

Telangana State Council Higher Education

Notations :

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✘ icon are incorrect.

Question Paper Name :	Bio Technology 3rd Aug 2022 Shift 1
Subject Name :	Bio Technology
Creation Date :	2022-08-03 15:05:15
Duration :	120
Total Marks :	120
Display Marks:	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Bio Technology

Group Number :	1
Group Id :	34058045
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	120
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Mathematics

Section Id :	34058082
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	34058082
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 3405805281 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The rank of the matrix $\begin{bmatrix} 1 & -2 & 3 & -4 \\ 4 & -5 & 2 & 1 \\ 3 & -3 & -1 & 5 \\ 7 & -1 & -1 & 3 \end{bmatrix}$ is

Options :

34058021121. ✖ 1

34058021122. ✖ 2

34058021123. ✔ 3

34058021124. ✖ 4

Question Number : 2 Question Id : 3405805282 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The vectors $(1, 3, -1)$, $(a, -5, 5)$, $(4, 7, -1)$ to be linearly dependent the value of a should be

Options :

34058021125. ✔ $\frac{5}{2}$

34058021126. ✖ $\frac{2}{5}$

34058021127. ✖ $\frac{3}{2}$

34058021128. ✖ $\frac{2}{3}$

**Question Number : 3 Question Id : 3405805283 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

If $a_{n+1} = n^2 + a_n$, then $a_{10} =$

Options :

34058021129. ✖ 285

34058021130. ✔ 286

34058021131. ✖ 287

34058021132. ✖ 288

**Question Number : 4 Question Id : 3405805284 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The maximum value of $4 + 3x - 4y - x^2 + xy - y^2$ is

Options :

34058021133. ✖ $\frac{25}{6}$

34058021134. ✓ $\frac{25}{3}$

34058021135. ✖ $\frac{25}{4}$

34058021136. ✖ 5

**Question Number : 5 Question Id : 3405805285 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

If a curve $y = f(x)$ passes through the point $(0, 1)$ and satisfies $f'(x) = xf(x)$, then
the curve is

Options :

34058021137. ✖ $y = -e^{-x^2/2}$

34058021138. ✖ $y = -e^{x^2/2}$

34058021139. ✖ $y = e^{-x^2/2}$

34058021140. ✓ $y = e^{x^2/2}$

**Question Number : 6 Question Id : 3405805286 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The particular integral of $y''+y = \sin 2x$ is

Options :

34058021141. ✘ $\frac{1}{3} \sin 2x$

34058021142. ✔ $\frac{-1}{3} \sin 2x$

34058021143. ✘ $\sin 2x$

34058021144. ✘ $-\sin 2x$

Question Number : 7 Question Id : 3405805287 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two fair dice are thrown. Then the probability that the sum on their faces is a prime is

Options :

34058021145. ✔ $\frac{5}{12}$

34058021146. ✘ $\frac{7}{18}$

34058021147. ✘ $\frac{1}{6}$

34058021148. ✘ $\frac{1}{9}$

Question Number : 8 Question Id : 3405805288 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The probability distribution of a random variable X is given by

x	1	2	3	4	5
P(X=x)	c	4c	9c	16c	25c

Then its mean is

Options :

34058021149. ✖ 4

34058021150. ✔ $\frac{45}{11}$

34058021151. ✖ $\frac{10}{3}$

34058021152. ✖ $\frac{15}{4}$

Question Number : 9 Question Id : 3405805289 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The sum of the series $\sum_{n=1}^{\infty} \frac{2^n}{(2n+1)!}$ is

Options :

34058021153. ✖ $-e$

34058021154. ✖ e

34058021155. ✖ e^{-2}

34058021156. ✔ e^{-1}

Question Number : 10 Question Id : 3405805290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Solving $x^3 - 3 = 0$ using secant method the iterative formula gives us

$$(X_{n-1} - X_n) (x_{n-1}^2 + x_{n-1}x_{n-2} + x_{n-2}^2) =$$

Options :

34058021157. ✔ $x_{n-1}^3 - 3$

34058021158. ✖ $x_{n-1}^3 - x_n^3$

34058021159. ✖ $x_{n-1}^3 - x_{n-2}^3$

34058021160. ✖ $x_n^3 - x_{n-2}^3$

Bio Technology

Section Id :	34058083
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	34058083
Question Shuffling Allowed :	Yes

**Question Number : 11 Question Id : 3405805291 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Separation of proteins through a semi-permeable membrane that retains proteins and allows small molecules to pass through is called

Options :

34058021161. ✘ SDS PAGE

34058021162. ✔ Dialysis

34058021163. ✘ Chromatography

34058021164. ✘ Ultracentrifugation

**Question Number : 12 Question Id : 3405805292 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The hormone that regulates the reabsorption of sodium ions and excretion of potassium ions by kidney tubules is

Options :

34058021165. ✘ Glucagon

34058021166. ✘ Adrenaline

34058021167. ✘ Cortisol

34058021168. ✔ Aldosterone

**Question Number : 13 Question Id : 3405805293 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The type of reaction catalyzed by transferase group of enzymes is

Options :

34058021169. ✘ Transfer of electrons

34058021170. ✘ Transfer of groups within molecules

34058021171. ✔ Transfer of functional groups

34058021172. ✘ Cleavage of bonds present

Question Number : 14 Question Id : 3405805294 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The major type of antibody secreted in response to allergic reactions is

Options :

34058021173. ✓ IgE

34058021174. ✗ IgA

34058021175. ✗ IgM

34058021176. ✗ IgD

Question Number : 15 Question Id : 3405805295 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The nucleotides present in the DNA molecules are covalently linked together by

Options :

34058021177. ✓ 3' – 5' phosphodiester bond

34058021178. ✗ 5' – 3' phosphodiester bond

34058021179. ✗ 2' – 5' phosphodiester bond

34058021180. ✗ 5' – 2' phosphodiester bond

Question Number : 16 Question Id : 3405805296 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Western blot is performed for the detection of

Options :

34058021181. Proteins

34058021182. DNA

34058021183. RNA

34058021184. Lipids

Question Number : 17 Question Id : 3405805297 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The antigen-binding site present in an antibody is called as

Options :

34058021185. Epitope

34058021186. Paratope

34058021187. Antigenic determinant

34058021188. Isotope

Question Number : 18 Question Id : 3405805298 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Glycolysis occurs in

Options :

34058021189. ✖ Mitochondria

34058021190. ✔ Cytoplasm

34058021191. ✖ Endoplasmic reticulum

34058021192. ✖ Nucleus

Question Number : 19 Question Id : 3405805299 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The midpoint of the temperature range over which 50 % of DNA is melted or denatured to single strands is called as

Options :

34058021193. ✖ Annealing temperature

34058021194. ✔ Melting temperature

34058021195. ✖ Denaturation temperature

34058021196. ✖ Extension temperature

Question Number : 20 Question Id : 3405805300 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During cell division, the replication of chromosomal DNA happens in

Options :

34058021197. ✖ M phase

34058021198. ✔ S phase

34058021199. ✖ G₁ phase

34058021200. ✖ G₀ phase

Question Number : 21 Question Id : 3405805301 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The consensus sequence in the nucleic acid that acts as a recognition site for RNA polymerase for the initiation of transcription is

Options :

34058021201. ✖ Kozak sequence

34058021202. ✖ Shine Dalgarno sequence

34058021203. ✔ Pribnow box

34058021204. ✖ Okazaki fragments

**Question Number : 22 Question Id : 3405805302 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A long-distance positive control sequence present either upstream or downstream of a gene is called

Options :

34058021205. ✓ **Enhancer**

34058021206. ✗ **Repressor**

34058021207. ✗ **Silencer**

34058021208. ✗ **Promoter**

**Question Number : 23 Question Id : 3405805303 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The technique used to study conformational changes of proteins is

Options :

34058021209. ✗ **Mass spectrometry**

34058021210. ✗ **Chromatography**

34058021211. ✓ **Circular dichroism spectroscopy**

34058021212. ✗ **Light microscopy**

**Question Number : 24 Question Id : 3405805304 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which one of the following is not a stop codon

Options :

34058021213. ✖ UAG

34058021214. ✖ UAA

34058021215. ✔ UGG

34058021216. ✖ UGA

**Question Number : 25 Question Id : 3405805305 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

In protein synthesis, the peptide bond formation between amino acids is catalyzed by
a part of ribosomal unit called

Options :

34058021217. ✖ Aminoacyl-tRNA synthetase

34058021218. ✖ Translocase

34058021219. ✖ Elongation factor EF-G

34058021220. ✓ Peptidyl transferase

**Question Number : 26 Question Id : 3405805306 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The viral genes that lead to transformation and cell proliferation are called

Options :

34058021221. ✓ Oncogenes

34058021222. ✘ Tumor suppressor genes

34058021223. ✘ Neogenes

34058021224. ✘ Progenes

**Question Number : 27 Question Id : 3405805307 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

How many ATPs are utilized in the glycolysis pathway for one molecule of glucose

Options :

34058021225. ✓ 2

34058021226. ✘ 1

34058021227. ✘ 3

34058021228. ✘ 4

**Question Number : 28 Question Id : 3405805308 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Purines and pyrimidines are nitrogen bases having _____ and _____ carbon-nitrogen rings respectively

Options :

34058021229. ✖ 1 and 1

34058021230. ✖ 1 and 2

34058021231. ✔ 2 and 1

34058021232. ✖ 1 and 3

**Question Number : 29 Question Id : 3405805309 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Phosphorylation of glucose by the conversion of ATP to ADP is catalyzed by

Options :

34058021233. ✔ Hexokinase

34058021234. ✖ Phosphoglucoisomerase

34058021235. ✖ Aldolase

34058021236. ✖ Phosphofructokinase

**Question Number : 30 Question Id : 3405805310 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Proteins are purified in gel filtration chromatography on the basis of

Options :

34058021237. ✖ Ligand specificity

34058021238. ✖ Affinity

34058021239. ✔ Size and shape

34058021240. ✖ Net charge

**Question Number : 31 Question Id : 3405805311 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Pick out the structural polysaccharide

Options :

34058021241. ✖ Starch

34058021242. ✖ Dextrin

34058021243. ✔ Chitin

34058021244. ✖ Inulin

**Question Number : 32 Question Id : 3405805312 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Full form of SCAR is

Options :

34058021245. ✖ Sequence colony amplified region

34058021246. ✖ Simple characterized amplified region

34058021247. ✔ Sequence characterized amplified region

34058021248. ✖ Simple chain amplified region

**Question Number : 33 Question Id : 3405805313 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

D-Glucose and D-Galactose are

Options :

34058021249. ✔ Epimers

34058021250. ✖ Anomers

34058021251. ✖ Isomers

34058021252. ✖ Ketosugars

**Question Number : 34 Question Id : 3405805314 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A grouping of plant ecosystems into a large distinct group occupying a major terrestrial region

Options :

34058021253. ✖ Community

34058021254. ✖ Colony

34058021255. ✖ Estuary

34058021256. ✔ Biome

**Question Number : 35 Question Id : 3405805315 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The metabolic precursor for de novo synthesis of nucleotides is

Options :

34058021257. ✔ Ribose-5-phosphate

34058021258. ✖ Ribulose-5-phosphate

34058021259. ✖ Glucose-1-phosphate

34058021260. ✖ Fructose-1-phosphate

**Question Number : 36 Question Id : 3405805316 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Sesquiterpenes contain _____ carbon atoms

Options :

34058021261. ✓ 15

34058021262. ✘ 30

34058021263. ✘ 10

34058021264. ✘ 20

**Question Number : 37 Question Id : 3405805317 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

DNA replication in eukaryotes is

Options :

34058021265. ✘ Dispersive

34058021266. ✘ Conservative

34058021267. ✘ Non-conservativeive

34058021268. ✓ Semi conservative

Question Number : 38 Question Id : 3405805318 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The rate at which a given solute molecule suspended in less dense solvent sediments in a field of centrifugal force is

Options :

34058021269. ✖ Velocity

34058021270. ✖ Relative centrifugal force

34058021271. ✖ Rotation per minute

34058021272. ✔ Svedberg unit

Question Number : 39 Question Id : 3405805319 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Shikimic acid pathway is involved in the synthesis of

Options :

34058021273. ✔ Aromatic amino acids

34058021274. ✖ Terpenes

34058021275. ✖ Alkaloids

34058021276. ✖ Steroids

**Question Number : 40 Question Id : 3405805320 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The rate of a _____ reaction is proportional to the square of the concentration of one reactant or to the product of the concentrations of two reactants

Options :

34058021277. ✖ Zero-order

34058021278. ✖ First-order

34058021279. ✔ Second-order

34058021280. ✖ Mixed order

**Question Number : 41 Question Id : 3405805321 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A product containing viable and defined microorganisms in sufficient numbers, which alter the micro flora and exert beneficial effects in the host is called

Options :

34058021281. ✔ Probiotics

34058021282. ✖ Prebiotics

34058021283. ✖ Synbiotics

34058021284. ✖ Dietary proteins

**Question Number : 42 Question Id : 3405805322 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

If the nucleotide composition (%) of a viral genome is A = 20, U = 10, C = 20 and
G = 30, which one of the following is this

Options :

34058021285. ✘ Double stranded RNA

34058021286. ✔ Single stranded RNA

34058021287. ✘ Double stranded DNA

34058021288. ✘ Single stranded DNA

**Question Number : 43 Question Id : 3405805323 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Tryptophan is the precursor of _____ plant growth regulator

Options :

34058021289. ✔ Auxin

34058021290. ✘ Cytokinin

34058021291. ✘ Ethylene

34058021292. ✖ Gibbrelins

**Question Number : 44 Question Id : 3405805324 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The secretory proteins that are synthesized in ribosomes present in endoplasmic reticulum traverse to plasma membrane through _____

Options :

34058021293. ✖ Mitochondria

34058021294. ✖ Nucleus

34058021295. ✖ Peroxisomes

34058021296. ✔ Golgi bodies

**Question Number : 45 Question Id : 3405805325 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The introns present in mRNA are removed by a process called

Options :

34058021297. ✖ Polyadenylation

34058021298. ✔ Splicing

34058021299. ✖ Termination

34058021300. ✖ RNA editing

**Question Number : 46 Question Id : 3405805326 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The character-based method used for the construction of a phylogenetic tree is

Options :

34058021301. ✖ Sampling

34058021302. ✖ Neighbor joining

34058021303. ✔ Maximum likelihood

34058021304. ✖ Bootstrapping

**Question Number : 47 Question Id : 3405805327 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

In animal cell culture, which of the pH indicator is used

Options :

34058021305. ✖ Acridine orange

34058021306. ✖ Coomassie blue

34058021307. ✔ Phenol red

34058021308. ✖ Crystal violet

**Question Number : 48 Question Id : 3405805328 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

DNA staining is done by

Options :

34058021309. ✖ Crystal violet

34058021310. ✖ Giemsa staining

34058021311. ✖ Methylene blue

34058021312. ✔ Feulgen staining

**Question Number : 49 Question Id : 3405805329 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Hydrogen bonds are

Options :

34058021313. ✖ Weaker than Vander waals force

34058021314. ✔ Result of electrostatics interactions

34058021315. ✖ Stronger than covalent bonds

34058021316. ✖ Non directional

**Question Number : 50 Question Id : 3405805330 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

To purify a recombinant protein of your interest, using which of the following molecule will you tag the protein to purify using nickel chromatography columns

Options :

34058021317. ✖ GST

34058021318. ✔ Hexa histidine

34058021319. ✖ Histamine

34058021320. ✖ Proline

**Question Number : 51 Question Id : 3405805331 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following is suitable for cloning 140kb eukaryotic DNA fragments for constructing genomic library

Options :

34058021321. ✖ Phage

34058021322. ✖ Plasmid

34058021323. ✔ BAC

34058021324. ✖ YAC

Question Number : 52 Question Id : 3405805332 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which sequence of events occurs in the process of making a transgenic animal

Options :

Isolation of target gene → Microinjection into pronucleus → Gene expression →

34058021325. ✖ Insertion into vector → Protein Purification

Gene expression → Protein Purification → Isolation of target gene → Insertion

34058021326. ✖ into vector → Microinjection into pronucleus

Isolation of target gene → Insertion into vector → Microinjection into pronucleus

34058021327. ✔ → Gene expression → Protein Purification

Isolation of target gene → Insertion into vector → Protein Purification → Gene

34058021328. ✖ expression → Microinjection into pronucleus

Question Number : 53 Question Id : 3405805333 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the statement hold true for Quantitative PCR

Options :

34058021329. ✖ Green fluorescent protein (GFP) is used in this PCR

34058021330. ✖ A fluorescent dye is used which binds on single stranded DNA molecules

The quantity of DNA is simply measured by measuring the amount of PCR

34058021331. ✔ Product

34058021332. ✖ This approach is useful if the products are non-specific in nature

Question Number : 54 Question Id : 3405805334 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If two heterozygotes ($Aa * Aa$) are crossed, the F_2 generation will be

Options :

34058021333. ✖ 1:3 of heterozygous : homozygous

34058021334. ✖ All heterozygous

34058021335. ✔ 1:1 of homozygous : heterozygous

34058021336. ✖ 1:3 of homozygous : heterozygous

Question Number : 55 Question Id : 3405805335 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following represents a sexual reproduction form

Options :

34058021337. ✖ Budding

34058021338. ✖ Fission

34058021339. ✔ Hermaphroditism

34058021340. ✖ Regeneration

Question Number : 56 Question Id : 3405805336 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

How many map units is a recombination frequency of 10 percent equal to

Options :

34058021341. ✖ 2.5 centimorgans

34058021342. ✔ 10 centimorgans

34058021343. ✖ 25 centimorgans

34058021344. ✖ 5 centimorgans

Question Number : 57 Question Id : 3405805337 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The increased intake of sugary foods stimulate the increased production of

Options :

34058021345. ✓ Insulin

34058021346. ✘ Epinephrine

34058021347. ✘ Adrenocorticotropin (ACTH)

34058021348. ✘ Glucagon

Question Number : 58 Question Id : 3405805338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A gene coding for 40 kDa eukaryotic protein from a eukaryote was cloned in an *E. coli* plasmid under the lac promoter and operator. Upon addition of IPTG, the protein was not detected. What might be the reason for this observation

Options :

34058021349. ✘ Cloned sequence lacked the Kozak sequence

34058021350. ✘ *E. coli* is not suitable for the expression of proteins larger than 30 kDa

34058021351. ✓ Differences in codon preference in translation

34058021352. ✘ 40 kDa protein contains a nuclear localization signal

Question Number : 59 Question Id : 3405805339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which one of the following techniques will be preferred if the task is to find more than 1000 differentially expressed genes in normal and tumour tissues in one single experiment

Options :

34058021353. ✓ Transcriptome analysis

34058021354. ✗ Genome sequencing

34058021355. ✗ ChIP assay

34058021356. ✗ RFLP

Question Number : 60 Question Id : 3405805340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

E. coli is cultured in a medium containing two carbon sources: Glucose which is the preferred carbon source and Lactose which is a non-preferred source. In this given media, what is the expected growth pattern of *E. coli*

Options :

34058021357. ✗ Growth curve will be the same as when grown in presence of only glucose

34058021358. ✗ Growth curve will be the same as when grown in presence of only lactose.

34058021359. ✓ A lag phase will be observed between the two exponential phases

34058021360. ✗ Two lag phases will be observed between the two exponential phases

**Question Number : 61 Question Id : 3405805341 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The two male children of the same parents who inherit 50% of the mother genome and 50% from the father show lot of phenotypic differences. During gametogenesis, what might happen that explains the difference between their phenotypes

Options :

34058021361. ✖ Mutation

34058021362. ✖ Recombination

34058021363. ✔ Independent assortment

34058021364. ✖ Environment

**Question Number : 62 Question Id : 3405805342 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which one of the following techniques works on the principle of spin angular momentum of a photon

Options :

34058021365. ✔ CD spectroscopy

34058021366. ✖ Fluorescence spectroscopy

34058021367. ✖ IR spectroscopy

34058021368. ✖ FTIR

**Question Number : 63 Question Id : 3405805343 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

To develop fed-batch cultivation, what strategy could be followed

Options :

34058021369. ✔ Processes with substrate inhibition

34058021370. ✖ Processes with product inhibition

34058021371. ✖ Ultra-low cell density cultivation

34058021372. ✖ No inhibition strategy should be involved

**Question Number : 64 Question Id : 3405805344 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

What is the most suitable type of impeller for mixing high viscosity fluids (> 105 cP)

Options :

34058021373. ✖ Propeller

34058021374. ✔ Helical ribbon

34058021375. ✖ Paddle

34058021376. ✖ Flat blade turbine

Question Number : 65 Question Id : 3405805345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following does not occur in stationary phase of bacterial growth

Options :

34058021377. ✖ The cell number rise stops for all types of bacteria

34058021378. ✔ Cell size increases in some Gram-negative bacteria such as *Escherichia coli*

34058021379. ✖ Growth rate of bacterial cells nearly equals their death rate

34058021380. ✖ Decrease in peptidoglycan crosslinking

Question Number : 66 Question Id : 3405805346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

To identify homologs of a genomic DNA query in a protein sequence database, the BLAST programme used is

Options :

34058021381. ✖ Blastp

34058021382. ✖ Blastn

34058021383. ✔ Blastx

34058021384. ✖ Tblastn

**Question Number : 67 Question Id : 3405805347 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The control of metabolic pathways when an enzyme early on in the pathway is inhibited by an end-product of the metabolic pathway is called

Options :

34058021385. ✖ Dissociation

34058021386. ✖ Transition

34058021387. ✖ Competitive inhibition

34058021388. ✔ Feedback inhibition

**Question Number : 68 Question Id : 3405805348 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which enzyme cuts the IgG molecule to release the two arms of the Y shaped molecule of Fab

Options :

34058021389. ✔ Papain

34058021390. ✖ Trypsin

34058021391. ✖ Chymotrypsin

34058021392. ✖ RNase

**Question Number : 69 Question Id : 3405805349 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Human mitochondria inherits genetic information from

Options :

34058021393. ✖ X linked trait

34058021394. ✖ only Father

34058021395. ✔ only Mother

34058021396. ✖ Y chromosome

**Question Number : 70 Question Id : 3405805350 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

In mustard, the genetically engineered male sterile crops plants have been produced
by introducing

Options :

34058021397. ✖ Viral coat protein gene

34058021398. ✖ Chitinase gene

34058021399. ✔ Barnase gene

34058021400. ✖ Opaque Z-gene

**Question Number : 71 Question Id : 3405805351 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The spindle fibres produced during mitotic cell division are made up of

Options :

34058021401. ✔ Chromatin

34058021402. ✖ Actin

34058021403. ✖ Nucleoprotein

34058021404. ✖ Tubulin

**Question Number : 72 Question Id : 3405805352 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which statement is true regarding house-keeping genes

Options :

34058021405. ✖ They are inducible genes

34058021406. ✖

They are expressed only in tumor cells

34058021407. ✓ They are expressed in all cells

34058021408. ✘ They do not express at all

**Question Number : 73 Question Id : 3405805353 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

What is a gene

Options :

34058021409. ✘ Also called as a chromosome.

34058021410. ✓ Basic unit of heredity and a sequence of nucleotides

34058021411. ✘ Made of RNA

34058021412. ✘ Made by a ribosome.

**Question Number : 74 Question Id : 3405805354 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A scientist found that a mutation had no effect on the polypeptide coded by a gene.

This mutation probably involved

Options :

34058021413. ✖ Deletion of one nucleotide

34058021414. ✖ Alteration of the start codon

34058021415. ✖ Insertion of one nucleotide

34058021416. ✔ Substitution of one nucleotide

**Question Number : 75 Question Id : 3405805355 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following is a primate cell line

Options :

34058021417. ✖ HeLa

34058021418. ✔ COS-7

34058021419. ✖ MCF-7

34058021420. ✖ HL60

**Question Number : 76 Question Id : 3405805356 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following techniques is capable of providing a large surface area to cells
in small volumes of media

Options :

34058021421. ✓ Microcarriers

34058021422. ✘ Macrocarriers

34058021423. ✘ Roller culture system

34058021424. ✘ Semi-permeable membrane

**Question Number : 77 Question Id : 3405805357 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Downstream processing becomes easy using which of the given methods

Options :

34058021425. ✘ Multiplate culture

34058021426. ✘ Roller culture system

34058021427. ✓ Encapsulation

34058021428. ✘ Semi-permeable membrane

**Question Number : 78 Question Id : 3405805358 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Overexpression of which gene slows senescence and apoptotic cell death

Options :

34058021429. ✓ hTERT

34058021430. ✖ p21

34058021431. ✖ Bcl-2

34058021432. ✖ c-Myc

**Question Number : 79 Question Id : 3405805359 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Immortalization of animal cell lines cannot be achieved by

Options :

34058021433. ✖ Irradiation

34058021434. ✖ p53 inactivation

34058021435. ✖ Transfection with oncogenes

34058021436. ✔ Serum inactivation

**Question Number : 80 Question Id : 3405805360 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following chemical is used in the chemical gene transformation method

Options :

34058021437. ✖ Cu

34058021438. ✖ FeSO_4

34058021439. ✖ SO_2

34058021440. ✔ CaCl_2

**Question Number : 81 Question Id : 3405805361 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Lamda virus enters into bacteria through

Options :

34058021441. ✖ Pillus

34058021442. ✖ Lactose receptor

34058021443. ✔ Maltose receptor

34058021444. ✖ Conjugation

**Question Number : 82 Question Id : 3405805362 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

How many DNA duplexes are obtained from one DNA duplex after 5 cycles of PCR

Options :

34058021445. ✖ 24

34058021446. ✖ 20

34058021447. ✔ 32

34058021448. ✖ 10

**Question Number : 83 Question Id : 3405805363 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Short DNA sequence having single occurrence in genome is

Options :

34058021449. ✖ Expressed sequence tag

34058021450. ✔ Sequence tagged site

34058021451. ✖ Complex RNA

34058021452. ✖ Complex DNA

**Question Number : 84 Question Id : 3405805364 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The location of plasmid DNA can be visualized by addition of

Options :

34058021453. ✖ Bromophenol blue

34058021454. ✓ Ethidium bromide

34058021455. ✘ Ortho xylene

34058021456. ✘ EDTA

**Question Number : 85 Question Id : 3405805365 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A process carried out by nitrifying bacteria to transform soil ammonia into nitrates is called as

Options :

34058021457. ✓ Nitrification

34058021458. ✘ Denitrification

34058021459. ✘ Ammonification

34058021460. ✘ Nitrogen fixation

**Question Number : 86 Question Id : 3405805366 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

If the pituitary gland of brain has to send signal to stimulate the production of thyroxine to thyroid gland, what type of cell signaling it follows

Options :

34058021461. ✖ Paracrine signalling

34058021462. ✖ Autocrine signalling

34058021463. ✔ Endocrine signalling

34058021464. ✖ Direct signalling

**Question Number : 87 Question Id : 3405805367 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

How many checkpoints are present to monitor the proper cell division to occur

Options :

34058021465. ✖ 1

34058021466. ✔ 3

34058021467. ✖ 5

34058021468. ✖ 2

**Question Number : 88 Question Id : 3405805368 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The term used to describe the phenomena of traits that are determined by more than one gene is called as

Options :

34058021469. ✖ Recessive

34058021470. ✖ Pleiotropy

34058021471. ✖ Dominance

34058021472. ✔ Polygenic Inheritance

Question Number : 89 Question Id : 3405805369 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hemophilia is caused by a mutation in genes located on the X chromosome. If a mother is a heterozygous with normal and hemophilia alleles and father is hemizygous with normal allele, which statement is false with respect to their offspring in this condition

Options :

34058021473. ✔ There is 100 % chance their daughter will get hemophilia

34058021474. ✖ There is 50 % chance their son will get hemophilia

34058021475. ✖ Daughter might be a carrier with a heterozygous alleles

34058021476. ✖ Daughter might be healthy with hemizygous normal alleles

**Question Number : 90 Question Id : 3405805370 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The most common phenotype in a natural population is termed as

Options :

34058021477. ✖ Genotype

34058021478. ✔ Wild type

34058021479. ✖ Autosome

34058021480. ✖ Mutant phenotype

**Question Number : 91 Question Id : 3405805371 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following is true with regard to both mitochondria and chloroplast

Options :

34058021481. ✖ Present within the nucleus

34058021482. ✖ Have linear DNA

34058021483. ✔ Carry extra nuclear genes

34058021484. ✖ Display a Mendelian pattern of inheritance

**Question Number : 92 Question Id : 3405805372 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which molecular biology technique can be used to study protein-protein interactions and protein-DNA interactions

Options :

34058021485. ✓ Yeast two hybrid

34058021486. ✘ Hybridoma technique

34058021487. ✘ Western blotting

34058021488. ✘ PAGE

**Question Number : 93 Question Id : 3405805373 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

_____ is a repository for 3D structural data of proteins and nucleic acids

Options :

34058021489. ✘ NDIS

34058021490. ✘ FASTA

34058021491. ✘ BLAST

34058021492. ✓ PDB

**Question Number : 94 Question Id : 3405805374 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Respiratory quotient is defined as the moles of ____ produced per mole of ____ consumed.

Options :

34058021493. ✘ O_2, CO_2

34058021494. ✔ CO_2, O_2

34058021495. ✘ CO, O_2

34058021496. ✘ O_2, CO

**Question Number : 95 Question Id : 3405805375 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Left handed helix is present in which form of DNA

Options :

34058021497. ✘ A form

34058021498. ✘ B form

34058021499. ✔ Z form

34058021500. ✖ C form

**Question Number : 96 Question Id : 3405805376 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

In the development of Flavr Savr tomato, genetic transformation was done with an antisense expression cassette of _____ gene

Options :

34058021501. ✔ Polygalacturonase

34058021502. ✖ Protease

34058021503. ✖ Phytoene desaturase

34058021504. ✖ Cry

**Question Number : 97 Question Id : 3405805377 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The degree of reduction of ethanol is _____

Options :

34058021505. ✖ 4

34058021506. ✖ 2

34058021507. ✖ 8

34058021508. ✓ 6

**Question Number : 98 Question Id : 3405805378 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which method is employed for the repeated use of enzymes in bioprocesses

Options :

34058021509. ✘ Polymerization

34058021510. ✓ Immobilization

34058021511. ✘ Ligation

34058021512. ✘ Isomerization

**Question Number : 99 Question Id : 3405805379 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

When two or more different genes (non-allelic) influence the outcome of single trait,
this is known as

Options :

34058021513. ✓ Gene interaction

34058021514. ✘ Interference

34058021515. ✖ Mutation

34058021516. ✖ Gene disintegration

**Question Number : 100 Question Id : 3405805380 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

_____ involves the modification of the environment to stimulate the existing bacteria capable of bioremediation

Options :

34058021517. ✖ Bioaugmentation

34058021518. ✖ Bioventing

34058021519. ✖ Biosparging

34058021520. ✔ Biostimulation

**Question Number : 101 Question Id : 3405805381 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

Which parameter describes the number of hits one can 'expect' to see by chance when searching a database of a particular size

Options :

34058021521. ✖ Gap score

34058021522. ✔ E-value

34058021523. ✖ Missing values

34058021524. ✖ Similarity percent

**Question Number : 102 Question Id : 3405805382 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

What is the first recombinant pharmaceutical protein produced in plants

Options :

34058021525. ✖ Growth factor

34058021526. ✖ Interleukins

34058021527. ✔ Human serum albumin

34058021528. ✖ Insulin

**Question Number : 103 Question Id : 3405805383 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true regarding the aeration

Options :

34058021529. ✖ As the rate of aeration increase citric acid production decreases

34058021530. ✖ As the rate of aeration decrease citric acid production increases

34058021531. ✖ The rate of aeration has no effect on citric acid yield

34058021532. ✔ yields of citric acid
The rate of aeration either higher or lower than the optimum rate gives lower

**Question Number : 104 Question Id : 3405805384 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A microorganism grows in a continuous chemostat culture of 60 m^3 working volume with sucrose as the growth limiting nutrient at dilution rate, $D = 0.55 \text{ h}^{-1}$. The steady state biomass concentration is $4.5 \text{ kg dry biomass m}^{-3}$ and the residual sucrose concentration in the incoming feed medium is 10 kg m^{-3} . What would be the yield $Y_{x/s}$ (kg biomass/kg substrate)

Options :

34058021533. ✔ 0.562

34058021534. ✖ 0.462

34058021535. ✖ 0.362

34058021536. ✖ 0.162

Question Number : 105 Question Id : 3405805385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Wash out (as defined by $D = \mu_{\max}$) of a continuous stirred tank fermenter is characterized by (X = biomass; S = substrate concentration in bioreactor; S_0 = substrate concentration in feed; P = product concentration in bioreactor)

Options :

34058021537. ✖ $X = 0; S = 0; P = 0$

34058021538. ✔ $X = 0; S = S_0; P = 0$

34058021539. ✖ $X = 0; S < 0; P = 0$

34058021540. ✖ $X < 0; S < 0; P < 0$

Question Number : 106 Question Id : 3405805386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements best describes properties of interleukin 1 (IL-1)

Options :

34058021541. ✔ It is a macrophage derived product

34058021542. ✖ It does not activate B-cells

34058021543. ✖ It may stimulate cytotoxic B-cells

34058021544. ✖ There is single biologically active form

**Question Number : 107 Question Id : 3405805387 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

For PCR amplification of the sequence

ATCTTCTACG.....AAGCTTGCGG

TAGAAGATGCTTCGAACGCC

the required primers are

Options :

34058021545. ✔ ATCTTCTA and CGAACGCC

34058021546. ✖ ATCTTCTA and CCGCAAGC

34058021547. ✖ TAGAAGAT and CGAACGCC

34058021548. ✖ TAGAAGAT and CCGCAAGC

**Question Number : 108 Question Id : 3405805388 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following RNA molecules is correctly matched with its function

Options :

34058021549. ✖ tRNA used to transport amino acids to ribosomes

34058021550. ✖ rRNA-RNA molecules involved in DNA recombination

34058021551. ✖ mRNA used as a template for RNA synthesis

34058021552. ✔ s-RNA involved in the synthesis of proteins in the cytoplasm

**Question Number : 109 Question Id : 3405805389 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A man is brought to court in a paternity case. He has blood type B, Rh+ve. The mother has blood group B, Rh -ve. The child's blood type is A, Rh -ve. Which statement about man is correct

Options :

34058021553. ✖ He is the father

34058021554. ✖ He might be the father

34058021555. ✔ He is not the father

34058021556. ✖ He might not be the father

**Question Number : 110 Question Id : 3405805390 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Which of the following relations holds true for the specific growth rate μ of a microorganism in the death phase

Options :

34058021557. ✘ $\mu = 0$

34058021558. ✔ $\mu < 0$

34058021559. ✘ $\mu = \mu_{\max}$

34058021560. ✘ $0 < \mu < \mu_{\max}$

Question Number : 111 Question Id : 3405805391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which effectors can eradicate parasites

Options :

34058021561. ✘ Macrophages

34058021562. ✘ Neutrophils

34058021563. ✘ Complement

34058021564. ✔ Eosinophils

Question Number : 112 Question Id : 3405805392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which type of cell specifically destroys virally infected body cells

Options :

34058021565. ✓ Cytotoxic T lymphocytes

34058021566. ✘ Activated B lymphocytes

34058021567. ✘ Phagocytic macrophages

34058021568. ✘ Plasma Cells

Question Number : 113 Question Id : 3405805393 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The first vaccine developed from animal cell culture was

Options :

34058021569. ✘ Hepatitis B vaccine

34058021570. ✘ Influenza vaccine

34058021571. ✘ Small pox vaccine

34058021572. ✓ Polio vaccine

Question Number : 114 Question Id : 3405805394 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In chemostat under carbon limited conditions, a plot $1/Y$ versus $1/D$ yields

Options :

34058021573. ✓ Straight line with slope m

34058021574. ✗ Straight line with slope $1/m$

34058021575. ✗ Sigmoid line with slope m

34058021576. ✗ Sigmoid line with slope $1/m$

**Question Number : 115 Question Id : 3405805395 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

The hormone pairs required for a callus to differentiate are

Options :

34058021577. ✓ Auxin and cytokinin

34058021578. ✗ Auxin and gibberellin

34058021579. ✗ Ethylene and gibberellin

34058021580. ✗ Cytokinin and gibberellin

**Question Number : 116 Question Id : 3405805396 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A totipotent cell means

Options :

34058021581. ✓ An undifferentiated cell capable of developing into a system or entire plant

34058021582. ✘ An undifferentiated cell capable of developing into an organ

34058021583. ✘ An undifferentiated cell capable of developing into a complete embryo

34058021584. ✘ Cell which lacks the capability to differentiate into an organ or system

**Question Number : 117 Question Id : 3405805397 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Prosite is a data base for

Options :

34058021585. ✓ Searching the pattern

34058021586. ✘ Searching for ligand

34058021587. ✘ Searching for RNA

34058021588. ✘ Searching for DNA

**Question Number : 118 Question Id : 3405805398 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

A culture of bacteria is infected with bacteriophage at a multiplicity of 0.3. The probability of a single cell infected with 3 phages is

Options :

34058021589. ✖ 0.9

34058021590. ✖ 0.27

34058021591. ✖ 0.009

34058021592. ✔ 0.027

Question Number : 119 Question Id : 3405805399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Hybridoma cells have an application to produce

Options :

34058021593. ✖ Antigens

34058021594. ✔ Antibodies

34058021595. ✖ Cancer cells

34058021596. ✖ Cell lines

Question Number : 120 Question Id : 3405805400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The technique used to detect the presence of DNA or RNA in a non-fractionated DNA sample is

Options :

34058021597. ✘ Colony hybridization

34058021598. ✘ In-situ hybridization

34058021599. ✔ Dot blot technique

34058021600. ✘ Western blotting