOST stable?
[Question ID = 3187]
1. DNA [Option ID $=12742$ ]
2. mRNA [Option ID $=12743$ ]
3. rRNA [Option ID $=12744$ ]
4. tRNA [Option ID $=12745$ ]

## Correct Answer :-

- DNA [Option ID = 12742]

100) A nonsense mutation in the reading frame within the coding region of a gene is expected to result in [Question ID = 3188]
1. Decreased transcription [Option ID $=12746$ ]
2. Premature translation termination [Option ID = 12747]
3. Ribosomal frameshift [Option ID = 12748]
4. Formation of a fusion protein. [Option ID = 12749]

## Correct Answer :-

- Premature translation termination [Option ID = 12747]

