

National Testing Agency

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PLANT BIOTECHNOLOGY

Group Number :	1
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PLANT BIOTECHNOLOGY -1

Section Id :	190889143
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	120
Number of Questions to be attempted :	120
Section Marks :	480
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889183
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1908897582 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How many rounds of β -oxidation process would be required to convert Indole-3-butyric acid (IBA), an endogenous plant hormone of auxin class, into Indole-3-acetic acid (IAA)?

1. One
2. Two
3. Three
4. Four

Options :

19088930221. 1

19088930222. 2

19088930223. 3

19088930224. 4

Question Number : 2 Question Id : 1908897583 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following quantities is used to express Michaelis-Menten constant (K_m) of an enzyme?

1. Velocity
2. Length
3. Time
4. Concentration

Options :

19088930225. 1

19088930226. 2

19088930227. 3

19088930228. 4

Question Number : 3 Question Id : 1908897584 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

For a weak acid with a pKa value of 6.0, the ratio of acid to salt at pH 5.0 will be:

1. 1.0
2. 10.0
3. 6.0
4. 100.0

Options :

19088930229. 1

19088930230. 2

19088930231. 3

19088930232. 4

Question Number : 4 Question Id : 1908897585 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Ribonucleic acid (RNA) is more susceptible to alkaline hydrolysis than Deoxyribonucleic acid (DNA) because:

1. It contains uracil residues in its structure, which is more susceptible to alkaline hydrolysis
2. The 2'-hydroxy group of the ribose in RNA causes intramolecular cleavage of the phosphodiester backbone
3. It does not contain thymine base responsible for the stability of the DNA
4. It is more acidic in nature than the DNA

Options :

19088930233. 1

19088930234. 2

19088930235. 3

19088930236. 4

Question Number : 5 Question Id : 1908897586 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

During SDS-Poly Acrylamide Gel Electrophoresis (SDS-PAGE), how many molecules of SDS are expected to bind to a 44 kD protein?

1. 200
2. 400
3. 22
4. 44

Options :

19088930237. 1

19088930238. 2

19088930239. 3

19088930240. 4

Question Number : 6 Question Id : 1908897587 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following coenzymes is required by the enzymes involved in the catalysis of transamination reactions?

1. Lipoic acid
2. Thiamine pyrophosphate
3. Coenzyme Q10
4. Pyridoxal phosphate

Options :

19088930241. 1

19088930242. 2

19088930243. 3

19088930244. 4

Question Number : 7 Question Id : 1908897588 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Nitrate assimilation in leaves occurs in two sequential steps catalysed by Nitrate reductase (NR) and Nitrite reductase (NiR) enzymes respectively. Which of the following statements is true about these two enzymes?

1. The NR is chloroplastic while NiR is cytosolic
2. Both NR and NiR are cytosolic
3. Both NR and NiR are chloroplastic
4. The NR is cytosolic and NiR is chloroplastic

Options :

19088930245. 1

19088930246. 2

19088930247. 3

19088930248. 4

Question Number : 8 Question Id : 1908897589 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following parameters remains unchanged in the two Lineweaver-Burk plots of an enzyme drawn in the absence and presence of a competitive inhibitor respectively?

1. Michaelis Menten constant (K_m)
2. Slope
3. X-intercept
4. Y-intercept

Options :

19088930249. 1

19088930250. 2

19088930251. 3

19088930252. 4

Question Number : 9 Question Id : 1908897590 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following enzymes does NOT catalyze a physiological irreversible step in glycolysis?

1. Hexokinase
2. Phosphofructokinase
3. Phosphoglycerate kinase
4. Pyruvate kinase

Options :

19088930253. 1

19088930254. 2

19088930255. 3

19088930256. 4

Question Number : 10 Question Id : 1908897591 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In CAM plants, a metabolite 'X' is stored in vacuoles at night for its future use as a source of carbon dioxide. Which gets fixed by Rubisco in chloroplasts during the day time. 'X' is -

1. Pyruvate
2. Oxaloacetate
3. Malate
4. Phosphoenol pyruvate

Options :

19088930257. 1

19088930258. 2

19088930259. 3

19088930260. 4

Question Number : 11 Question Id : 1908897592 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following amino acids will move the fastest, and thus be eluted first, on a reverse-phase HPLC column?

1. Phenylalanine
2. Isoleucine
3. Glycine
4. Glutamate

Options :

19088930261. 1

19088930262. 2

19088930263. 3

19088930264. 4

Question Number : 12 Question Id : 1908897593 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

An optical density of 1.0 is obtained for a solution using spectrophotometer. Which of the following interpretation can be made from this observation?

1. The 10% of the incident light is absorbed
2. The 90% of the incident light is absorbed
3. The 100% of the incident light is absorbed
4. The 100% of the incident light is transmitted

Options :

19088930265. 1

19088930266. 2

19088930267. 3

19088930268. 4

Question Number : 13 Question Id : 1908897594 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The urea cycle occurs in which of the following organelles? Choose the most appropriate option.

1. Mitochondria and Cytoplasm
2. Mitochondria and Peroxisomes
3. Endoplasmic reticulum and Golgi Complex
4. Mitochondria, Chloroplast and Peroxisomes

Options :

19088930269. 1

19088930270. 2

19088930271. 3

19088930272. 4

Question Number : 14 Question Id : 1908897595 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In germinating oilseeds, which of the following metabolic end product of the glyoxylate pathway is transported out of glyoxysomes for further utilization in the TCA cycle?

1. Malate
2. Acetyl CoA
3. Succinate
4. α -ketoglutarate

Options :

19088930273. 1

19088930274. 2

19088930275. 3

19088930276. 4

Question Number : 15 Question Id : 1908897596 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements is correct as regard to C₂ photorespiratory cycle?

1. The O₂ is consumed in the chloroplasts while the CO₂ is released in the mitochondria
2. The O₂ is consumed in the chloroplasts while the CO₂ is released in the peroxisomes
3. The O₂ is consumed in the peroxisomes while the CO₂ is released in the mitochondria
4. The term photorespiration is a misnomer as there is no release of the CO₂ in it.

Options :

19088930277. 1

19088930278. 2

19088930279. 3

19088930280. 4

Question Number : 16 Question Id : 1908897597 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The "Golden rice" has been developed to help people suffering from which one of the following diseases?

1. Beriberi
2. Scurvy
3. Pernicious anaemia
4. Xerophthalmia

Options :

19088930281. 1

19088930282. 2

19088930283. 3

19088930284. 4

Question Number : 17 Question Id : 1908897598 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If the intracellular concentration of NaCl is 1%, then which solution is hypotonic to the cell?

1. 0.1N
2. 0.2N
3. 0.3N
4. 0.4N

Options :

19088930285. 1

19088930286. 2

19088930287. 3

19088930288. 4

Question Number : 18 Question Id : 1908897599 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Deoxyuridine monophosphate (dUMP) is converted to Thymidine monophosphate (TMP) by which of the following biochemical reaction?

1. Reductive Methylation
2. Carboxylation
3. Deamination
4. Oxidative decarboxylation

Options :

19088930289. 1

19088930290. 2

19088930291. 3

19088930292. 4

Question Number : 19 Question Id : 1908897600 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which class of cereal proteins tends to lower the nutritional quality of the cereal grains?

1. Albumin
2. Globulin
3. Prolamine
4. Glutelin

Options :

19088930293. 1

19088930294. 2

19088930295. 3

19088930296. 4

Question Number : 20 Question Id : 1908897601 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How many times the Fe-protein and the Mo-Fe Protein components of the nitrogenase complex have to interact with each other for the reduction of one dinitrogen molecule to one hydrogen and two ammonia molecules?

1. Four
2. Eight
3. Sixteen
4. Two

Options :

19088930297. 1

19088930298. 2

19088930299. 3

19088930300. 4

Question Number : 21 Question Id : 1908897602 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A membrane consists of 50% protein and 50% phosphoglycerides by weight. The average molecular weights of the lipids and proteins are 800 Da and 50 kDa respectively. The molar ratio of lipid to protein in this membrane is:

1. 62.50
2. 6.25
3. 0.625
4. 0.0625

Options :

19088930301. 1

19088930302. 2

19088930303. 3

19088930304. 4

Question Number : 22 Question Id : 1908897603 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the followings is a phosphorous-containing membrane lipid?

1. Sphingomyelin
2. Ceramide
3. Sulphoquinovosyl diacylglycerol (SQDG)
4. Cerebroside

Options :

19088930305. 1

19088930306. 2

19088930307. 3

19088930308. 4

Question Number : 23 Question Id : 1908897604 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : With the increase in the chain length of the saturated fatty acids, their melting point increases while their solubility in water decreases.

Reason R : The intermolecular interactions between the saturated fatty acid molecules increase with the increase in their chain length.

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

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088930309. 1

19088930310. 2

19088930311. 3

19088930312. 4

Question Number : 24 Question Id : 1908897605 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
Component of the Z-scheme	Characteristic property
A. Plastocyanin	I. Functional analog of the mitochondrial Cytochrome C
B. PS I	II. Located preferentially in the non-stacked regions of the thylakoid membranes
C. PS II	III. Resembles Complex III of the mitochondrial Electron Transport Chain (ETC)
D. Plastoquinone	IV. Located almost exclusively in the stacked regions of the thylakoid membranes
	V. A non-protein mobile electron carrier

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

1. A - I, B -IV , C -III , D -V
2. A -I , B -II , C -IV , D -V
3. A -V , B -IV , C -III , D -I
4. A -V , B -II , C -III , D -I

Options :

19088930313. 1
19088930314. 2
19088930315. 3
19088930316. 4

Question Number : 25 Question Id : 1908897606 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
Enzyme/Cofactor	Functional significance
A. Coenzyme B ₁₂	I. Required for the breakdown of the fatty acids containing odd number of carbon atoms
B. 2,4-Dienoyl CoA reductase	II. Required as a cofactor by the enzyme acetyl CoA carboxylase, which is a regulatory enzyme of the fatty acid biosynthetic pathway
C. Pantothenic acid	III. Required for the synthesis of Acyl Carrier Protein (ACP), which is a component of the Fatty Acid Synthase Complex.
D. Carnitine	IV. Required for the transport of fatty acids into mitochondrial matrix for β -oxidation
	V. Required for the complete breakdown of polyunsaturated fatty acids

Choose the correct answer from the options given below:

1. A -I, B -V , C -III , D -IV
2. A -V , B -I , C -II , D -IV
3. A -V , B -I , C -III , D -IV
4. A -I , B -V , C -II , D -IV

Options :

19088930317. 1

19088930318. 2

19088930319. 3

19088930320. 4

Question Number : 26 Question Id : 1908897607 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A :Trehalose is a non-reducing sugar possessing a powerful ability to stabilize membranes and proteins against dehydration.

Reason R : Trehalose is a disaccharide made up of two D-glucose residues linked with each other through their anomeric carbon atoms.

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

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088930321. 1

19088930322. 2

19088930323. 3

19088930324. 4

Question Number : 27 Question Id : 1908897608 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A :The cataplerotic reactions helps to avoid the inappropriate build up of the citric acid cycle intermediates in the mitochondrion.

Reason R : The cataplerotic reactions replenish the citric acid cycle intermediates.

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

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088930325. 1

19088930326. 2

19088930327. 3

19088930328. 4

Question Number : 28 Question Id : 1908897609 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The broad-spectrum systemic herbicide Glyphosate is formed by oxidative coupling of the methylphosphonic acid with amino group of which one of the following amino acids?

1. Glycine
2. Serine
3. Cysteine
4. Tyrosine

Options :

19088930329. 1

19088930330. 2

19088930331. 3

19088930332. 4

Question Number : 29 Question Id : 1908897610 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following oils is the richest source of omega-3 fatty acids?

1. Castor oil
2. Palm oil
3. Coconut oil
4. Fish oil

Options :

19088930333. 1

19088930334. 2

19088930335. 3

19088930336. 4

Question Number : 30 Question Id : 1908897611 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The ICAR-National Organic Farming Research Institute (ICAR-NOFRI) is stationed in which of the following states/UTs of India?

1. Sikkim
2. Himachal Pradesh
3. Uttarakhand
4. Puducherry

Options :

19088930337. 1

19088930338. 2

19088930339. 3

19088930340. 4

Question Number : 31 Question Id : 1908897612 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How many minimum nucleotides would be required in the strand of DNA to encode a protein containing 301 amino acids?

1. 900
2. 903
3. 906
4. 897

Options :

19088930341. 1

19088930342. 2

19088930343. 3

19088930344. 4

Question Number : 32 Question Id : 1908897613 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following methods could be used to enrich the mRNA species of the total RNA population extracted from a plant tissue?

1. Separation of total RNA on a polyacrylamide gel
2. Affinity chromatography using oligo(dT)-cellulose
3. Precipitation of total RNA using organic solvents
4. Employing salting-in and salting-out principle

Options :

19088930345. 1

19088930346. 2

19088930347. 3

19088930348. 4

Question Number : 33 Question Id : 1908897614 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Embryo derived from pollen is known as

1. somatic embryo
2. androgenetic embryo
3. zygotic embryo
4. simply embryo

Options :

19088930349. 1

19088930350. 2

19088930351. 3

19088930352. 4

Question Number : 34 Question Id : 1908897615 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

T4 DNA ligase works best at

1. 4 °C
2. 15 °C
3. 37 °C
4. 4-15 °C

Options :

19088930353. 1

19088930354. 2

19088930355. 3

19088930356. 4

Question Number : 35 Question Id : 1908897616 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is the correct extended form of BLAST?

1. Basic Local Alignment Search Tool
2. Best Local Alignment Search Tool
3. Basic Local Alignment Similarity Tool
4. Basic Local Alignment Search Technique

Options :

19088930357. 1

19088930358. 2

19088930359. 3

19088930360. 4

Question Number : 36 Question Id : 1908897617 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is NOT an application of proteomics?

1. Identification of all proteins in the sample
2. Identification of 3 dimensional structure of all proteins in the sample
3. Expression profiling of proteins in the sample
4. Identification of post-translational modification site of protein

Options :

19088930361. 1

19088930362. 2

19088930363. 3

19088930364. 4

Question Number : 37 Question Id : 1908897618 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following plant species has largest genome?

1. Barley
2. *Zea mays*
3. Bread wheat
4. Rice

Options :

19088930365. 1

19088930366. 2

19088930367. 3

19088930368. 4

Question Number : 38 Question Id : 1908897619 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The causative agent of COVID-19 is

1. RNA virus
2. DNA virus
3. IL-6
4. Inflammatory agent

Options :

19088930369. 1

19088930370. 2

19088930371. 3

19088930372. 4

Question Number : 39 Question Id : 1908897620 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is correct statement for Ac/Ds transposon family?

1. RNA transposons that lack LTRs
2. RNA transposons with LTRs
3. DNA transposons
4. Tn3 type transposons

Options :

19088930373. 1

19088930374. 2

19088930375. 3

19088930376. 4

Question Number : 40 Question Id : 1908897621 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following amino acids (given in single-letter symbol) present in the N-terminal region of histone proteins is involved in acetylation that influences genome expression?

1. R
2. K
3. S
4. T

Options :

19088930377. 1

19088930378. 2

19088930379. 3

19088930380. 4

Question Number : 41 Question Id : 1908897622 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The -10 box is the nearest upstream sequence to which of the following gene of *lac* operon of *E. coli*?

1. *lac Y*
2. *lac Z*
3. *lac A*
4. *lac I*

Options :

19088930381. 1

19088930382. 2

19088930383. 3

19088930384. 4

Question Number : 42 Question Id : 1908897623 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the enzyme required for transcribing genes of *lac* operon of *E. coli*

1. RNA polymerase II
2. RNA polymerase I
3. RNA polymerase III
4. RNA polymerase

Options :

19088930385. 1

19088930386. 2

19088930387. 3

19088930388. 4

Question Number : 43 Question Id : 1908897624 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Genes encoding microRNA can be located bioinformatically in the genome by which of the following method?

1. By ORF scanning
2. By identifying their typical secondary structure
3. By analyzing their nucleotide sequence
4. Can not be predicted by bioinformatics approaches

Options :

19088930389. 1

19088930390. 2

19088930391. 3

19088930392. 4

Question Number : 44 Question Id : 1908897625 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following plant growth regulator is NOT used as auxin in plant tissue culture?

1. IBA
2. BAP
3. IAA
4. 2, 4-D

Options :

19088930393. 1

19088930394. 2

19088930395. 3

19088930396. 4

Question Number : 45 Question Id : 1908897626 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following method is NOT an example of gene inactivation?

1. RNAi
2. Genome editing
3. T-DNA tagging
4. Expression under strong promoter

Options :

19088930397. 1

19088930398. 2

19088930399. 3

19088930400. 4

Question Number : 46 Question Id : 1908897627 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following can NOT be utilized for studying protein-protein interaction?

1. Yeast two-hybrid system
2. Split-ubiquitin assay
3. Phage display
4. SAGE

Options :

19088930401. 1

19088930402. 2

19088930403. 3

19088930404. 4

Question Number : 47 Question Id : 1908897628 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A suitable cloning vector must have following features

- A. Multiple cloning site
- B. Unique restriction site for several restriction enzymes
- C. One or few selectable markers
- D. Very large size
- E. An origin or replication

Choose the *correct* answer from the options given below

1. A, B, C, D and E
2. A, B, C and E only
3. A, C, D and E only
4. B, C, D and E

Options :

19088930405. 1

19088930406. 2

19088930407. 3

19088930408. 4

Question Number : 48 Question Id : 1908897629 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are correct for proteomics?

- A. It deals with complex mixture of proteins
- B. It emphasizes the identification of protein by database matching
- C. It essentially requires the complete sequence of amino acids
- D. It is possible even with partial sequence analysis
- E. It emphasizes on system biology

Choose the *correct* answer from the options given below

1. A, B, C, D
2. A, B, D, E
3. B, C, D, E
4. A, C, D, E

Options :

19088930409. 1

19088930410. 2

19088930411. 3

19088930412. 4

Question Number : 49 Question Id : 1908897630 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Repetitive DNA can be of two types, e.g., Interspersed Repeat DNA and Tandemly Repeated DNA

Statement II: Tandemly repeated DNA is also called as satellite DNA.

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088930413. 1

19088930414. 2

19088930415. 3

19088930416. 4

Question Number : 50 Question Id : 1908897631 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Sanger method	I. RISC
B. Nuclease S1	II. Single-stranded RNA/DNA
C. Reverse transcriptase	III. Conversion of RNA to DNA
D. siRNAs	IV. ddNTPs
	V. dNTPs

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

1. A -V , B -I , C -III , D -II
2. A -IV , B -II , C -III , D -I
3. A -IV , B -V , C -II , D -I
4. A -II , B -I , C -V , D -III

Options :

19088930417. 1

19088930418. 2

19088930419. 3

19088930420. 4

Question Number : 51 Question Id : 1908897632 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Transforming principle	I. Erwin Chargaff
B. T2 bacteriophage	II. Francis Crick
C. X-ray diffraction	III. Rosalind Franklin
D. Base ratio	IV. Hershey-Chase
	V. Avery

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

1. A -V , B -IV , C -III , D -I
2. A -IV , B -V , C -II , D -III
3. A -I , B -II , C -III , D -IV
4. A -III , B -I , C -IV , D -II

Options :

19088930421. 1

19088930422. 2

19088930423. 3

19088930424. 4

Question Number : 52 Question Id : 1908897633 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How many chromosomes must be seen in bread wheat karyogram after staining?

1. 7
2. 21
3. 42
4. 28

Options :

19088930425. 1

19088930426. 2

19088930427. 3

19088930428. 4

Question Number : 53 Question Id : 1908897634 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Chlorosis in the older leaves is deficiency symptom of

1. Phosphorus
2. Nitrogen
3. Potassium
4. Sulfur

Options :

19088930429. 1

19088930430. 2

19088930431. 3

19088930432. 4

Question Number : 54 Question Id : 1908897635 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following cellular organelle/compartment is composed of single membrane and participates in scavenging ROS?

1. Vacuole
2. Peroxisome
3. Golgi vesicles
4. Plasma membrane

Options :

19088930433. 1

19088930434. 2

19088930435. 3

19088930436. 4

Question Number : 55 Question Id : 1908897636 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In India, which of the following transgenic crop is being cultivated by farmers on a commercial scale?

1. Brinjal
2. Maize
3. Cotton
4. Rice

Options :

19088930437. 1

19088930438. 2

19088930439. 3

19088930440. 4

Question Number : 56 Question Id : 1908897637 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The virus mediated gene transfer using genetically modified bacteriophages is called

1. Transfection
2. Transduction
3. Transformation
4. Conjugation

Options :

19088930441. 1

19088930442. 2

19088930443. 3

19088930444. 4

Question Number : 57 Question Id : 1908897638 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following bacterium is considered to be a natural genetic engineer?

1. *Agrobacterium tumefaciens*
2. *Agrobacterium radiobactor*
3. *Pseudomonas putida*
4. *Thermus aquaticus*

Options :

19088930445. 1

19088930446. 2

19088930447. 3

19088930448. 4

Question Number : 58 Question Id : 1908897639 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is NOT a nucleotide base in DNA?

1. A
2. T
3. G
4. U

Options :

19088930449. 1

19088930450. 2

19088930451. 3

19088930452. 4

Question Number : 59 Question Id : 1908897640 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When a transgenic plant is crossed with a non-transgenic, what would be the zygosity status of the F1 plant?

1. Homozygous
2. Heterozygous
3. Hemizygous
4. Nullizygous

Options :

19088930453. 1

19088930454. 2

19088930455. 3

19088930456. 4

Question Number : 60 Question Id : 1908897641 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

DNA replication occurs from

1. 5'-3' direction
2. 3'-5' direction
3. 3'-5 at a time
4. 5'- direction only

Options :

19088930457. 1

19088930458. 2

19088930459. 3

19088930460. 4

Question Number : 61 Question Id : 1908897642 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The acronym HEPA stands for-

1. High Evaluation Protection
2. High-Efficiency Particulate Air
3. High-Energy Particles in Air
4. Hepatitis A

Options :

19088930461. 1

19088930462. 2

19088930463. 3

19088930464. 4

Question Number : 62 Question Id : 1908897643 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following vitamins is water-soluble?

1. Vitamin A
2. Vitamin C
3. Vitamin D
4. Vitamin E

Options :

19088930465. 1

19088930466. 2

19088930467. 3

19088930468. 4

Question Number : 63 Question Id : 1908897644 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The term used to refer something performed on computer or computer simulation is-

1. Dry lab
2. Wet lab
3. *In silico*
4. *In vitro*

Options :

19088930469. 1

19088930470. 2

19088930471. 3

19088930472. 4

Question Number : 64 Question Id : 1908897645 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

pUC 19 is

1. Phage used as a vector
2. Bacteria used for transformation
3. DNA ligase
4. A Plasmid

Options :

19088930473. 1

19088930474. 2

19088930475. 3

19088930476. 4

Question Number : 65 Question Id : 1908897646 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is a naturally totipotent cell?

1. Ovule
2. Egg cell
3. Zygote
4. Sperm cell

Options :

19088930477. 1

19088930478. 2

19088930479. 3

19088930480. 4

Question Number : 66 Question Id : 1908897647 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Melting temperature of DNA is the temperature at which

1. 100 % of double stranded DNA is changed to single stranded
2. 30% of double stranded DNA is changed to single stranded
3. 50% of double stranded DNA is changed to single stranded
4. 80% of double stranded DNA is changed to single stranded

Options :

19088930481. 1

19088930482. 2

19088930483. 3

19088930484. 4

Question Number : 67 Question Id : 1908897648 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Ozone layer is present in

1. Troposphere
2. Stratosphere
3. Ionosphere
4. Exosphere

Options :

19088930485. 1

19088930486. 2

19088930487. 3

19088930488. 4

Question Number : 68 Question Id : 1908897649 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Parasitic plant that grow on the surface of host plant are called

1. Epiphytes
2. Endophytes
3. Ectophytes
4. Lianas

Options :

19088930489. 1

19088930490. 2

19088930491. 3

19088930492. 4

Question Number : 69 Question Id : 1908897650 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is NOT an antibiotic?

1. Tetracycline
2. Rifabutin
3. Amoxicillin
4. Betamethasone

Options :

19088930493. 1

19088930494. 2

19088930495. 3

19088930496. 4

Question Number : 70 Question Id : 1908897651 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the DNA marker system could be regarded as single locus, multi-allelic and co-dominant marker?

1. RAPD
2. SNP
3. SSR
4. AFLP

Options :

19088930497. 1

19088930498. 2

19088930499. 3

19088930500. 4

Question Number : 71 Question Id : 1908897652 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following amino acids are specified by single codons?

1. Tryptophan and histidine
2. Methionine and proline
3. Methionine and histidine
4. Methionine and tryptophan

Options :

19088930501. 1

19088930502. 2

19088930503. 3

19088930504. 4

Question Number : 72 Question Id : 1908897653 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Two dimensional gels are mostly used to

1. Separate DNA fragments
2. Separate RNA fragments
3. Separate DNA from RNA fragments
4. Seperate different proteins

Options :

19088930505. 1

19088930506. 2

19088930507. 3

19088930508. 4

Question Number : 73 Question Id : 1908897654 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The segments of lagging strand are known as

1. Cis element
2. Klenow fragment
3. Okazaki fragment
4. Operon

Options :

19088930509. 1

19088930510. 2

19088930511. 3

19088930512. 4

Question Number : 74 Question Id : 1908897655 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

International Centre for Genetic Engineering and Biotechnology (ICGEB) is situated at

1. Mumbai
2. Chennai
3. New Delhi
4. Hyderabad

Options :

19088930513. 1

19088930514. 2

19088930515. 3

19088930516. 4

Question Number : 75 Question Id : 1908897656 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the DNA molecule

1. Guanine pairs with thymine
2. Adenine pairs with thymine
3. Cytosine pairs with thymine
4. Adenine pairs with cytosine

Options :

19088930517. 1

19088930518. 2

19088930519. 3

19088930520. 4

Question Number : 76 Question Id : 1908897657 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Common site for DNA methylation is

1. CpG island
2. ORF
3. Terminator
4. Initiator

Options :

19088930521. 1

19088930522. 2

19088930523. 3

19088930524. 4

Question Number : 77 Question Id : 1908897658 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

RNA polymerase II binds to which region of protein-coding genes?

1. ORF
2. Promoter
3. Poly A
4. Terminator

Options :

19088930525. 1

19088930526. 2

19088930527. 3

19088930528. 4

Question Number : 78 Question Id : 1908897659 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Anther culture technique was developed by

1. Cocking
2. Murashige and White
3. Haberlandt
4. Guha and Maheshwari

Options :

19088930529. 1

19088930530. 2

19088930531. 3

19088930532. 4

Question Number : 79 Question Id : 1908897660 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The hormonal theory of balanced growth and regulation was proposed by

1. Murashige and Skoog
2. Skoog and Miller
3. Philips and Gamborg
4. White

Options :

19088930533. 1

19088930534. 2

19088930535. 3

19088930536. 4

Question Number : 80 Question Id : 1908897661 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The enzyme reverse transcriptase is for

1. Killing the virus
2. Avoiding the virus infection
3. Making cDNA from RNA
4. Making RNA from DNA

Options :

19088930537. 1

19088930538. 2

19088930539. 3

19088930540. 4

Question Number : 81 Question Id : 1908897662 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The tubular channels formed by the connected plasma membrane of adjacent plants cells are called as

1. Plasmodesmata
2. Symplast
3. Middle lamella
4. Apoplast

Options :

19088930541. 1

19088930542. 2

19088930543. 3

19088930544. 4

Question Number : 82 Question Id : 1908897663 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is dermal tissue?

1. Ground tissue
2. Epidermis
3. Xylem
4. Phloem

Options :

19088930545. 1

19088930546. 2

19088930547. 3

19088930548. 4

Question Number : 83 Question Id : 1908897664 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the discovered breakdown product of DNA

1. *trans*-Zeatin
2. Kinetin
3. Benzyl adenine
4. Thidiazuron

Options :

19088930549. 1

19088930550. 2

19088930551. 3

19088930552. 4

Question Number : 84 Question Id : 1908897665 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following statements is **false**?

1. Growth regulators stimulate plant cells to undergo cytokinesis
2. A portion of Ti-plasmid present in *Agrobacterium* is known as T-DNA
3. Coconut milk was shown to contain cytokinin, Zeatin
4. The auxin : cytokinin ratio does not regulate morphogenesis in cultured tissues

Options :

19088930553. 1

19088930554. 2

19088930555. 3

19088930556. 4

Question Number : 85 Question Id : 1908897666 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Cohesion, adhesion and surface tension of water give rise to a phenomenon termed

1. Tensile strength
2. Capillarity
3. Cavitation
4. Polarity

Options :

19088930557. 1

19088930558. 2

19088930559. 3

19088930560. 4

Question Number : 86 Question Id : 1908897667 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Gibberellins	I. Triple response
B. Auxin	II. Cell division factor
C. Cytokinin	III. Cell elongation
D. Ethylene	IV. α -amylase production
	V. Antimicrobial activity

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

1. A -IV , B -III , C -II , D - I
2. A -IV , B -III , C -II , D - V
3. A -I , B -II , C -V , D - IV
4. A -IV , B -II , C- III- , D - I

Options :

19088930561. 1

19088930562. 2

19088930563. 3

19088930564. 4

Question Number : 87 Question Id : 1908897668 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following scientists is NOT associated with early experiments in plant hormone auxin research?

1. Charles Darwin
2. Boysen-Jensen
3. F. W. Went
4. Folke Skoog

Options :

19088930565. 1

19088930566. 2

19088930567. 3

19088930568. 4

Question Number : 88 Question Id : 1908897669 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Plant cell membrane proteins that carryout primary active transport are called

1. Carriers
2. Pumps
3. Channels
4. Peripheral proteins

Options :

19088930569. 1

19088930570. 2

19088930571. 3

19088930572. 4

Question Number : 89 Question Id : 1908897670 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

During nitrogen assimilation in plants, transfer of nitrogen to different amino acids occurs through -

1. Craboxylation
2. Oxygenation
3. Transamination
4. Nitrification

Options :

19088930573. 1

19088930574. 2

19088930575. 3

19088930576. 4

Question Number : 90 Question Id : 1908897671 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The amount of water transpired by a plant divided by the amount of carbon dioxide assimilated is

1. Water use efficiency
2. Transpiration ratio
3. Quantum efficiency
4. Carbon assimilation

Options :

19088930577. 1

19088930578. 2

19088930579. 3

19088930580. 4

Question Number : 91 Question Id : 1908897672 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Aquaporins are water channel proteins abundantly found in:

1. Plasma membrane
2. Vacuolar membrane
3. Chloroplastic membrane
4. Endoplasmic reticulum

Options :

19088930581. 1

19088930582. 2

19088930583. 3

19088930584. 4

Question Number : 92 Question Id : 1908897673 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A characteristic symptom of interveinal chlorosis occurring first in the older leaves is due to the deficiency of -

1. Potassium
2. Magnesium
3. Calcium
4. Iron

Options :

19088930585. 1

19088930586. 2

19088930587. 3

19088930588. 4

Question Number : 93 Question Id : 1908897674 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Operation of C_2 oxidative photosynthetic cycle involves the cooperative interaction among three cellular organelles, namely,

1. Chloroplast, Mitochondria and Nucleus
2. Chloroplast, Mitochondria and Golgi body
3. Chloroplast, Mitochondria and Peroxisome
4. Chloroplast, Mitochondria and Vacuole

Options :

19088930589. 1

19088930590. 2

19088930591. 3

19088930592. 4

Question Number : 94 Question Id : 1908897675 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The ability of differentiated plant cells to revert to the embryonic state and form new patterns without an intervening reproductive stage is called

1. Embryogenesis
2. Totipotency
3. De-differentiation
4. Organogenesis

Options :

19088930593. 1

19088930594. 2

19088930595. 3

19088930596. 4

Question Number : 95 Question Id : 1908897676 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Phytoalexins	I. Flowering hormone
B. Florigen	II. Defense compounds against herbivore and pathogens
C. Phenolics	III. Antimicrobial activity
D. Terpenoids	IV. Proteinase inhibitor
	V. Carotenoids and sterols

Choose the correct answer from the options given below:

1. A - III, B - I, C - II, D - V
2. A - III, B - II, C - IV, D - I
3. A - I, B -III, C - IV, D - V
4. A - I, B -II, C -IV, D - V

Options :

19088930597. 1

19088930598. 2

19088930599. 3

19088930600. 4

Question Number : 96 Question Id : 1908897677 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Kranz anatomy is found in

1. C3 plants
2. C4 plants
3. CAM plants
4. Orchids

Options :

19088930601. 1

19088930602. 2

19088930603. 3

19088930604. 4

Question Number : 97 Question Id : 1908897678 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following growth regulator is involved in reducing transpiration under water-stress conditions in crop plants?

1. Gibberellins
2. Cytokinin
3. Abscisic acid
4. Auxin

Options :

19088930605. 1

19088930606. 2

19088930607. 3

19088930608. 4

Question Number : 98 Question Id : 1908897679 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Just before flowering, many dicot plants undergo extensive internode elongation. This phenomenon is called

1. Floral invocation
2. Bolting
3. Heading
4. Floral induction

Options :

19088930609. 1

19088930610. 2

19088930611.3

19088930612.4

Question Number : 99 Question Id : 1908897680 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The major component of Casparian strip is:

1. Suberin
2. Waxes
3. Starch
4. Sucrose

Options :

19088930613.1

19088930614.2

19088930615.3

19088930616.4

Question Number : 100 Question Id : 1908897681 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following hormones can be used as herbicide to kill dicot weeds?

1. GA3
2. NAA
3. BAP
4. 2,4-D

Options :

19088930617.1

19088930618.2

19088930619.3

19088930620. 4

**Question Number : 101 Question Id : 1908897682 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The scientist associated with the discovery of Cytokinin is:

1. M. Calvin
2. F. W. Went
3. F. Skoog
4. D. Neljubov

Options :

19088930621. 1

19088930622. 2

19088930623. 3

19088930624. 4

**Question Number : 102 Question Id : 1908897683 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Mineral elements are classified on the basis of their movement within a plant and their affinity to retranslocate during deficiencies. Highly immobile element in plant system is:

1. Nitrogen
2. Calcium
3. Potassium
4. Phosphorus

Options :

19088930625. 1

19088930626. 2

19088930627. 3

19088930628. 4

**Question Number : 103 Question Id : 1908897684 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The primary aim of regenerative agriculture is to target and improve

1. Crop growth
2. Crop yield
3. Disease resistance
4. Soil health

Options :

19088930629. 1

19088930630. 2

19088930631. 3

19088930632. 4

**Question Number : 104 Question Id : 1908897685 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Cotyledons are pushed upwards by the rapid elongation of the hypocotyls in

1. Hypogeal germination
2. Epigeal germination
3. Synchronised germination
4. Nocturnal germination

Options :

19088930633. 1

19088930634. 2

19088930635. 3

19088930636. 4

Question Number : 105 Question Id : 1908897686 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Spike disease is found in the following tree species:

1. *Tectona grandis*
2. *Santalum album*
3. *Cedrus deodara*
4. *Corymbia citriodora*

Options :

19088930637. 1

19088930638. 2

19088930639. 3

19088930640. 4

Question Number : 106 Question Id : 1908897687 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the tomato variety released from IIHR, Bangalore

1. Arka Saurabh
2. Arka Honey
3. Arka Anamika
4. Arka Spoorthi

Options :

19088930641. 1

19088930642. 2

19088930643. 3

19088930644. 4

Question Number : 107 Question Id : 1908897688 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In chickpea production, the major share of about 40% is contributed by which State?

1. Uttar Pradesh
2. Rajasthan
3. Andhra Pradesh
4. Madhya Pradesh

Options :

19088930645. 1

19088930646. 2

19088930647. 3

19088930648. 4

Question Number : 108 Question Id : 1908897689 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Commonly used statistical test in Mendelian Genetics/ Population Genetics is

1. F test
2. t - test
3. X^2 - test
4. Z - test

Options :

19088930649. 1

19088930650. 2

19088930651. 3

19088930652. 4

Question Number : 109 Question Id : 1908897690 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

"Brown Heart Disorder" in Apples is due to the accumulation of toxic substances, if

1. O₂ supply increased during storage
2. O₂ supply decreased during storage
3. CO₂ supply increased during storage
4. CO₂ supply decreased during storage

Options :

19088930653. 1

19088930654. 2

19088930655. 3

19088930656. 4

Question Number : 110 Question Id : 1908897691 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The enzyme responsible for production of bad smelling aldehyde in vegetables is:

1. Polyphenol Oxidase
2. Amylase
3. Protease
4. Lipo-oxidase

Options :

19088930657. 1

19088930658. 2

19088930659. 3

19088930660. 4

Question Number : 111 Question Id : 1908897692 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Endosperm is the storage structure in the seeds of :

1. Groundnut
2. Castor
3. Chickpea
4. Pigeonpea

Options :

19088930661. 1

19088930662. 2

19088930663. 3

19088930664. 4

Question Number : 112 Question Id : 1908897693 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Vernalization	I. F.T. Addicot
B. Photoperiodism	II. Gericke
C. Hydroponics	III. Lysenko
D. Abscission	IV. Garner & Allard
	V. Blackman

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

1. A - II, B - I, C - III, D - V
2. A - V, B - III, C - IV, D - II
3. A - IV, B - II, C - I, D - III
4. A - III, B - IV, C - II, D - I

Options :

19088930665. 1

19088930666. 2

19088930667. 3

19088930668. 4

Question Number : 113 Question Id : 1908897694 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
Particulars	Amino acid
A. Amino donor during photorespiration	I. Cysteine
B. Precursor for auxin biosynthesis	II. Methionine
C. Amino acid involved in secondary/ tertiary structure of proteins	III. Tryptophan
D. Precursor for ethylene biosynthesis	IV. Glutamate
	V. Glycine

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

1. A -III, B -II, C -IV, D -V
2. A -II, B -I, C -III, D -IV
3. A -I, B -IV, C -II, D -V
4. A -IV, B -III, C -I, D -II

Options :

19088930669. 1

19088930670. 2

19088930671. 3

19088930672. 4

Question Number : 114 Question Id : 1908897695 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The predominant soil type suitable for groundnut cultivation is:

1. Chalkas
2. Deep black soils
3. Red sandy soils
4. Alluvial soils

Options :

19088930673. 1

19088930674. 2

19088930675. 3

19088930676. 4

Question Number : 115 Question Id : 1908897696 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The organism used in the experiment in elucidation of C_3 pathway :

1. Chlorella
2. Drosophila
3. *E. coli*
4. Bacillus sp.

Options :

19088930677. 1

19088930678. 2

19088930679. 3

19088930680. 4

Question Number : 116 Question Id : 1908897697 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the crop with the highest Water Use Efficiency (WUE):

1. Sorghum
2. Alfalfa
3. Sugarbeet
4. Pineapple

Options :

19088930681. 1

19088930682. 2

19088930683. 3

19088930684. 4

Question Number : 117 Question Id : 1908897698 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The terms "Leaf Area Index (LAI)" and "Crop Growth Rate (CGR)" were coined by :

1. William
2. DJ Watson
3. West, Briggs & Kidd
4. Nichiporovich

Options :

19088930685. 1

19088930686. 2

19088930687. 3

19088930688. 4

Question Number : 118 Question Id : 1908897699 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The "Guttation" phenomenon is observed in:

1. Hydrophytes
2. Xerophytes
3. Chasmophytes
4. Graminae family

Options :

19088930689. 1

19088930690. 2

19088930691. 3

19088930692. 4

Question Number : 119 Question Id : 1908897700 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

An example of anti-browning compound used in the tissue culture medium is:

1. Coconut milk
2. Activated charcoal
3. Gelatin
4. Agar

Options :

19088930693. 1

19088930694. 2

19088930695. 3

19088930696. 4

Question Number : 120 Question Id : 1908897701 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A measure of physiological maturity in sugarcane is:

1. Crop height
2. Brix value
3. Cane girth
4. Leaf yellowing

Options :

19088930697. 1

19088930698. 2

19088930699. 3

19088930700. 4