Andhra Pradesh State Council of Higher Education

Notations:

Change Theme:

Help Button:

Show Reports:

1.Options shown in green color and with ✓ icon are correct.

2.Options shown in red color and with **x** icon are incorrect.

Question Paper Name :	Bio Technology 29th May 2023 Shift 1
Duration :	120
Total Marks :	120
Display Marks:	No
Share Answer Key With Delivery Engine :	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

No

No

No

Show Progress Bar: No Is this Group for Examiner?: No **Examiner permission: Cant View Show Progress Bar?:** Nο **Bio Technology** Section Id: 78773221 **Section Number: Mandatory or Optional:** Mandatory **Number of Questions:** 120 **Section Marks:** 120 **Enable Mark as Answered Mark for Review and** Yes **Clear Response: Maximum Instruction Time:** 0 Is Section Default?: null Question Number: 1 Question Id: 7877322401 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following method is most useful for the enzymatic amplification of specific gene segment of DNA. **Options: DNA** Hybridization 1. * Nucleotide sequencing Polymerase chain reaction

Reverse transcription

Question Number : 2 Question Id : 7877322402 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Prokaryotic cells are more resistant to osmotic shock than eukaryotic cells because

Options:

- Their cell wall is composed of peptidoglycan
- They are selectively permeable
- They contain osmoregulation porins
- They block water molecules from entering the cell

Question Number: 3 Question Id: 7877322403 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Fixation of atmospheric nitrogen is by means of

- Biological process
- 2. * Lightening

Ultraviolet light 4. ✓ All of the above Question Number: 4 Question Id: 7877322404 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following is most effective chemical mutagen **Options:** Methane 2. * Guanine 3. ✓ N-ethyl-N-nitrosourea 4. * Caffeine Question Number: 5 Question Id: 7877322405 Display Question Number: Yes Is Question

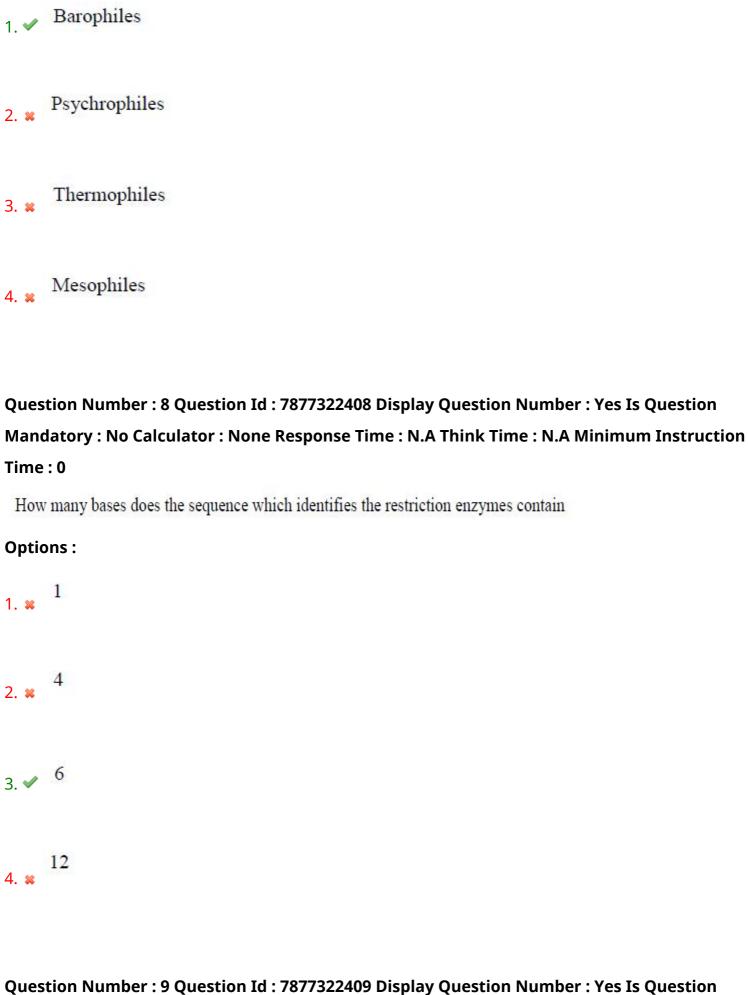
Question Number : 5 Question Id : 7877322405 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Microbes capable of growing either in presence or absence of oxygen

Options:

1. * Aerobic

2. * *	Anaerobic
3. *	Obligate aerobic
4. 🗸	Facultative anaerobe
_	on Number : 6 Question Id : 7877322406 Display Question Number : Yes Is Question ntory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction 0
All the	e statements are true regarding RFLP and RAPD except the following one
Option	ns:
1. x	RAPD is a quick method compared to RFLP
2. ×	RFLP is more reliable than RAPD
3. 🗸	Species specific primers are required for RAPD
4. x	Radioactive probes are required for RAPD
	on Number : 7 Question Id : 7877322407 Display Question Number : Yes Is Question
Manda Time :	itory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction 0
Bacte	eria which can grow at moderately high hydrostatic pressure



Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0

A cloning vector is a carrier DNA molecule to which the human DNA fragment is attached in DNA transfer, the vector used from smallest to largest is

Options:

- Bacteriophage > Plasmids > BAC (Bacterial artificial chromosome) > Cosmids
- Cosmids > Plasmids > Bacteriophage > BAC (Bacterial artificial chromosome).
- Plasmids > Bacteriophage > Cosmids > BAC (Bacterial artificial chromosome).
- BAC (Bacterial artificial chromosome) > Cosmids > Plasmids > Bacteriophage.

Question Number : 10 Question Id : 7877322410 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The action of ultraviolet radiation on DNA to induce mutation is the

- Formation of thymine dimer
- Methylation of base pairs
- Deletion of base pairs
- Addition of base pairs

Question Number: 11 Question Id: 7877322411 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

How dark reaction differs from light reaction

Options:

- 1. Carbohydrates are formed
- 2. * ATP is formed
- Carbon dioxide is produced
- NADPH is produced

Question Number: 12 Question Id: 7877322412 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Total number of ATPs produced during electron transport chain

- 1. **2** ATPs
- 2. **×** 10 ATPs
- 3. **3** 20 ATPs

4. **✓** 32 ATPs

Question Number: 13 Question Id: 7877322413 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Interaction of more than one polypeptide in to protein complex influenced by "R" group.

Options:

- 1. * Primary structure
- Secondary structure
- Tertiary structure
- Quaternary structure

Question Number : 14 Question Id : 7877322414 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Phospholipids are

- Simple lipids
- 2. ✓ Complex lipids

3. Derived lipids Miscellaneous lipids Question Number: 15 Question Id: 7877322415 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which one of the following is not among the six internationally accepted classes of enzymes **Options:** Hydrolases Transferases 3. * Ligases 4. ✓ Polymerase Question Number: 16 Question Id: 7877322416 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 To calculate the turnover number of an enzyme, you need to know **Options:**

Enzyme concentration

Initial velocity of catalysed reaction at [S] >> Km 2. ** Km for the substrate 3 💥 Both Enzyme concentration and Initial velocity of catalysed reaction at [S] >> Km Question Number: 17 Question Id: 7877322417 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Phases observed in Mitosis are as follows **Options:** Prophase > Anaphase > Telophase > Metaphase2. ✓ Prophase > Metaphase > Anaphase > Telophase Metaphase > Telophase > Prophase > AnaphaseTelophase > Anaphase > Metaphase > Prophase 4. **

Question Number: 18 Question Id: 7877322418 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The toxin of Vibrio cholerae causes profuse diarrhea because it

1. ✓ Modifies a G protein involved in regulating salt and water secretion.
Modifies calmodulin and activates a cascade of protein kinases.
Binds with adenylyl cyclase and triggers the formation of cAMP.
Signals inositol trisphosphate to become a second messenger for the release of calcium.
Question Number : 19 Question Id : 7877322419 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instructio
Time: 0
When a cell releases a signal molecule into the environment and a number of cells in the
immediate vicinity responds, this type of signalling is
Options :
1. * Autocrine signalling.
2. ✓ Paracrine signalling.
Endocrine signalling. 3. **
Synaptic signalling 4. *
Question Number : 20 Question Id : 7877322420 Display Question Number : Yes Is Question

Mano	datory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time	:0
Oxy	vgenic photosynthesis uses
Optio	ons:
1. 🗶	Photosystem I
2. 🕊	Photosystem II
3. 🗸	Photosystem I and II
4. 💥	Photosystem III
	tion Number : 21 Question Id : 7877322421 Display Question Number : Yes Is Question datory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction : 0
The	nucleotide sequence data base (Gen bank) is maintained by
Optio	ons:
1. 🗶	DNA data base of Japan (DDBJ)
2. 💥	European Molecular Biology Laboratory (EMBL)
3. 🗸	National Center for Biotechnology Information (NCBI)
	Brookhaven Laboratory

Question Number: 22 Question Id: 7877322422 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which of the statements regarding gram staining is wrong

Options:

- 1. Mycobacterium tuberculosis stains blue because of the thick lipid layer
- 2. * Streptococcus pyogenes stains blue because of a thick peptidoglycan layer
- Escherichia coli stains pink because of a thin peptidoglycan layer
- Mycoplasma pneumoniae is not visible in the Gram's stain because it has no cell wall

Question Number: 23 Question Id: 7877322423 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The prokaryotic cell membrane

- Contains metabolic enzymes
- Is selectively permeable
- Regulates the entry and exit of materials

Contains proteins and phospholipids

Question Number : 24 Question Id : 7877322424 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following tools is used to analyse your protein sequence motifs

Options:

- 1. PROSPECT
- 2. ✓ COPIA
- 3. * BLAST
- Pattern hunter

Question Number : 25 Question Id : 7877322425 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which plasmid contains genes coding for the degradation of Toluene.

Options:

1. * Ti

Ri

2. 💥

3. **V** Tol ColE1 Question Number: 26 Question Id: 7877322426 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Liposome mediated gene transfer is more suitable for **Options:** Prokaryotic cell Yeast cell Plant cell 4. ✓ Animal cell Question Number: 27 Question Id: 7877322427 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Technique for transferring foreign DNA into a host organisms DNA is known as

Options:

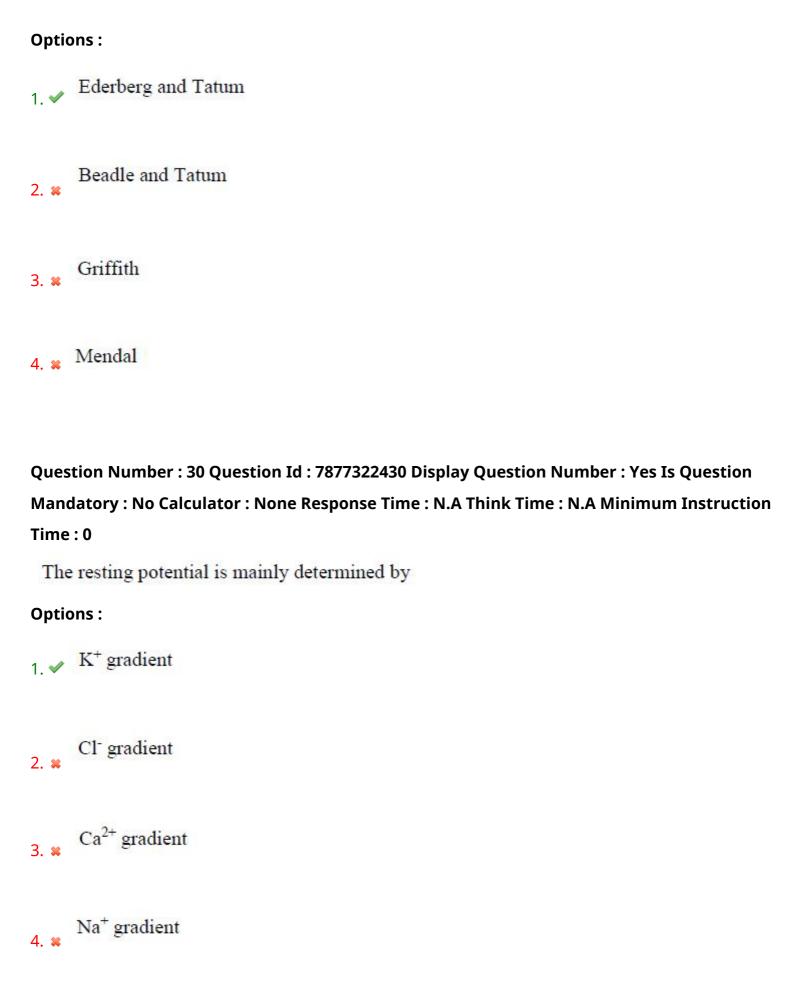
Time: 0

PCR Technique

Recombinant DNA Technology 2. ✓	
Gene cloning Technique 3. **	
Blotting Technique 4. *	
Question Number: 28 Question Id: 7877322428 Display Question Number: Yes Is Question Number: Yes Is Question Number: No Calculator: None Response Time: N.A Think Time: N.A Minimum Institute: 0 The alignment method suitable for finding out conserved patterns in DNA or protein sequence	
Options:	
1. ✓ Multiple sequence alignment	
Pairwise alignment	
3. * Global alignment	
4. * Local alignment	
Ougstion Number 120 Ougstion Id 17077222420 Display Overtica Number 18 - 17 Over	-4i
Question Number : 29 Question Id : 7877322429 Display Question Number : Yes Is Ques	
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Inst	ruction

Time: 0

Bacterial transformation was discovered by



Question Number: 31 Question Id: 7877322431 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time	: 0
The	term cistron, refers to
Optio	ns:
1. 🕊	region in tRNA molecule
2. 🗱	codon
3. 🗸 🖔	region of the DNA that codes for a single polypeptide chain
4. 🗶	ribosomal protein
Mand Time	
Mand Time	atory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Mand Time	atory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction: 0 OSUM matrices are used for
Mand Time BLC Optio	atory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction: 0 OSUM matrices are used for
Mand Time BLC Optio	atory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction : 0 OSUM matrices are used for ns :
Mand Time BLC Optio 1. *	atory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction: 0 OSUM matrices are used for ns: Multiple sequence alignment
Mand Time BLC Optio	atory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction: 0 OSUM matrices are used for ns: Multiple sequence alignment Pairwise sequence alignment

Question Number: 33 Question Id: 7877322433 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Cri-du-chat syndrome is caused due to deletion in segment of which chromosome

Options:

- 1. 🗶 3
- 2. * 7
- 2 🎻
- 8 4. *****

Question Number : 34 Question Id : 7877322434 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following inhibits the activity of RNA Polymerase II

- Rifampicin
- 2. * Aphidicolin
- 3. Alpha amanitin

Actinomycin D

4.

★

Question Number : 35 Question Id : 7877322435 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Enzyme complex involved in alcoholic fermentation is

Options:

- 1. Zymase
- Invertase
- Lipase
- Amylase

Question Number : 36 Question Id : 7877322436 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The A260/A280 ratio of a double-stranded DNA sample can be used to assess its purity.

The value for the pure DNA is

Options:

1. 🐹 ³

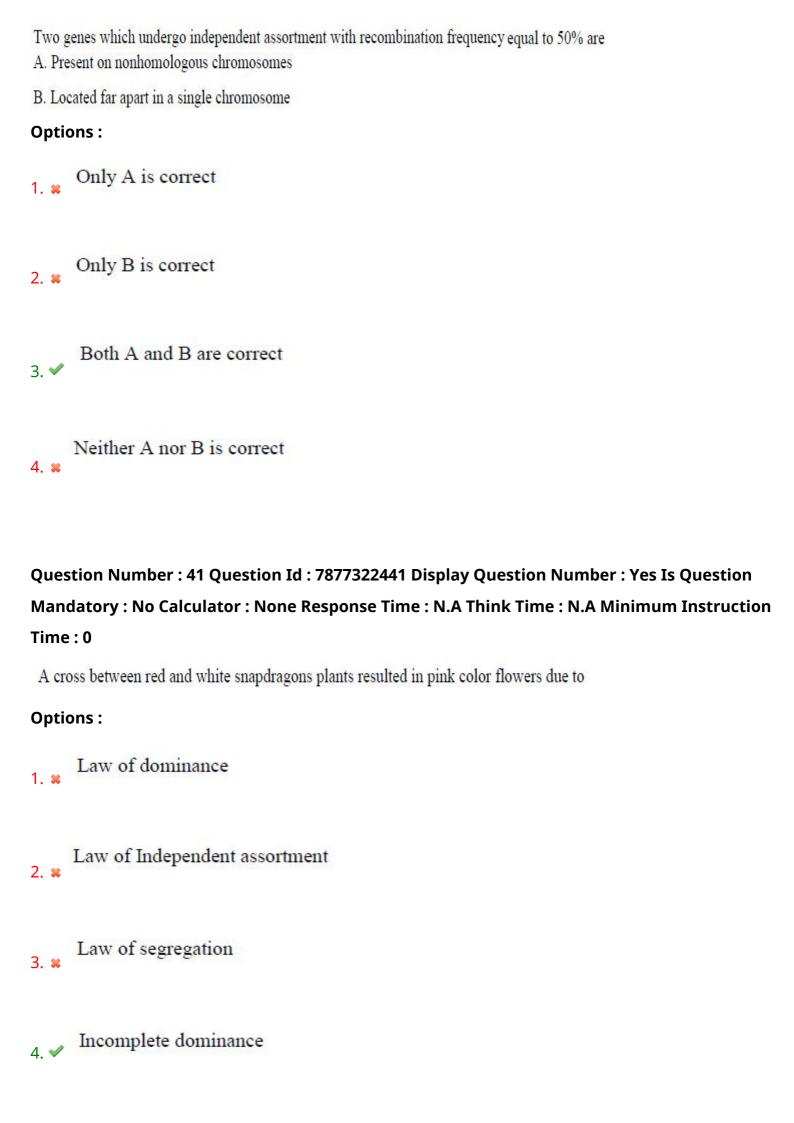
```
between 2 and 3
4. * below 1.5
Question Number: 37 Question Id: 7877322437 Display Question Number: Yes Is Question
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
 Which of the following is a protein structure database
Options:
     Gene bank
2. Swiss-Prot
3. DDBJ
4. ✓ PDB
Question Number: 38 Question Id: 7877322438 Display Question Number: Yes Is Question
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
 Which of the following processes does not occur in prokaryotes?
Options:
```

Transcription

```
2. V Splicing
    Translation
Replication
Question Number: 39 Question Id: 7877322439 Display Question Number: Yes Is Question
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
 How many RNA polymerases are present in a bacterial system
Options:
3. 🗸
Question Number: 40 Question Id: 7877322440 Display Question Number: Yes Is Question
```

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0



Question Number: 42 Question Id: 7877322442 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Pokyness in Neurospora is caused due to **Options:** 1. * Complementation 2. Epistasis 3. Mutation Extrachromosomal inheritance Question Number: 43 Question Id: 7877322443 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following is a chemical nucleotide sequencing method **Options:** Sanger method 2. Maxam-Gilbert method

Edmans method

Automated sequencing method

Question Number : 44 Question Id : 7877322444 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Arrange DNA finger printing procedure in the correct order

Options:

Restriction digestion > DNA isolation > Electrophoresis > Southern blotting > Probe hybridization > Autoradiography

1. *

DNA Isolation > Electrophoresis > Restriction digestion > Southern blotting > Probe hybridization > Autoradiography

2. 💥

DNA Isolation > Restriction digestion > Electrophoresis > Probe Hybridization > Southern blotting > Autoradiography

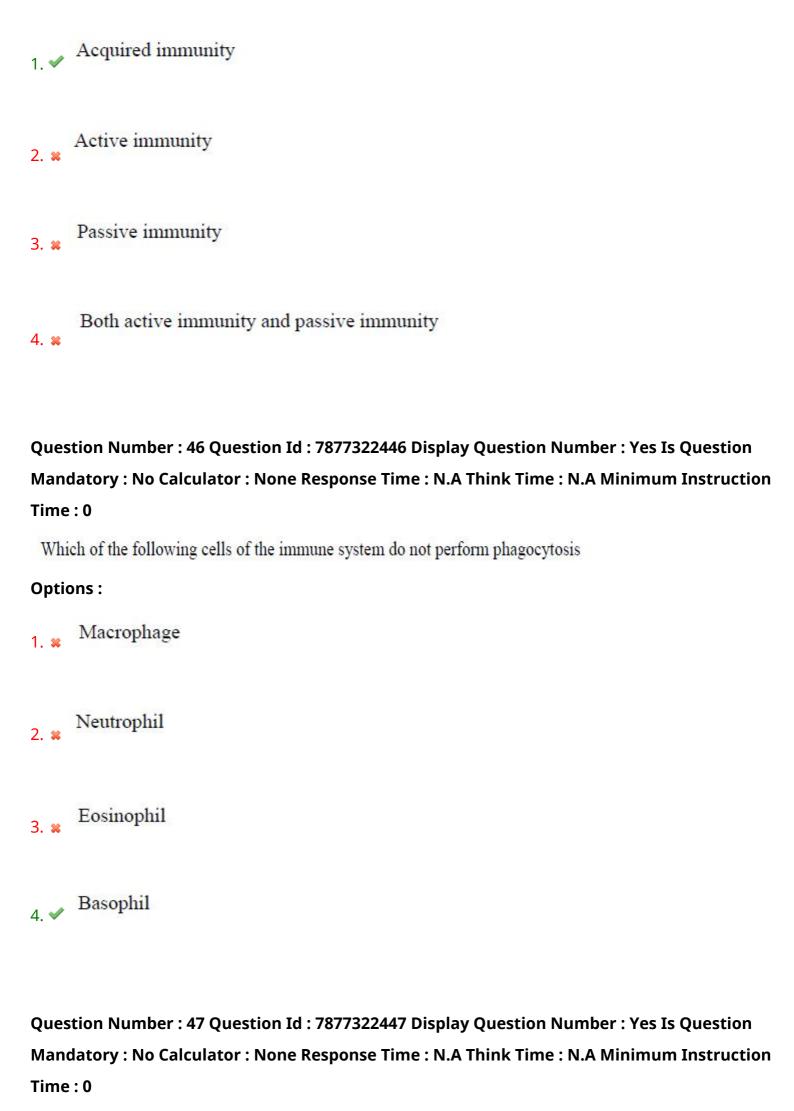
3. **

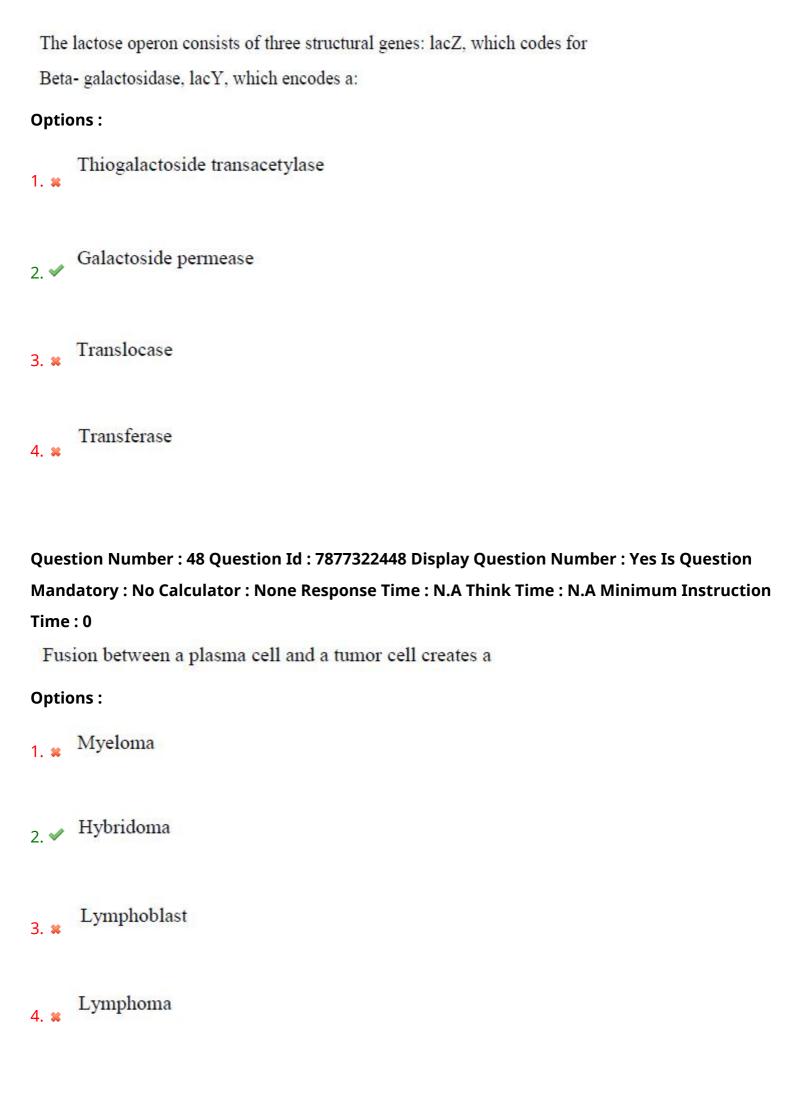
DNA Isolation > Restriction digestion > Electrophoresis > Southern blotting > Probe hybridization > Autoradiography

4.

Question Number : 45 Question Id : 7877322445 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following immunity is obtained during a life-time





Question Number : 49 Question Id : 7877322449 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Mode of DNA replication is
Options:
Conservative and bidirectional 1. **
Semiconservative and unidirectional 2. **
Semiconservative and bidirectional 3. ✓
Conservative and unidirectional 4. **
Question Number : 50 Question Id : 7877322450 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Monoclonal antibodies recognize a single
Options :
Antigen 1. **
2. ** Bacterium
3. ✓ Epitope
4. *

Question Number: 51 Question Id: 7877322451 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

A genomic library is a collection of

Options:

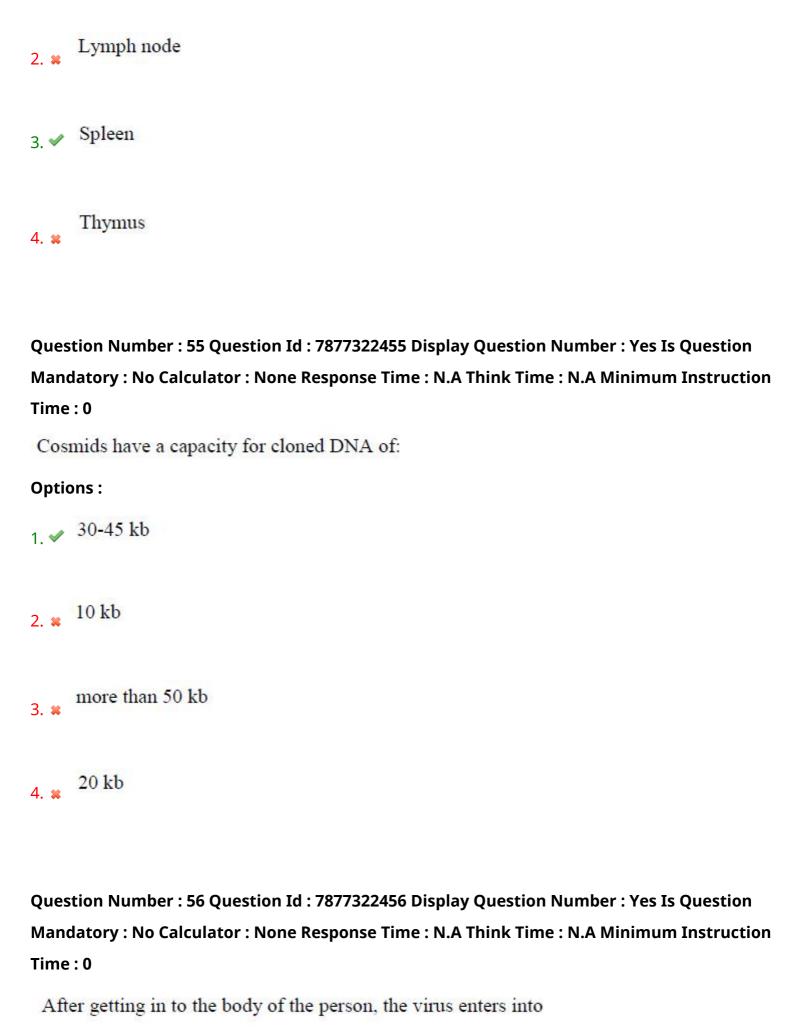
- Genes
- 2. * Proteins
- 3. Wectors
- 4. A Recombinants

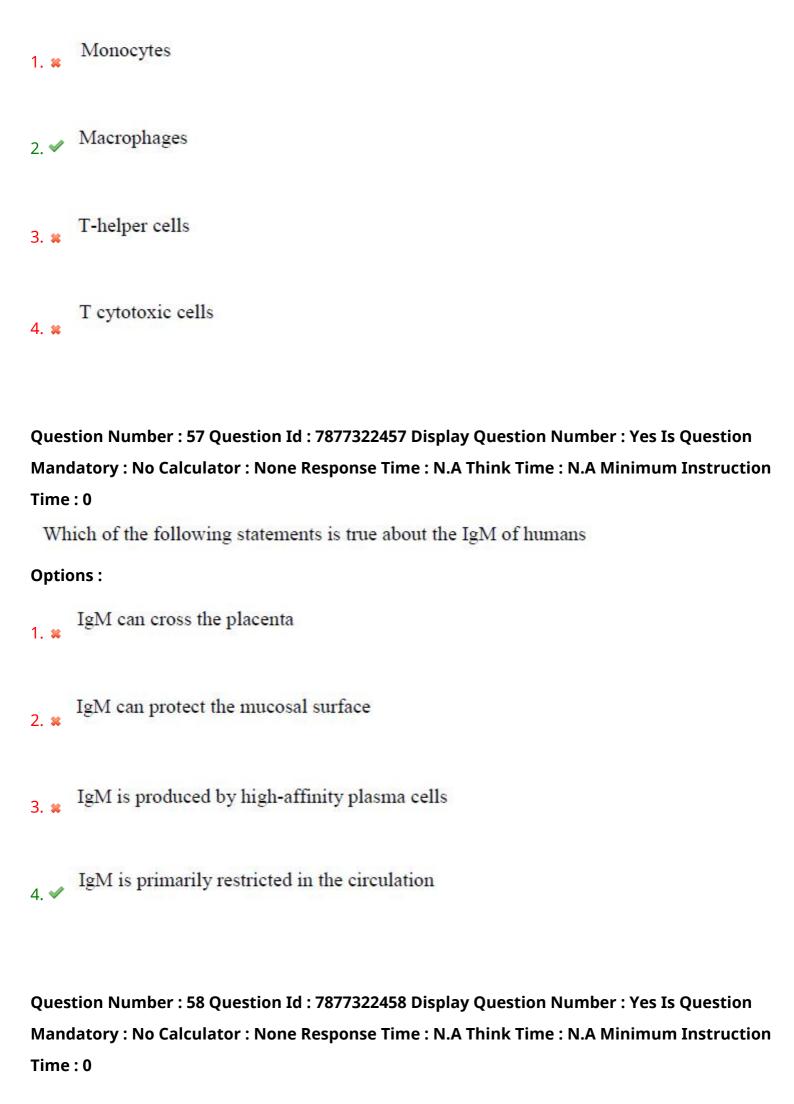
Question Number : 52 Question Id : 7877322452 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

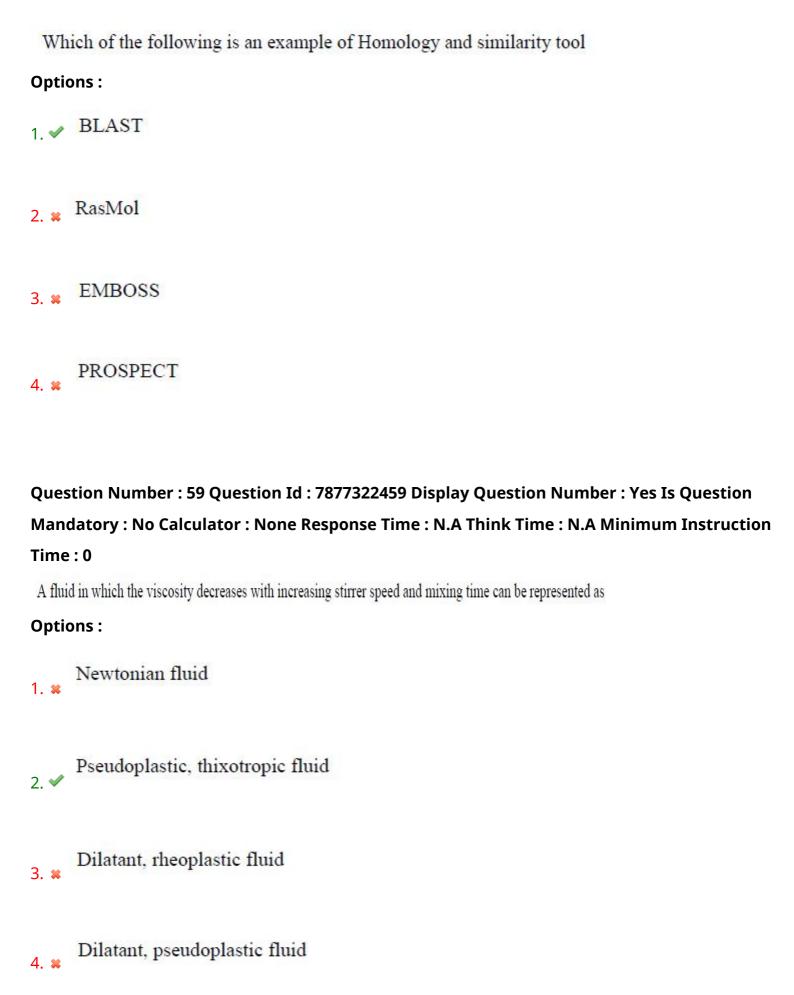
An example for type III immune complex disease is

- Contact dermatitis
- 2. ✓ Serum sickness

3. * Allergies Atopy Question Number: 53 Question Id: 7877322453 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Before loading an antigenic peptide, MHC molecules exist in **Options:** Monomers of α and β chain 1 % Dimers with an empty peptide-binding site 2 💥 Trimers with peptide binding site with class II-associated invariant peptide Both Monomers of α and β chain and Dimers with an empty peptide-binding site 4. ** Question Number: 54 Question Id: 7877322454 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following is considered as grave yard of RBC **Options:** Bone marrow







Question Number: 60 Question Id: 7877322460 Display Question Number: Yes Is Question

	ction
A higher Ks value of Monod's equation means	
Options :	
Greater affinities to substrate	
Lower affinities to substrate 2. **	
Unaffected with the substrate binding 3. **	
Lower dissociation constant value 4. **	
Question Number : 61 Question Id : 7877322461 Display Question Number : Yes Is Quest	ion
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instru Time : 0	
Time: 0	
Time: 0 Which of the following are not related to Needleman-Wunsch alignment algorithm	
Time: 0 Which of the following are not related to Needleman-Wunsch alignment algorithm Options:	
Time: 0 Which of the following are not related to Needleman-Wunsch alignment algorithm Options: Global alignment programs use this algorithm The output is a positive number.	

Question Number: 62 Question Id: 7877322462 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The transgenic plant developed by anti-sense RNA Technology **Options:** 1. Golden rice 2. * Bt cotton 3. ✓ Flavr Savr tomato Both Golden rice and Bt cotton 4. ** Question Number: 63 Question Id: 7877322463 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 This is a naturally occurring growth inhibitor **Options:** 1. × NAA 2. ***** IAA 3. *****

4. **✓** ABA

Question Number : 64 Question Id : 7877322464 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the deposition of cDNA into the inert structure called?

Options:

- DNA probes
- 2. DNA polymerase
- DNA microarrays
- DNA fingerprinting

Question Number : 65 Question Id : 7877322465 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statement is true

- Energy minimization is carried out using quantum mechanics
- Energy minimization is used to find a stable conformation for a molecule

		the state of the state of		1	1.7/200	4	75.00 TO 100 NO.	1 1	1	4	100	1 1	1 .1
Energy	11711711	mizatio	11 10	COTTIEC	Out	DV Vat	WITH O OTH	177	hand	2110	AC and	hond	lenothe
LHCIZY	11111111	mzano	11 10	carricu	Out	Uy var	ymiz on	LI y	oonu	angi	cs and	DOUG	Tenguis

Energy minimization stops when a structure is formed with a much greater stability than the previous one in process

Question Number: 66 Question Id: 7877322466 Display Question Number: Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

All are genome sequencing strategies except

Options:

Edman degradation method

Short gun library

Whole genome sequencing

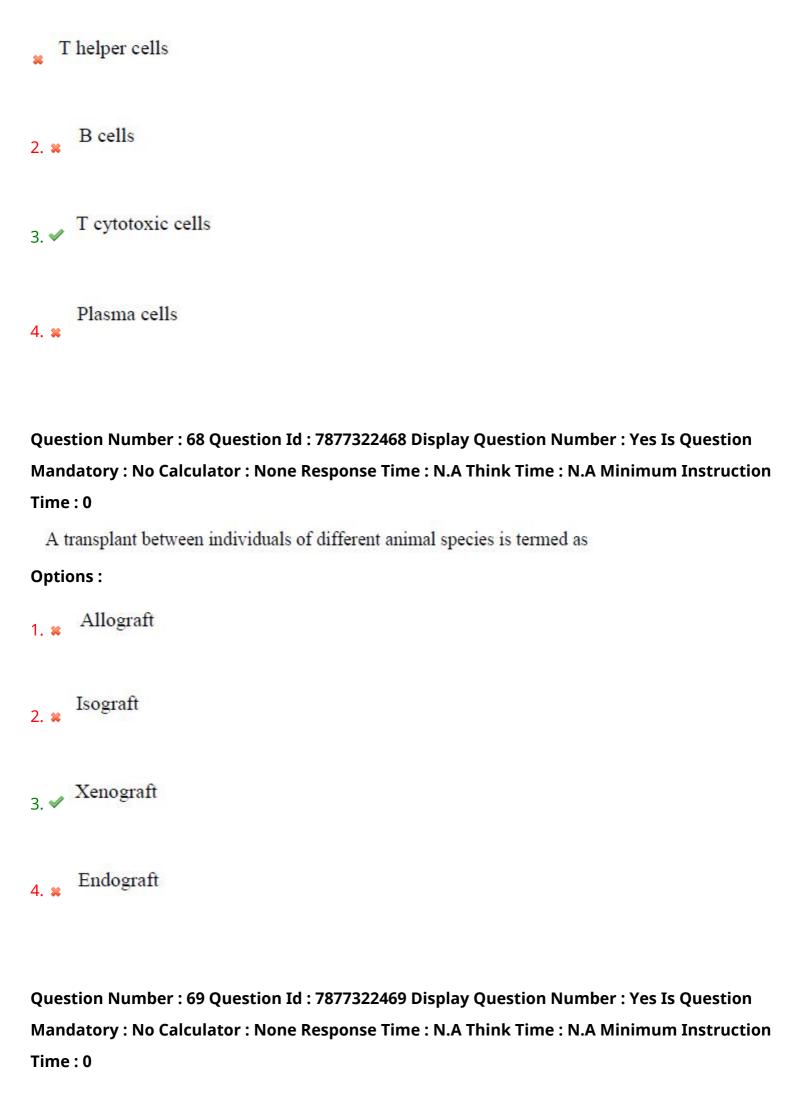
Directed gene sequencing

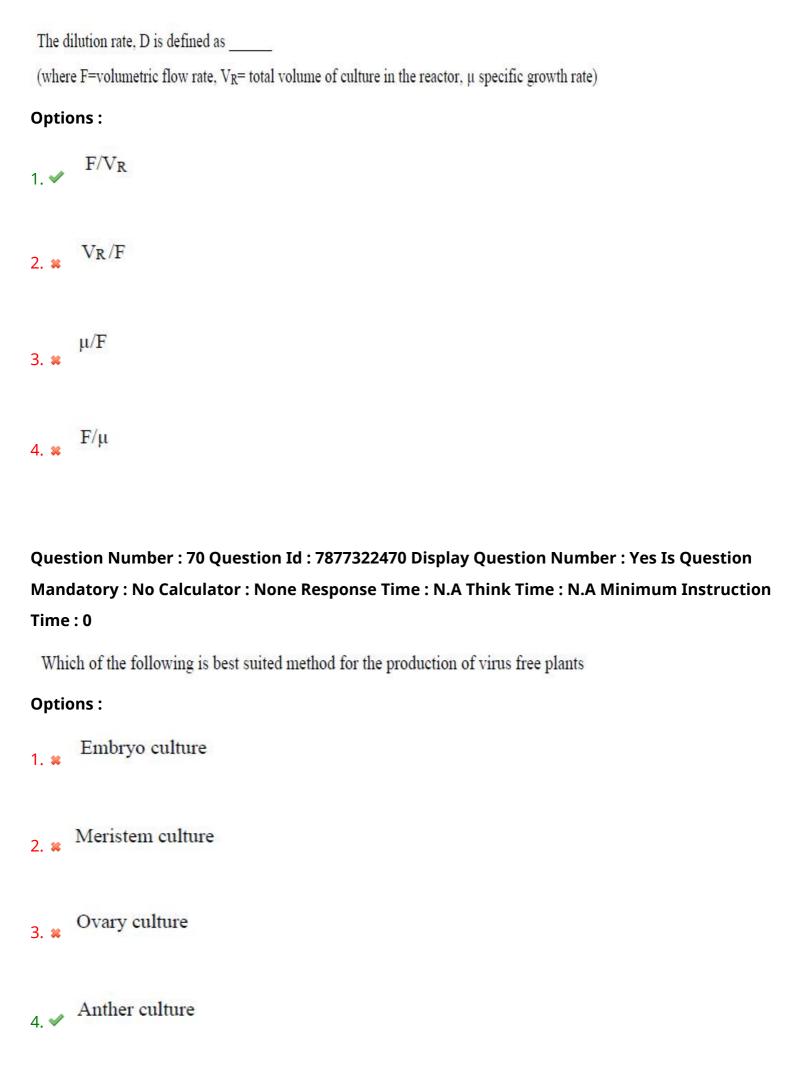
Question Number: 67 Question Id: 7877322467 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which of the following immune cells are most effective at destroying intracellular pathogens

Options:

1.





Question Number : 71 Question Id : 7877322471 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
DNA sequencing followed by genome annotation are steps of
Options:
1. * Comparative genomics
2. ✓ Structural genomics
Functional genomics 3. **
Transcriptomics 4. **
Question Number : 72 Question Id : 7877322472 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Batch cultures are type of suspension culture where
Options :
Medium is continuously replaced 1. **
Medium is loaded only at the beginning 2. ✓
3. * No depletion of medium occurs
Cellular wastes are continuously removed and replaced 4. *

Question Number: 73 Question Id: 7877322473 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Elicitors are molecules that are **Options:** Induce cell division Stimulate production of secondary metabolites Stimulate hairy root formation Both Induce cell division and Stimulate production of secondary metabolites 4. * Question Number: 74 Question Id: 7877322474 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which one of the following is having anti-cancer property **Options:** 1. × Vinblastin Diterpenes

Isoquionoline

Both Vinblastin and Diterpenes

Question Number : 75 Question Id : 7877322475 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Chemostats work on the principle of

Options:

- Maintaining constant volume of culture
- Maintaining continuous flow of nutrients
- Maintaining uniform nutrients concentration
- Operating at higher pressure

Question Number: 76 Question Id: 7877322476 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The destruction of microorganisms by steam maybe described as

Options:

First order reaction

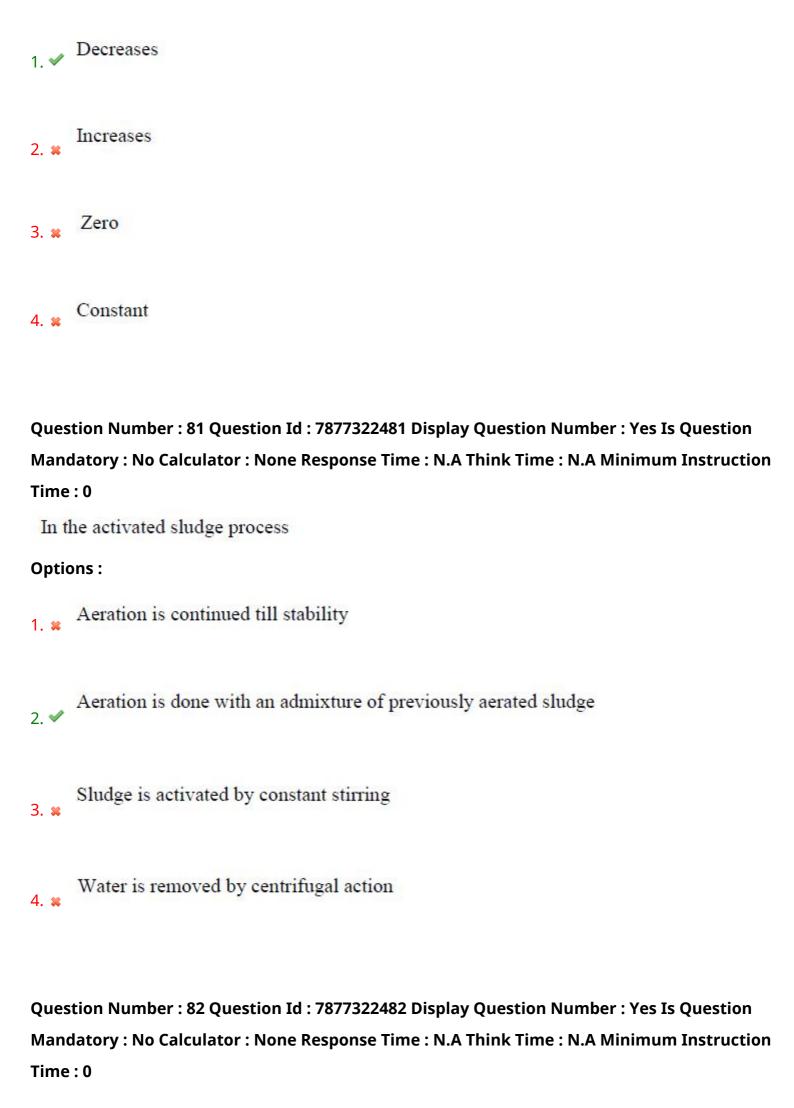
Second order reaction

3. Zero order reaction Third order reaction Question Number: 77 Question Id: 7877322477 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which plant product is used in production of anti-inflammatory compound **Options:** Taxol 2. * Arbutin 3. A Rosmarinic acid Berberine Question Number: 78 Question Id: 7877322478 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following properties are true for hairy root culture

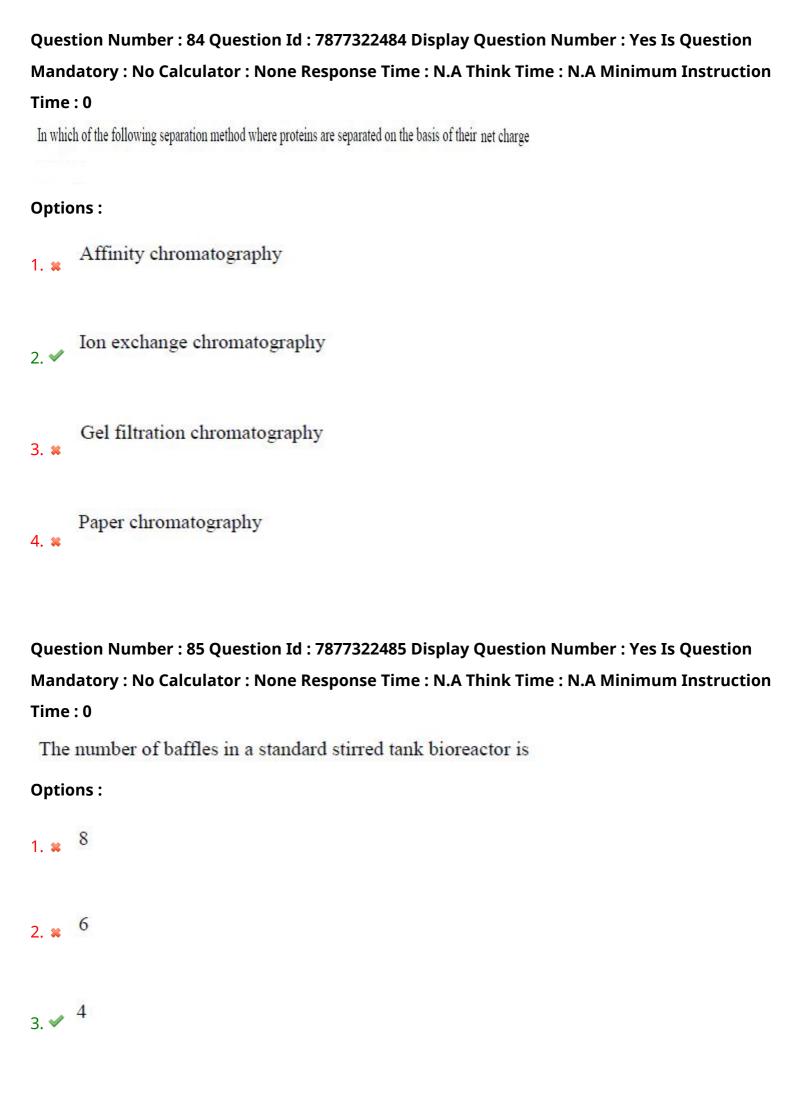
Options:

Stable genotype and phenotype

2. * Slow growth
High level of secondary metabolite production 3. **
Both Slow growth and High level of secondary metabolite production 4. ✔
Question Number: 79 Question Id: 7877322479 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0
Which of the following plant cells shows totipotency
Options:
1. ** Cork cells
2. Meristem
3. * Sieve tube
Xylem vessels 4. ■
Question Number : 80 Question Id : 7877322480 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
The del factor (Δ) increases as the final number of cells
Options :



Optio	ns:
1. 🕊	Secondary metabolites
2. 🗸	Primary metabolites
3. 🗱	Metabolites
4. 🗶	Biomolecules
Ques	tion Number : 83 Question Id : 7877322483 Display Question Number : Yes Is Question
Mand	latory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time	: 0
Gei	nerally Heterotrophic nutrition is
Optio	ons:
1. 🗶	Oxidation of glucose
2. 🗱	Breakdown of glucose into energy
3. 🗶	Utilization of energy obtained by plants
	All the above



Question Number: 86 Question Id: 7877322486 Display Question Number: Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Accumulation of lactate in animal cell culture leads to

Options:

- Increase in pH
- No change in pH
- Reduction in pH of cell culture causing loss of cell viability
- No loss of cell viability

Question Number: 87 Question Id: 7877322487 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

When dissolved oxygen is lower than the critical concentration, viable cell concentration declines because of

- Incomplete glutamine oxidation
- Increase in specific lactate production from glucose

Both Incomplete glutamine oxidation and Increase in specific lactate production from glucose

Accumulation of ammonia

Question Number: 88 Question Id: 7877322488 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What is the concentration of CO2 required for culturing animal cells

Options:

- 1. * 2-5%
- 2. 1-10%
- 10-15%
- 4. * 15-20%

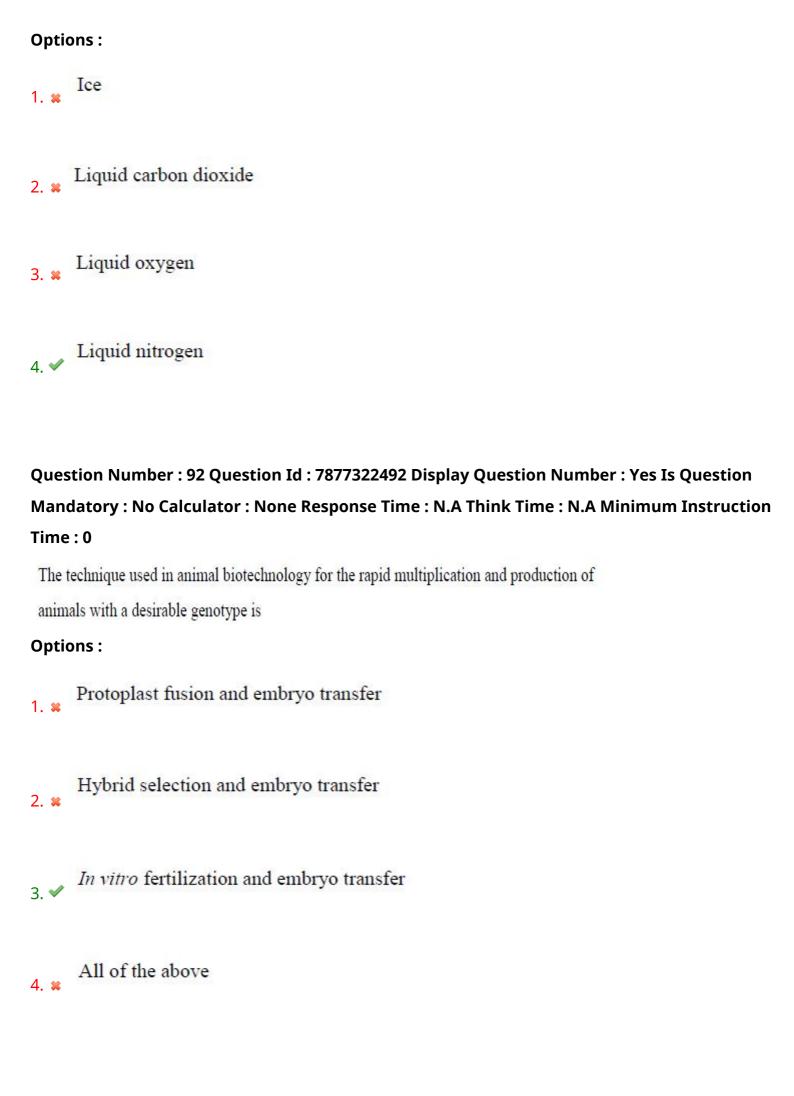
Question Number: 89 Question Id: 7877322489 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which one of the following techniques is generally used to produce transgenic animals

Options:

Processed mRNA containing only exons are introduced into the embryo

2. 🗱	Entire foreign nucleus is introduced in the blastocyst-stage enucleated unfertilized egg
3. 🗸	Desired DNA is microinjected in to fertilized eggs followed by implantation of the embryo in a foster mother
4. **	e-DNA of the desired gene is introduced into animal embryos and implanted in a foster mother
Mand Time	tion Number: 90 Question Id: 7877322490 Display Question Number: Yes Is Question latory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction: 0 d density and viscosity remains constant, then the Reynolds number in a stirred tank reactor will vary with the
Optio	
1. 🛪 🖟	Impeller diameter
2. 🗱	Square root of the impeller diameter
3. 🗸	Square of the impeller diameter
4. 🗶	Cube of the impeller diameter
Mand Time	tion Number : 91 Question Id : 7877322491 Display Question Number : Yes Is Question latory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction : 0 semen is stored for artificial insemination in



Question Number : 93 Question Id : 7877322493 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Hybrid antibodies are
Options:
1. * Antibodies produced in cell culture
Antibodies designed using rDNA technology produced in cell culture 2. ✔
Antibodies produced in vivo
Both Antibodies produced in cell culture and Antibodies designed using rDNA technology produced in cell culture 4. **
Question Number : 94 Question Id : 7877322494 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
In animal cell cultures, the addition of serum to media is essential for providing
Options:
1. Growth factors
Amino acids for protein synthesis

Nucleotide for DNA synthesis

84

Question Number : 95 Question Id : 7877322495 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

All of the following are produced by animal cells in culture and help the cells adhere to the culture dish except

Options:

- Collagen
- 2. * Glycoprotein
- Hyaluronic acid
- 4. ♥ Phospholipase A

Question Number : 96 Question Id : 7877322496 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Saccharomyces cervisiae is used in

- Tanning brewing
- 2. Brewing

- 3. * Baking
- Both Tanning brewing and Brewing

Question Number: 97 Question Id: 7877322497 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

A continuous reactor has a dilution rate of 0.5 h⁻¹. Its residence time would be

Options:

- 1. ***** ln (2)/0.5
- 2. * ln (2) x 0.5
- 3. × 0.5 h
- 2 h

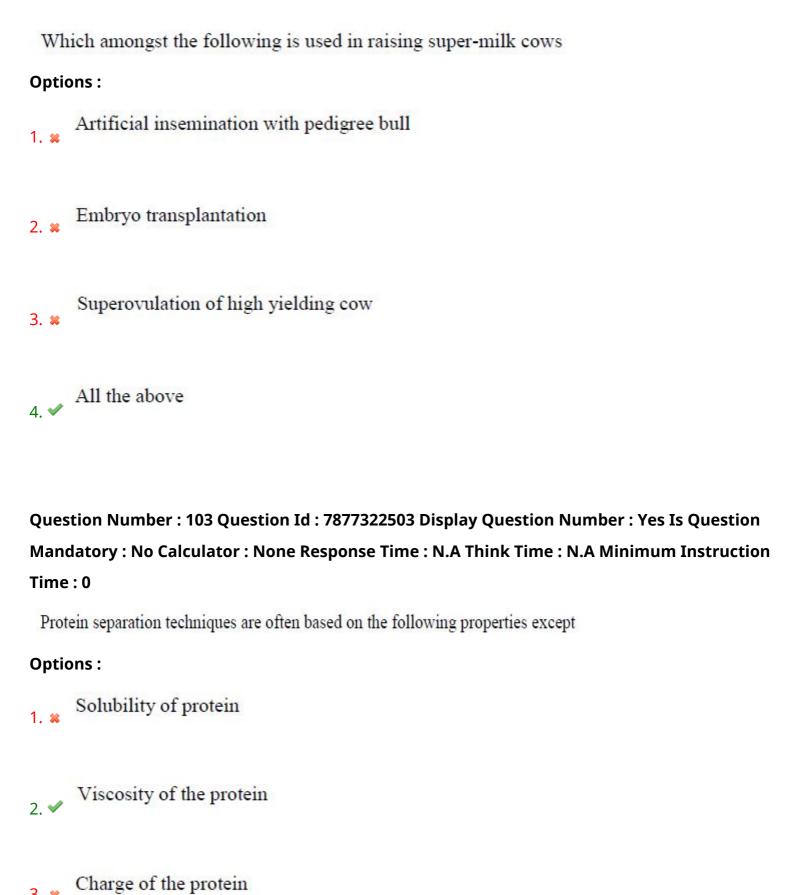
Question Number : 98 Question Id : 7877322498 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The immobilized enzyme produced by micro encapsulation technique provides

Options:

1. Z Extremely large surface area

1. 🗸	Carbon source for large scale industrial fermentation process
2. *	Carbon source for small scale industrial fermentation process
3. *	Mineral source for large scale industrial fermentation process
4. *	Mineral source for small scale industrial fermentation process
	on Number : 101 Question Id : 7877322501 Display Question Number : Yes Is Question tory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
	rst cloned sheep "Dolly" was created through which of these techniques
Option:	S: Nuclear transfer
2. *	Gene transfer
3. *	Germinal cell transfer
4. 🗸 S	Somatic cell transfer
	on Number : 102 Question Id : 7877322502 Display Question Number : Yes Is Question tory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction



Specific binding affinity of the protein

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Which of the following separation method is suited for a protein sample with large differences in molecular mass
Options :
1. * Dialysis
2. * Salting out process
Density gradient centrifugation 3. **
4. ✓ Rate zonal centrifugation
Question Number : 105 Question Id : 7877322505 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The bioremediation process involving the usage of plants to degrade pollutants is
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The bioremediation process involving the usage of plants to degrade pollutants is Options:
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The bioremediation process involving the usage of plants to degrade pollutants is Options: Composting Riopile

Question Number: 106 Question Id: 7877322506 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

A trickling filter is used for

Options:

- Antibiotic production
- Beer production
- Citric acid production
- Waste water treatment

Question Number: 107 Question Id: 7877322507 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Fermenter should be filled with medium up to

- 1. * 65-70%
- 70-75%
- 3. 75-80%

4. * 80-85%

Question Number: 108 Question Id: 7877322508 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Amylase enzyme is produced by fungus

Options:

- 1. * Aspergillus niger
- 2. Aspergillus oryzae
- 3. * Aspergillus fumigatus
- 4. * Aspergillus terreus

Question Number: 109 Question Id: 7877322509 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The monod's model predicts that the specific growth rate

- Will increase with the concentration of the growth limiting substrate until it reaches a maximum value
- Will decrease with the concentration of the growth limiting substrate

- Will increase with the concentration of the growth limiting substrate
- Does not depend on growth limiting substrate

Question Number: 110 Question Id: 7877322510 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Which one of the following uses reduced organic molecules as carbon source

Options:

- Organotrophs
- 2. Heterotrophs
- Autotrophs
- 4. × Lithotrophs

Question Number: 111 Question Id: 7877322511 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The infinite series $\sum_{n=0}^{\infty} x^n$ is convergent for x values in

Question Number: 112 Question Id: 7877322512 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The value of $\iint_S F \cdot ds$, where $F(x, y, z) = (\cos z + xy^2) \mathbf{i} + xe^{-z} \mathbf{j} + (\sin y + x^2 z) \mathbf{k}$ and S is the surface of solid bounded by the paraboloid $z = x^2 + y^2$ and the plane z = 4 is

Options:

$$32\frac{\pi}{3}$$

$$64\frac{\pi}{3}$$

$$64\pi$$

4. 💥

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Inverse Laplace transform of $\frac{s}{\left(s+\frac{1}{2}\right)^2+1}$ is

Options:

$$e^{-t/2} \left(\frac{1}{2} \cos t - \sin t \right)$$

$$e^{-t/2}\left(\cos t + \frac{1}{2}\sin t\right)$$

$$e^{-t/2} \left(\frac{1}{2} \cos t + \sin t \right)$$

$$e^{-t/2}\left(\cos t - \frac{1}{2}\sin t\right)$$

Question Number: 114 Question Id: 7877322514 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The solution of the differential equation $(xy^4 + y)dx - xdy = 0$ is

Options:

$$\frac{x^4}{4} + \frac{x^3}{3y^3} = C$$

$$\frac{y^4}{4} + \frac{x^3}{3y^3} = C$$

2. 🛚

$$\frac{x^4}{4} + \frac{y^4}{4} = C$$

$$\frac{x^3}{3} + \frac{y^3}{3} = C$$

Question Number: 115 Question Id: 7877322515 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The solution of the initial value problem $4x^2 \frac{d^2y}{dx^2} + 24x \frac{dy}{dx} + 25y = 0$; $y(1) = 2, \frac{dy}{dx}(1) = -6$ at x = 2 is

$$\frac{2-\ln 2}{2^{5/2}}$$

$$\frac{2+\ln 2}{2^{5/2}}$$

$$\frac{2-\ln 2}{2^{3/2}}$$

$$\frac{2+\ln 2}{2^{3/2}}$$

Question Number: 116 Question Id: 7877322516 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If A and B are two independent events such that $P(A) = \frac{1}{2}$ and $P(B) = \frac{1}{5}$ then $P(A|A \cup B)$ is

Options:

Question Number: 117 Question Id: 7877322517 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If X has the probability density function $f(x) = \frac{k}{x!}$ (x = 0,1,2,...). The values of k and $P(X \ge 3)$ are

$$\frac{1}{e}$$
, 8.03%

$$\frac{1}{e}$$
, 10%

3. 🕯

$$\frac{1}{e}$$
, 12%

Question Number: 118 Question Id: 7877322518 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If
$$f(x) = \begin{vmatrix} x^n & \sin x & \cos x \\ n! & \sin \frac{n\pi}{2} & \cos \frac{n\pi}{2} \\ a & a^2 & a^3 \end{vmatrix}$$
, then the value of $\frac{d^n}{dx^n}(f(x))$ at $x = 0$ is

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The largest eigenvalue of A^5 , where $A = \begin{bmatrix} 1 & 2 \\ 0 & 2 \end{bmatrix}$ is

Options:

16

1. *

2 * 1

32 3. *****

4. *****

Question Number: 120 Question Id: 7877322520 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Consider
$$\frac{dy}{dx} = y - x^2 + 1, 0 \le x \le 2; y(0) = 0.5.$$

The approximate solution of y at x = 0.4 using Euler's method with the step size h = 0.2 is

Options:

2. * 1.432

4. * 1.541