

National Testing Agency

Question Paper Name: CROP SCIENCES III 1st July 2019 Shift2 Set 2
Subject Name: CROP SCIENCES III
Creation Date: 2019-07-01 18:50:32
Duration: 180
Total Marks: 800
Display Marks: Yes
Share Answer Key With Delivery Engine: Yes
Actual Answer Key: Yes

CROP SCIENCES III

Group Number : 1
Group Id : 55317229
Group Maximum Duration : 0
Group Minimum Duration : 180
Revisit allowed for view? : No
Revisit allowed for edit? : No
Break time: 0
Group Marks: 800

Part A : General Knowledge

Section Id : 55317243
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 20
Number of Questions to be attempted: 20
Section Marks: 80
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 55317265
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 5531724915 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

There is a parliamentary system of Government in India because the

- (1) Lok Sabha is elected directly by the people.
- (2) Parliament can amend the Constitution.
- (3) Rajya Sabha cannot be dissolved.
- (4) Council of the ministers are responsible to the Lok Sabha.

Options :

55317219601. 1
55317219602. 2
55317219603. 3
55317219604. 4

Question Number : 2 Question Id : 5531724916 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Gilt – edged market refers to

- (1) Bullion market
- (2) Market of Govt. Securities
- (3) Market of guns
- (4) Market of pure metals

Options :

55317219605. 1
55317219606. 2
55317219607. 3
55317219608. 4

Question Number : 3 Question Id : 5531724917 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is known as the 'Coffee Port' of the world?

- (1) Sao Paulo
- (2) Santos
- (3) Rio de Janeiro
- (4) Buenos Aires

Options :

55317219609. 1
55317219610. 2
55317219611. 3
55317219612. 4

Question Number : 4 Question Id : 5531724918 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For increasing milk production, which state launched Rs.215 crore project 'Milk Mission' in July, 2018?

- (1) Meghalaya
- (2) Assam
- (3) Tripura
- (4) Nagaland

Options :

55317219613. 1
55317219614. 2
55317219615. 3
55317219616. 4

Question Number : 5 Question Id : 5531724919 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is the main characteristic of mixed farming?

- (1) Cultivation of both cash crops and food crops.
- (2) Cultivation of two or more crops in the same field.
- (3) Cultivation of crops and rearing of animals together.
- (4) Cultivation of fruits and vegetables.

Options :

55317219617. 1

55317219618. 2

55317219619. 3

55317219620. 4

Question Number : 6 Question Id : 5531724920 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

When you travel in certain parts of India, you will notice red soils. What is the main reason for this colour?

- (1) Abundance of magnesium
- (2) Accumulated humus
- (3) Presence of ferric oxides
- (4) Abundance of phosphates

Options :

55317219621. 1

55317219622. 2

55317219623. 3

55317219624. 4

Question Number : 7 Question Id : 5531724921 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following sets of elements were primarily responsible for the origin of life on the earth?

- (1) Carbon, Hydrogen, Nitrogen
- (2) Hydrogen, Oxygen, Sodium
- (3) Oxygen, Calcium, Phosphorous
- (4) Carbon, Hydrogen, Potassium

Options :

55317219625. 1

55317219626. 2

55317219627. 3

55317219628. 4

Question Number : 8 Question Id : 5531724922 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following statement is NOT true?

- (1) Khaira is a disease found in paddy.
- (2) False smut is a disease found in barley.
- (3) Rust disease is found in wheat.
- (4) Early blight is a disease found in potato.

Options :

- 55317219629. 1
- 55317219630. 2
- 55317219631. 3
- 55317219632. 4

Question Number : 9 Question Id : 5531724923 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Golden rice variety has been developed to combat the deficiency of

- (1) Iron
- (2) Vitamin C
- (3) Calcium
- (4) Vitamin A

Options :

- 55317219633. 1
- 55317219634. 2
- 55317219635. 3
- 55317219636. 4

Question Number : 10 Question Id : 5531724924 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A person of mixed European and Indian blood in Latin America is called a

- (1) Mulato
- (2) Mestizo
- (3) Meiji
- (4) Mau Mau

Options :

- 55317219637. 1
- 55317219638. 2
- 55317219639. 3
- 55317219640. 4

Question Number : 11 Question Id : 5531724925 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In the context of International Trade 'Early Harvest Package' refers to

- (1) A precursor to a free trade agreement between two trading partners.
- (2) A clause related to the agreement on agriculture under the WTO.
- (3) A subsidy mechanism given to the developing countries for trade in agriculture.
- (4) A transportation agreement signed between countries for the movement of goods.

Options :

- 55317219641. 1
- 55317219642. 2

55317219643. 3

55317219644. 4

Question Number : 12 Question Id : 5531724926 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The nitrogen present in atmosphere is

- (1) of no use to plants
- (2) injurious to plants
- (3) directly utilized by the plants
- (4) utilized through micro organism

Options :

55317219645. 1

55317219646. 2

55317219647. 3

55317219648. 4

Question Number : 13 Question Id : 5531724927 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Agricultural Scientist M.S. Swaminathan received an honorary medallion from India for his contribution towards the development of agricultural practices from which country?

- (1) Canada
- (2) Australia
- (3) New Zealand
- (4) Mexico

Options :

55317219649. 1

55317219650. 2

55317219651. 3

55317219652. 4

Question Number : 14 Question Id : 5531724928 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

ICAR, New Delhi has identified three BT cotton varieties for cultivation in Punjab, Haryana and Rajasthan; which were developed by Punjab Agricultural University (PAU), Ludhiana recently. Which one of the following is NOT among those three?

- (1) PAU BT - 1
- (2) BT -1861
- (3) F - 1861
- (4) RS – 2013

Options :

55317219653. 1

55317219654. 2

55317219655. 3

55317219656. 4

Question Number : 15 Question Id : 5531724929 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Most abundant Carbohydrate in the world is

- (1) Pectin
- (2) Rubisco
- (3) Hemicellulose
- (4) Cellulose

Options :

55317219657. 1

55317219658. 2

55317219659. 3

55317219660. 4

Question Number : 16 Question Id : 5531724930 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is known as queen of spices?

- (1) Clove
- (2) Pepper
- (3) Nutmeg
- (4) Cardamom

Options :

55317219661. 1

55317219662. 2

55317219663. 3

55317219664. 4

Question Number : 17 Question Id : 5531724931 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In which city has NABARD launched South East Asia's first centre for 'Climate Change'?

- (1) Jaipur
- (2) Patna
- (3) Lucknow
- (4) Chennai

Options :

55317219665. 1

55317219666. 2

55317219667. 3

55317219668. 4

Question Number : 18 Question Id : 5531724932 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

World Bank assisted project SMART was launched in

- (1) Rajasthan
- (2) Gujarat
- (3) Maharashtra
- (4) Punjab

Options :

55317219669. 1
55317219670. 2
55317219671. 3
55317219672. 4

Question Number : 19 Question Id : 5531724933 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

National Research Centre for grapes is located at

- (1) Nashik
- (2) Pune
- (3) Muzaffarpur
- (4) Lucknow

Options :

55317219673. 1
55317219674. 2
55317219675. 3
55317219676. 4

Question Number : 20 Question Id : 5531724934 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The National Milk Day which marks the birth anniversary of father of White Revolution Dr. Verghese Kurien is celebrated on

- (1) November 23
- (2) November 24
- (3) November 25
- (4) November 26

Options :

55317219677. 1
55317219678. 2
55317219679. 3
55317219680. 4

Part B : CROP SCIENCES III

Section Id :	55317244
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	180
Number of Questions to be attempted:	180
Section Marks:	720
Display Number Panel:	Yes

Group All Questions:

No

Sub-Section Number: 1
Sub-Section Id: 55317266
Question Shuffling Allowed : Yes

Question Number : 21 Question Id : 5531724935 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Cystic fibrosis trans membrane conductance regulator (CFTR)
acts as a channel for

1. Chloride ions
2. Sodium ions
3. Potassium ions
4. Zinc ions

Options :

55317219681. 1
55317219682. 2
55317219683. 3
55317219684. 4

Question Number : 22 Question Id : 5531724936 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

α - synuclein aggregates into spherical filamentous masses called
Lewy bodies in

1. Alzheimer disease
2. Parkinson disease
3. Pernicious anaemia
4. Tay- Sachs disease

Options :

55317219685. 1
55317219686. 2
55317219687. 3
55317219688. 4

Question Number : 23 Question Id : 5531724937 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Solution with lower osmolarity than the cytosol is said to be

1. Isotonic
2. Hypertonic
3. Hypotonic
4. None of these

Options :

55317219689. 1
55317219690. 2
55317219691. 3
55317219692. 4

Question Number : 24 Question Id : 5531724938 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Desmosine, a derivative of four lysine residues is found in

1. Myosin
2. Elastin
3. Collagen
4. Fibroin

Options :

55317219693. 1

55317219694. 2

55317219695. 3

55317219696. 4

Question Number : 25 Question Id : 5531724939 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Glucagon stimulates gluconeogenesis by lowering the cellular level of

1. Fructose- 6 - phosphate
2. Fructose - 1, 6 – bis phosphate
3. Fructose - 2, 6 – bis phosphate
4. 3 - Phosphoglycerate

Options :

55317219697. 1

55317219698. 2

55317219699. 3

55317219700. 4

Question Number : 26 Question Id : 5531724940 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

How many isozymes of succinyl CoA synthetase animal cells have?

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

Options :

55317219701. 1

55317219702. 2

55317219703. 3

55317219704. 4

Question Number : 27 Question Id : 5531724941 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The pathology in pernicious anaemia include

1. Reduced production of erythrocytes
2. Reduced levels of haemoglobin
3. Progressive impairment of central nervous system
4. All of these

Options :

55317219705. 1

55317219706. 2

55317219707. 3

55317219708. 4

Question Number : 28 Question Id : 5531724942 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Redox buffer glutathione is derived from

1. Glutamate, cysteine and glycine
2. Glutamate, methionine and glycine
3. Glutamate, lysine and glycine
4. Glutamate, proline and glycine

Options :

55317219709. 1

55317219710. 2

55317219711. 3

55317219712. 4

Question Number : 29 Question Id : 5531724943 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

How many high affinity Ca^{2+} - binding sites Calmodulin has?

1. Four
2. Tree
3. Five
4. Two

Options :

55317219713. 1

55317219714. 2

55317219715. 3

55317219716. 4

Question Number : 30 Question Id : 5531724944 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is commercially used to exercise ethylene effects?

1. 2- chloroethylphosphonic acid
2. 5- Methyl thioadenosine
3. Cyanoformic acid
4. Aminocyclopropane - 1- carboxylic acid

Options :

- 55317219717. 1
- 55317219718. 2
- 55317219719. 3
- 55317219720. 4

Question Number : 31 Question Id : 5531724945 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Cytochrome p-450 enzymes are involved in the synthesis of:

1. 25- Hydroxycholecalciferol
2. Estrogens
3. Retinol
4. Thyroxine

Options :

- 55317219721. 1
- 55317219722. 2
- 55317219723. 3
- 55317219724. 4

Question Number : 32 Question Id : 5531724946 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Iodoacetate is an inhibitor of

1. Succinate dehydrogenase
2. Xanthine oxidase
3. Glyceraldehyde - 3- phosphate dehydrogenase
4. Pyruvate kinase

Options :

- 55317219725. 1
- 55317219726. 2
- 55317219727. 3
- 55317219728. 4

Question Number : 33 Question Id : 5531724947 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Processivity of DNA polymerase III is

1. 3-200
2. 2000
3. 1500
4. $\geq 5,00000$

Options :

- 55317219729. 1
- 55317219730. 2
- 55317219731. 3
- 55317219732. 4

Question Number : 34 Question Id : 5531724948 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The technique used to identify DNA Sequences bound by a particular protein is

1. AFLP
2. Finger printing
3. Foot printing
4. RFLP

Options :

- 55317219733. 1
- 55317219734. 2
- 55317219735. 3
- 55317219736. 4

Question Number : 35 Question Id : 5531724949 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is responsible for the synthesis of tRNAs?

1. RNA polymerase I
2. RNA polymerase III
3. RNA polymerase II
4. None of these

Options :

- 55317219737. 1
- 55317219738. 2
- 55317219739. 3
- 55317219740. 4

Question Number : 36 Question Id : 5531724950 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Reverse transcriptase's catalyse

1. RNA- dependent DNA synthesis
2. DNA- dependent DNA synthesis
3. RNA degradation
4. All of these

Options :

- 55317219741. 1
- 55317219742. 2
- 55317219743. 3
- 55317219744. 4

Question Number : 37 Question Id : 5531724951 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Lamin proteins are found in the

1. Nuclear matrix
2. Cytosol
3. Mitochondrial matrix
4. Stroma

Options :

- 55317219745. 1
- 55317219746. 2
- 55317219747. 3
- 55317219748. 4

Question Number : 38 Question Id : 5531724952 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In which of the following chromatographic techniques, the mobile phase moves through the stationary phase by capillary action?

1. High Performance Liquid Chromatographic (HPLC)
2. Column chromatography
3. Gas Liquid Chromatography (GLC)
4. Planar chromatography

Options :

- 55317219749. 1
- 55317219750. 2
- 55317219751. 3
- 55317219752. 4

Question Number : 39 Question Id : 5531724953 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

mRNA molecule in a sample can be identified by

1. Northern blotting
2. Southern blotting
3. Western blotting
4. None of these

Options :

- 55317219753. 1
- 55317219754. 2
- 55317219755. 3
- 55317219756. 4

Question Number : 40 Question Id : 5531724954 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Derivatising agent for ultraviolet detection of amino acids is

1. Benzoyl chloride
2. Dansyl chloride
3. Phenacyl bromide
4. 3,5- dinitro benzoyl chloride

Options :

- 55317219757. 1
- 55317219758. 2
- 55317219759. 3
- 55317219760. 4

**Question Number : 41 Question Id : 5531724955 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Which of the following is a Japanese genetic database?

- 1. EMBL
- 2. DDBJ
- 3. Gen Bank
- 4. UniProt TREMBL

Options :

- 55317219761. 1
- 55317219762. 2
- 55317219763. 3
- 55317219764. 4

**Question Number : 42 Question Id : 5531724956 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Maize protein is deficient in which of the following amino acids?

- 1. Lysine
- 2. Proline
- 3. Glycine
- 4. Methionine

Options :

- 55317219765. 1
- 55317219766. 2
- 55317219767. 3
- 55317219768. 4

**Question Number : 43 Question Id : 5531724957 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Which one of the following is an essential amino acid?

- 1. Aspartic acid
- 2. Glutamic acid
- 3. Threonine
- 4. Asparagine

Options :

- 55317219769. 1
- 55317219770. 2
- 55317219771. 3
- 55317219772. 4

**Question Number : 44 Question Id : 5531724958 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Scurvy disease is due to deficiency of

1. Thiamine
2. Nicotinic acid
3. Niacin
4. Ascorbic acid

Options :

55317219773. 1

55317219774. 2

55317219775. 3

55317219776. 4

Question Number : 45 Question Id : 5531724959 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is a wheat protein?

1. Zein
2. Gluten
3. Ricin
4. Dhurin

Options :

55317219777. 1

55317219778. 2

55317219779. 3

55317219780. 4

Question Number : 46 Question Id : 5531724960 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Photophosphorylation can be blocked by

1. Venturicidin
2. Azaserine
3. Orotate
4. Acivicin

Options :

55317219781. 1

55317219782. 2

55317219783. 3

55317219784. 4

Question Number : 47 Question Id : 5531724961 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is a potent inhibitor of carbamylated rubisco?

1. Glyceraldehyde - 3- Phosphate
2. Carbamoyl Phosphate
3. Fructose - 6- Phosphate
4. 2- Carboxyarabinitol - 1- phosphate

Options :

- 55317219785. 1
- 55317219786. 2
- 55317219787. 3
- 55317219788. 4

Question Number : 48 Question Id : 5531724962 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

C3 plants need three ATP molecules to assimilate one molecule of CO₂, whereas C4 plants need

1. Four
2. Six
3. Five
4. Seven

Options :

- 55317219789. 1
- 55317219790. 2
- 55317219791. 3
- 55317219792. 4

Question Number : 49 Question Id : 5531724963 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following enzymes is responsible for fixation of nitrogen?

1. Carboxylase
2. Nitrate reductase
3. Nitrite reductase
4. Nitrogenase

Options :

- 55317219793. 1
- 55317219794. 2
- 55317219795. 3
- 55317219796. 4

Question Number : 50 Question Id : 5531724964 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Requirement of vernalization is replaced by

1. Auxin
2. Gibberellins
3. Ethylene
4. Cytokinin

Options :

- 55317219797. 1
- 55317219798. 2
- 55317219799. 3
- 55317219800. 4

Question Number : 51 Question Id : 5531724965 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Copper as metal activator, is present in

- 1. Carbonic anhydrase
- 2. Cytochrome oxidase
- 3. Catalase
- 4. Ascorbic acid oxidase

Options :

- 55317219801. 1
- 55317219802. 2
- 55317219803. 3
- 55317219804. 4

Question Number : 52 Question Id : 5531724966 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The fifteen amino acid leader peptides produced by the Phe operon contains how many Phe residues?

- 1. Six
- 2. Eight
- 3. Five
- 4. Seven

Options :

- 55317219805. 1
- 55317219806. 2
- 55317219807. 3
- 55317219808. 4

Question Number : 53 Question Id : 5531724967 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A major eukaryotic co- activator consisting of 20 to 30 or more polypeptides in a protein complex is called

- 1. Enhancer
- 2. Upstream activator
- 3. Mediator
- 4. Regulator

Options :

- 55317219809. 1
- 55317219810. 2
- 55317219811. 3
- 55317219812. 4

Question Number : 54 Question Id : 5531724968 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Trans membrane nitrate reductase that can function as a proton pump has been discovered in

1. *Nicotiana tabaccum*
2. *Arabidopsis thaliana*
3. *Thalassiosira weissflogii*
4. *Capsicum annum*

Options :

55317219813. 1

55317219814. 2

55317219815. 3

55317219816. 4

Question Number : 55 Question Id : 5531724969 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The amino acid which accumulates in response to stress is

1. Methionine
2. Cysteine
3. Histidine
4. Proline

Options :

55317219817. 1

55317219818. 2

55317219819. 3

55317219820. 4

Question Number : 56 Question Id : 5531724970 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following enzymes causes unwinding of double stranded DNA during DNA replication?

1. Primase
2. Topoisomerase
3. Helicase
4. Primase

Options :

55317219821. 1

55317219822. 2

55317219823. 3

55317219824. 4

Question Number : 57 Question Id : 5531724971 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The transgenic crop grown on commercial scale in India is

1. Bt cotton
2. Bt brinjal
3. Bt tomato
4. Golden rice

Options :

55317219825. 1
55317219826. 2
55317219827. 3
55317219828. 4

Question Number : 58 Question Id : 5531724972 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following transports excess salt to vacuole in salt tolerant plants?

1. Na⁺- Cl⁻ Symporter
2. Na⁺- K⁺ Pump
3. Na⁺- H⁺ ATPase
4. Na⁺ - H⁺ antiporter

Options :

55317219829. 1
55317219830. 2
55317219831. 3
55317219832. 4

Question Number : 59 Question Id : 5531724973 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is involved in plant defence signalling?

1. Gibberellic acid
2. Cytokinin
3. Auxin
4. Jasmonic acid

Options :

55317219833. 1
55317219834. 2
55317219835. 3
55317219836. 4

Question Number : 60 Question Id : 5531724974 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Two pairs of primers are used in

1. Inverse PCR
2. Nested PCR
3. Asymmetric PCR
4. Anchored PCR

Options :

55317219837. 1

55317219838. 2

55317219839. 3

55317219840. 4

Question Number : 61 Question Id : 5531724975 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following techniques is used to detect and localize the presence or absence of specific DNA sequences on chromosomes?

1. Fluorescence *in situ* hybridization
2. DNA finger printing
3. DNA foot printing
4. None of these

Options :

55317219841. 1

55317219842. 2

55317219843. 3

55317219844. 4

Question Number : 62 Question Id : 5531724976 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Regulatory proteins with Leucine Zippers often have a separate DNA-binding domain with a high concentration of

1. Lys
2. Ser
3. Asp
4. Glu

Options :

55317219845. 1

55317219846. 2

55317219847. 3

55317219848. 4

Question Number : 63 Question Id : 5531724977 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In ADP-ribosylation of proteins, the ADP-ribose is derived from:

1. FAD
2. NTP
3. NAD
4. NADP

Options :

55317219849. 1

55317219850. 2

55317219851. 3

55317219852. 4

Question Number : 64 Question Id : 5531724978 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Bovine pancreatic chymotrypsin is specific for peptide bonds adjacent to which of the following amino acid residues?

1. Trp
2. Leu
3. Ser
4. Met

Options :

- 55317219853. 1
- 55317219854. 2
- 55317219855. 3
- 55317219856. 4

Question Number : 65 Question Id : 5531724979 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following vitamins is a biological antioxidant?

1. Vit.K
2. Vit. D
3. Vit. A
4. Vit. E

Options :

- 55317219857. 1
- 55317219858. 2
- 55317219859. 3
- 55317219860. 4

Question Number : 66 Question Id : 5531724980 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For every 10m increase of height in trees, the magnitude of gravitational potential that leaves must overcome is

1. 10 MPa
2. 1 MPa
3. 0.1 MPa
4. 0.01MPa

Options :

- 55317219861. 1
- 55317219862. 2
- 55317219863. 3
- 55317219864. 4

Question Number : 67 Question Id : 5531724981 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The cell organelles involved in the metabolism of stored lipids in plants are

1. Lysosomes
2. Glyoxysomes
3. Coated vesicles
4. Endosomes

Options :

- 55317219865. 1
- 55317219866. 2
- 55317219867. 3
- 55317219868. 4

Question Number : 68 Question Id : 5531724982 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Under anaerobic conditions, when molecular oxygen is not available for ETS to occur, the compound that accepts electrons from NADH enabling glycolysis to continue is

1. Glutamate
2. Oxaloacetate
3. Pyruvate
4. Succinate

Options :

- 55317219869. 1
- 55317219870. 2
- 55317219871. 3
- 55317219872. 4

Question Number : 69 Question Id : 5531724983 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

During photorespiration, transamination of glyoxalate to glycine occurs in which cell organelle?

1. Chloroplast
2. Lysosome
3. Peroxisome
4. Mitochondria

Options :

- 55317219873. 1
- 55317219874. 2
- 55317219875. 3
- 55317219876. 4

Question Number : 70 Question Id : 5531724984 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The flow of triose phosphate into sucrose is regulated by fructose - 1, 6 biphosphatase and PPI – dependent phosphofructokinase. Both these enzymes are regulated by which compound?

1. Fructose - 6 phosphate
2. Fructose - 1, 6 biphosphate
3. Fructose - 1 phosphate
4. Fructose - 2,6 biphosphate

Options :

- 55317219877. 1
- 55317219878. 2
- 55317219879. 3
- 55317219880. 4

Question Number : 71 Question Id : 5531724985 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The key regulatory enzyme for starch synthesis is

1. Phosphofructokinase
2. ADP- Glucose pyrophosphorylase
3. Fructose - 1,6 biphosphatase
4. SPS Kinase

Options :

- 55317219881. 1
- 55317219882. 2
- 55317219883. 3
- 55317219884. 4

Question Number : 72 Question Id : 5531724986 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In plants, nitrite reduction takes place in which part of a cell ?

1. Cytoplasm
2. Vacuole
3. Chloroplast
4. Mitochondria

Options :

- 55317219885. 1
- 55317219886. 2
- 55317219887. 3
- 55317219888. 4

Question Number : 73 Question Id : 5531724987 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The examples of C₄ plants are

1. Sorghum, Rice, Wheat
2. Wheat, Sunflower, Amaranths
3. Maize, Amaranthus, Sorghum
4. Sugarcane, Maize, Wheat

Options :

- 55317219889. 1
- 55317219890. 2
- 55317219891. 3
- 55317219892. 4

Question Number : 74 Question Id : 5531724988 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In heme, four nitrogen atoms of pyrole ring coordinate (linked) to an atom of

1. Magnesium
2. Manganese
3. Iron
4. Zinc

Options :

- 55317219893. 1
- 55317219894. 2
- 55317219895. 3
- 55317219896. 4

Question Number : 75 Question Id : 5531724989 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In RUBISCO, the small sub unit is encoded by

1. Chloroplast genes
2. Mitochondrial genes
3. Nuclear genes
4. Chloroplast and mitochondrial genes

Options :

- 55317219897. 1
- 55317219898. 2
- 55317219899. 3
- 55317219900. 4

Question Number : 76 Question Id : 5531724990 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The growth parameter that measures leaf thickness is

1. Specific leaf area
2. Specific leaf weight
3. Leaf weight ratio
4. Leaf area ratio

Options :

- 55317219901. 1
- 55317219902. 2
- 55317219903. 3
- 55317219904. 4

Question Number : 77 Question Id : 5531724991 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Identify the crop among the following with the highest harvest index.

- 1. Red gram
- 2. Maize
- 3. Green gram
- 4. Rice

Options :

- 55317219905. 1
- 55317219906. 2
- 55317219907. 3
- 55317219908. 4

Question Number : 78 Question Id : 5531724992 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Donald's "Ideotype Concept" was based on physiological factors conferring closer to optimum yield in which of the following crops?

- 1. Rice
- 2. Sorghum
- 3. Mustard
- 4. Wheat

Options :

- 55317219909. 1
- 55317219910. 2
- 55317219911. 3
- 55317219912. 4

Question Number : 79 Question Id : 5531724993 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The base temperature of rice is

- 1. 14- 16 °C
- 2. 10- 12 °C
- 3. 8 -10 °C
- 4. 4- 5 °C

Options :

- 55317219913. 1
- 55317219914. 2
- 55317219915. 3
- 55317219916. 4

Question Number : 80 Question Id : 5531724994 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The hormone involved in stomatal control during water stress is

1. Ethylene
2. Cytokinins
3. GA
4. ABA

Options :

55317219917. 1

55317219918. 2

55317219919. 3

55317219920. 4

Question Number : 81 Question Id : 5531724995 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The osmolyte, mainly located in the chloroplast, that plays a vital role in stroma adjustment protects PS II at high salinity, extreme temperature or pH, is

1. Mannitol
2. Glycerol
3. Glycine betaine
4. Sucrose

Options :

55317219921. 1

55317219922. 2

55317219923. 3

55317219924. 4

Question Number : 82 Question Id : 5531724996 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The enzyme "Superoxide Dismutase" was first reported in which crop?

1. Soybean
2. Rice
3. Maize
4. Wheat

Options :

55317219925. 1

55317219926. 2

55317219927. 3

55317219928. 4

Question Number : 83 Question Id : 5531724997 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The most abundant non- enzymatic antioxidant that occur in a plant cell is

1. Betaines
2. Carotenoids
3. Ascorbic acid
4. Sugar alcohol

Options :

55317219929. 1

55317219930. 2

55317219931. 3

55317219932. 4

Question Number : 84 Question Id : 5531724998 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In chlorophyll molecules, the pyrole rings are formed from which of the following amino acids?

1. Glutamic acid
2. Glycine
3. Serine
4. Tryptophan

Options :

55317219933. 1

55317219934. 2

55317219935. 3

55317219936. 4

Question Number : 85 Question Id : 5531724999 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The maintenance of canopy structure through apical dominance is the physiological function of which of the following hormones?

1. Gibberellins
2. Cytokinins
3. Ethylene
4. Auxins

Options :

55317219937. 1

55317219938. 2

55317219939. 3

55317219940. 4

Question Number : 86 Question Id : 5531725000 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The commercially used growth regulator for increasing the berry size in grapes is

1. IAA
2. GA_3
3. Ethylene
4. NAA

Options :

55317219941. 1

55317219942. 2

55317219943. 3

55317219944. 4

Question Number : 87 Question Id : 5531725001 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The chemical employed in rubber plantations for increasing the exudation of latex from cut ends for a long time is

1. GA_3
2. Cytokinins – BA
3. Ethrel
4. NAA

Options :

55317219945. 1

55317219946. 2

55317219947. 3

55317219948. 4

Question Number : 88 Question Id : 5531725002 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In Biological Nitrogen Fixation (BNF), the electron donor for the nitrogenase enzyme is

1. Glutathione (Reduced)
2. NADPH
3. Reduced Ferredoxin
4. NADH

Options :

55317219949. 1

55317219950. 2

55317219951. 3

55317219952. 4

Question Number : 89 Question Id : 5531725003 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The precursor for phytochelatins is

1. Ferridoxine
2. Glutathione
3. Ascorbic acid
4. Tocopherol

Options :

- 55317219953. 1
- 55317219954. 2
- 55317219955. 3
- 55317219956. 4

Question Number : 90 Question Id : 5531725004 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

'White bud' in maize is due to the deficiency of which nutrient element?

1. Molybdenum
2. Zinc
3. Manganese
4. Copper

Options :

- 55317219957. 1
- 55317219958. 2
- 55317219959. 3
- 55317219960. 4

Question Number : 91 Question Id : 5531725005 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Out of the greenhouse gases, which one of the following contributes maximum to the total emissions?

1. CO₂
2. CH₄
3. N₂O
4. CFC's

Options :

- 55317219961. 1
- 55317219962. 2
- 55317219963. 3
- 55317219964. 4

Question Number : 92 Question Id : 5531725006 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

UV-B radiation occurs in which region?

1. <280nm
2. 280-325nm
3. 325-400nm
4. 400-700nm

Options :

55317219965. 1
55317219966. 2
55317219967. 3
55317219968. 4

Question Number : 93 Question Id : 5531725007 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The crop that is most resistant to sulphur dioxide (SO₂) pollution is

1. Alfalfa
2. Potato
3. Radish
4. Spinach

Options :

55317219969. 1
55317219970. 2
55317219971. 3
55317219972. 4

Question Number : 94 Question Id : 5531725008 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Late Embryogenic LEA proteins are characteristically found to have

1. High content of glycine/ small amounts of alanine & serine.
2. Small amounts of glycine/ High content of valine & Isoleucine.
3. High content of serine/ small amounts of glycine & valine.
4. Small amounts of tryptophan/ High content of lysine & tyrosine.

Options :

55317219973. 1
55317219974. 2
55317219975. 3
55317219976. 4

Question Number : 95 Question Id : 5531725009 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The precursor for brassinolide biosynthesis is

1. Lutin
2. Campesterol
3. Catechol
4. Ascorbate

Options :

- 55317219977. 1
- 55317219978. 2
- 55317219979. 3
- 55317219980. 4

Question Number : 96 Question Id : 5531725010 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The receptors for brassinosteroids (BRs) are located in which part of the cell?

1. Lysosomes
2. Mitochondria
3. Chloroplast
4. Plasma membrane

Options :

- 55317219981. 1
- 55317219982. 2
- 55317219983. 3
- 55317219984. 4

Question Number : 97 Question Id : 5531725011 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The flowering hormone "Florigen" translocate from leaf to apical tips through

1. Phloem
2. Xylem
3. Cortical cells
4. Epidermal cells

Options :

- 55317219985. 1
- 55317219986. 2
- 55317219987. 3
- 55317219988. 4

Question Number : 98 Question Id : 5531725012 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The chromophore (Prosthetic group) of phytochrome is synthesized in which part of a cell?

1. Plastids
2. Nucleus
3. Mitochondria
4. Cytoplasm

Options :

- 55317219989. 1
- 55317219990. 2
- 55317219991. 3
- 55317219992. 4

Question Number : 99 Question Id : 5531725013 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Type I phytochrome is encoded by

1. PHY A gene
2. PHY B gene
3. PHY C gene
4. PHY D gene

Options :

- 55317219993. 1
- 55317219994. 2
- 55317219995. 3
- 55317219996. 4

Question Number : 100 Question Id : 5531725014 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

An example of cultivated CAM plant is

1. Banana
2. Cocoa
3. Coconut
4. Pineapple

Options :

- 55317219997. 1
- 55317219998. 2
- 55317219999. 3
- 55317220000. 4

Question Number : 101 Question Id : 5531725015 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The soft rot of citrus fruits is due to

1. *Penicillium*
2. *Mucor*
3. *Rhizopus*
4. *Aspergillus*

Options :

- 55317220001. 1
- 55317220002. 2
- 55317220003. 3
- 55317220004. 4

**Question Number : 102 Question Id : 5531725016 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The plant hormone that plays a key role in ripening and senescence of fruits is

- 1. Papain
- 2. ABA
- 3. Ethylene
- 4. Auxins

Options :

- 55317220005. 1
- 55317220006. 2
- 55317220007. 3
- 55317220008. 4

**Question Number : 103 Question Id : 5531725017 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

An example of enzyme that is upregulated during senescence is

- 1. Ligases
- 2. RNA synthase
- 3. Rubisco
- 4. Proteases

Options :

- 55317220009. 1
- 55317220010. 2
- 55317220011. 3
- 55317220012. 4

**Question Number : 104 Question Id : 5531725018 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The vase life of cut rose flowers is positively correlated with which substance in petals?

- 1. Gibberellins
- 2. Sugar
- 3. ABA
- 4. Ethylene

Options :

- 55317220013. 1
- 55317220014. 2
- 55317220015. 3
- 55317220016. 4

Question Number : 105 Question Id : 5531725019 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

An indicator of physiological maturity in sugarcane is

1. Days to 50% flowering
2. Cane girth
3. Plant height
4. Brix value

Options :

55317220017. 1

55317220018. 2

55317220019. 3

55317220020. 4

Question Number : 106 Question Id : 5531725020 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The pH of culture medium employed in tissue culture is

1. 7 to 8
2. 5 to 6
3. 9 to 10
4. 1 to 3

Options :

55317220021. 1

55317220022. 2

55317220023. 3

55317220024. 4

Question Number : 107 Question Id : 5531725021 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Tomatoes and Cantaloupe melon fruits with delayed ripening were developed using antisense RNA targeting genes encoding which of the following enzymes

1. ACC synthase/ ACC oxidase
2. Sucrose phosphate synthase
3. ADP – glucose pyrophosphorylase
4. Polygalacturonase

Options :

55317220025. 1

55317220026. 2

55317220027. 3

55317220028. 4

Question Number : 108 Question Id : 5531725022 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

If the ratio of cytokinin to auxin in the medium is increased in tissue culture, it causes

1. No effect
2. Rooting
3. Callus formation
4. Bud initiation

Options :

- 55317220029. 1
- 55317220030. 2
- 55317220031. 3
- 55317220032. 4

Question Number : 109 Question Id : 5531725023 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Identify the test that is not employed in assessing the vigour in seeds

1. Exhaustion test
2. Respiration test
3. Speed of germination test
4. Sulphuric acid test

Options :

- 55317220033. 1
- 55317220034. 2
- 55317220035. 3
- 55317220036. 4

Question Number : 110 Question Id : 5531725024 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

During anaerobic condition, the activity of which of the following enzymes gets enhanced?

1. Pyruvate dehydrogenase
2. Fumarase/ succinate dehydrogenase
3. Alcohol dehydrogenase/ lactate dehydrogenase
4. Iso citrate lyase

Options :

- 55317220037. 1
- 55317220038. 2
- 55317220039. 3
- 55317220040. 4

Question Number : 111 Question Id : 5531725025 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The most probable secondary messenger(s) of dehydration signal in response to water deficit in plant cells is/are:

1. Ca^{2+} and IP_3
2. ABA
3. K
4. LEA proteins

Options :

55317220041. 1

55317220042. 2

55317220043. 3

55317220044. 4

Question Number : 112 Question Id : 5531725026 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The response of plants to relative length of light and dark period is

1. Thermoperiodism
2. Photoperiodism
3. Chemoperiodism
4. None of the above

Options :

55317220045. 1

55317220046. 2

55317220047. 3

55317220048. 4

Question Number : 113 Question Id : 5531725027 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The special class of ion chelators, siderophores, produced by grasses consist of

1. Sugars
2. Amino acids
3. Lipids
4. Terpenes

Options :

55317220049. 1

55317220050. 2

55317220051. 3

55317220052. 4

Question Number : 114 Question Id : 5531725028 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The cisternae interconnecting two or more grana are referred to as

1. Lamellar channels
2. Stroma channels
3. Granum channels
4. Fret channels

Options :

55317220053. 1
55317220054. 2
55317220055. 3
55317220056. 4

Question Number : 115 Question Id : 5531725029 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The major function of Golgi Bodies is

1. Lipid Processing
2. Mineral Processing
3. Protein processing
4. None of the above

Options :

55317220057. 1
55317220058. 2
55317220059. 3
55317220060. 4

Question Number : 116 Question Id : 5531725030 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Many biotic and abiotic signals of plant growth and development trigger their respective responses by transiently increasing the concentration of free cytosolic

1. Ca^{2+}
2. Mg^{2+}
3. Na^+
4. Cl^-

Options :

55317220061. 1
55317220062. 2
55317220063. 3
55317220064. 4

Question Number : 117 Question Id : 5531725031 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

A unique property of lysosomal proteins is that they

1. contain a stop transfer sequence.
2. operate only in the alkaline medium.
3. are enclosed in the clathrin coated vesicles.
4. are phosphorylated on Mannose residues.

Options :

- 55317220065. 1
- 55317220066. 2
- 55317220067. 3
- 55317220068. 4

Question Number : 118 Question Id : 5531725032 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The most predominant form of DNA under physiological conditions is:

1. B- Form
2. A-Form
3. Z - Form
4. C - Form

Options :

- 55317220069. 1
- 55317220070. 2
- 55317220071. 3
- 55317220072. 4

Question Number : 119 Question Id : 5531725033 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following shorthand notations DOES NOT represent the fatty acid mentioned against them

1. 16:0 – palmitic acid
2. 18:1 (9) – Linolenic acid
3. 20:4 (5,8,11,14) – Arachidonic acid
4. 18: 2 (9,2) – Linoleic acid

Options :

- 55317220073. 1
- 55317220074. 2
- 55317220075. 3
- 55317220076. 4

Question Number : 120 Question Id : 5531725034 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

HSP 100 family chaperones generally function in

1. Protein aggregation
2. Protein misfolding
3. Protein disaggregation
4. Protein assembly

Options :

- 55317220077. 1
- 55317220078. 2
- 55317220079. 3
- 55317220080. 4

Question Number : 121 Question Id : 5531725035 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Site directed mutagenesis in DNA molecules *in vitro* can be done by using

1. Chemical mutagens
2. Ionizing radiations
3. Transposons
4. Base analogues

Options :

- 55317220081. 1
- 55317220082. 2
- 55317220083. 3
- 55317220084. 4

Question Number : 122 Question Id : 5531725036 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Pyruvate dehydrogenase that converts pyruvate to acetyl CoA is an example of

1. Multienzyme complex
2. Coenzyme
3. Lysozyme
4. Ligand

Options :

- 55317220085. 1
- 55317220086. 2
- 55317220087. 3
- 55317220088. 4

Question Number : 123 Question Id : 5531725037 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The immobilized enzymes have the following features except that they

1. can be easily removed from the liquid suspension.
2. are more stable to inactivation in an aqueous environment than the corresponding dissolved enzymes.
3. work readily on insoluble substrates.
4. can be repeatedly used.

Options :

- 55317220089. 1
- 55317220090. 2

55317220091. 3

55317220092. 4

Question Number : 124 Question Id : 5531725038 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The serine proteases used in detergents are produced by

1. *Bacillus amyloliquifaciens*
2. *Trichoderma reesei*
3. *Aspergillus niger*
4. *Bacillus coagulans*

Options :

55317220093. 1

55317220094. 2

55317220095. 3

55317220096. 4

Question Number : 125 Question Id : 5531725039 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Enzyme engineering aims at

1. Modifying enzyme structure and function
2. Modifying the catalytic activity of isolated enzymes
3. Developing hybrid enzymes
4. All of the above

Options :

55317220097. 1

55317220098. 2

55317220099. 3

55317220100. 4

Question Number : 126 Question Id : 5531725040 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following statements is NOT true for prokaryotes?

1. Compared to eukaryotes, prokaryotes usually have smaller genomes.
2. Plasmids are essential for survival of prokaryotes .
3. DNA in prokaryotes is concentrated in the nucleoid .
4. The prokaryotic chromosome is a double stranded molecule.

Options :

55317220101. 1

55317220102. 2

55317220103. 3

55317220104. 4

Question Number : 127 Question Id : 5531725041 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

As a rule, in a split gene, the number of exons is

1. One less than number of introns it contains.
2. One more than number of introns it contains.
3. Equal to number of introns.
4. Variable is comparison to number of introns.

Options :

- 55317220105. 1
- 55317220106. 2
- 55317220107. 3
- 55317220108. 4

Question Number : 128 Question Id : 5531725042 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Pseudogenes have following features EXCEPT

1. Non-functional genes present in the genome.
2. Share greater sequence homology with parent gene.
3. Can be transcribed into RNA.
4. RNA from pseudogenes can be translated into protein.

Options :

- 55317220109. 1
- 55317220110. 2
- 55317220111. 3
- 55317220112. 4

Question Number : 129 Question Id : 5531725043 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The Pribnow box in the promoter region of prokaryotic genes is regarded as

1. Unwinding domain
2. Highly variable domain
3. -35 sequence
4. Recognition domain

Options :

- 55317220113. 1
- 55317220114. 2
- 55317220115. 3
- 55317220116. 4

Question Number : 130 Question Id : 5531725044 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In operon showing negative control, when repressor is bound to the operator

1. RNA polymerase strongly binds the promoter.
2. RNA polymerase cannot bind the promoter.
3. RNA polymerase can carry out transcription.
4. RNA polymerase can easily leave the promoter.

Options :

- 55317220117. 1
- 55317220118. 2
- 55317220119. 3
- 55317220120. 4

**Question Number : 131 Question Id : 5531725045 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The CAAT box in promoter region of eukaryotic genes plays role in promoter

- 1. specificity for transcription initiation
- 2. recognition by polymerase
- 3. efficiency in transcription initiation
- 4. configuration

Options :

- 55317220121. 1
- 55317220122. 2
- 55317220123. 3
- 55317220124. 4

**Question Number : 132 Question Id : 5531725046 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The recognition sites of the type II restriction endonucleases are predominantly

- 1. AT –Rich
- 2. GC- Rich
- 3. GG-Rich
- 4. TT-Rich

Options :

- 55317220125. 1
- 55317220126. 2
- 55317220127. 3
- 55317220128. 4

**Question Number : 133 Question Id : 5531725047 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

In a renaturation curve of eukaryotic DNA, the highly repetitive sequences

- 1. are the earliest to renature.
- 2. follow moderately repetitive sequences.
- 3. follow unique sequences.
- 4. are last to renature.

Options :

- 55317220129. 1
- 55317220130. 2
- 55317220131. 3

55317220132. 4

Question Number : 134 Question Id : 5531725048 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The OD ratio at 260 nm to 280 nm for a pure DNA sample should range between:

1. 1.0 and 1.4
2. 1.4 and 1.6
3. 1.6 and 1.8
4. 1.8 and 2.0

Options :

- 55317220133. 1
- 55317220134. 2
- 55317220135. 3
- 55317220136. 4

Question Number : 135 Question Id : 5531725049 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In reverse transcription PCR (RT-PCR), mRNA is copied into cDNA using short

1. Poly-T as primer
2. Poly-A as primer
3. Poly-G as primer
4. Poly -C as Primer

Options :

- 55317220137. 1
- 55317220138. 2
- 55317220139. 3
- 55317220140. 4

Question Number : 136 Question Id : 5531725050 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The most popular and widely used plasmid vector in molecular biology research is

1. pBR321
2. pBR322
3. pUC18
4. pUC19

Options :

- 55317220141. 1
- 55317220142. 2
- 55317220143. 3
- 55317220144. 4

Question Number : 137 Question Id : 5531725051 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The first synthetic genome were developed in

1. Viruses
2. Mouse mitochondria
3. Rice Chloroplasts
4. *Mycoplasma genitalium*

Options :

55317220145. 1

55317220146. 2

55317220147. 3

55317220148. 4

Question Number : 138 Question Id : 5531725052 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The modification of amino acid which has role in controlling life span of proteins is

1. Hydroxylation
2. Glycosylation
3. Acetylation
4. Phosphorylation

Options :

55317220149. 1

55317220150. 2

55317220151. 3

55317220152. 4

Question Number : 139 Question Id : 5531725053 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The capping of RNA involves formation of

1. 5'-5' bond between G and A
2. 5'-3' bond between G and A
3. 3' – 3' bond between G and A
4. 3' – 5' bond between G and A

Options :

55317220153. 1

55317220154. 2

55317220155. 3

55317220156. 4

Question Number : 140 Question Id : 5531725054 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In RNA- mediated interference (RNAi), the Dicer generates

1. mi RNAs
2. s RNAs
3. rasi RNAs
4. Guide RNA

Options :

- 55317220157. 1
- 55317220158. 2
- 55317220159. 3
- 55317220160. 4

Question Number : 141 Question Id : 5531725055 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The signal transduction for metabolic programming towards defence is triggered in plants is response to all the factors EXCEPT

1. Cellulose reduction
2. Changes in ion fluxes
3. ROS
4. Phytochromes

Options :

- 55317220161. 1
- 55317220162. 2
- 55317220163. 3
- 55317220164. 4

Question Number : 142 Question Id : 5531725056 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Cytoplasmic male sterility trait is conferred by

1. Chloroplast genes
2. Mitochondrial genes
3. Nuclear genes
4. Both mitochondrial and nuclear genes

Options :

- 55317220165. 1
- 55317220166. 2
- 55317220167. 3
- 55317220168. 4

Question Number : 143 Question Id : 5531725057 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Genome of which of the following crops was sequenced first?

1. Sorghum
2. *Brassica rapa*
3. Rice
4. Wheat

Options :

- 55317220169. 1
- 55317220170. 2
- 55317220171. 3
- 55317220172. 4

Question Number : 144 Question Id : 5531725058 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The sigmoidal growth curve is the characteristic feature of which type of cultures?

1. Continuous culture
2. Batch culture
3. Immobilized cell culture
4. Callus culture

Options :

- 55317220173. 1
- 55317220174. 2
- 55317220175. 3
- 55317220176. 4

Question Number : 145 Question Id : 5531725059 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The synthetic seeds contain inside the gels

1. Somatic embryos
2. Zygotic embryos
3. Shoot bud
4. Somatic embryos or shoot bud

Options :

- 55317220177. 1
- 55317220178. 2
- 55317220179. 3
- 55317220180. 4

Question Number : 146 Question Id : 5531725060 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The exchange of germplasm is carried out preferably through shoot tip culture because they are

1. Virus free
2. Meristem is present at shoot tip only
3. Shoot tip is disease free
4. All of these

Options :

- 55317220181. 1
- 55317220182. 2
- 55317220183. 3
- 55317220184. 4

**Question Number : 147 Question Id : 5531725061 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Fusion of protoplasts is induced by

- 1. Sodium nitrate
- 2. PEG
- 3. High pH/Ca²⁺
- 4. All the above

Options :

- 55317220185. 1
- 55317220186. 2
- 55317220187. 3
- 55317220188. 4

**Question Number : 148 Question Id : 5531725062 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

In RNAi, genes are silenced using

- 1. ss DNA
- 2. ds DNA
- 3. ds RNA
- 4. ss RNA

Options :

- 55317220189. 1
- 55317220190. 2
- 55317220191. 3
- 55317220192. 4

**Question Number : 149 Question Id : 5531725063 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The S1 nuclease is isolated from which of the following?

- 1. *Aspergillus oryzae*
- 2. *E.coli*
- 3. *Neisseria lactamica*
- 4. *Proteus Vulgaris*

Options :

- 55317220193. 1
- 55317220194. 2
- 55317220195. 3
- 55317220196. 4

Question Number : 150 Question Id : 5531725064 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The *barnase* and *barstar* genes were isolated from which of the following bacterium?

1. *Bacillus thuringensis*
2. *Bacillus subtilis*
3. *Agrobacterium tumefaciens*
4. *Bacillus amyloliquefaciens*

Options :

55317220197. 1

55317220198. 2

55317220199. 3

55317220200. 4

Question Number : 151 Question Id : 5531725065 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the *Agrobacterium* proteins are first to be phosphorylated in response to acetosyringone?

1. Vir A
2. Vir B
3. Vir G
4. Vir E

Options :

55317220201. 1

55317220202. 2

55317220203. 3

55317220204. 4

Question Number : 152 Question Id : 5531725066 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The *Gox* gene from *Achromobacter sp. strain LBAA* confers resistance to

1. Glufosinate
2. Bromoxynil
3. Glyphosate
4. Sulfonylureas

Options :

55317220205. 1

55317220206. 2

55317220207. 3

55317220208. 4

Question Number : 153 Question Id : 5531725067 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The transgenic *Brassica Napus* var *lauricae* with increased lauric acid content has been developed using genes from:

1. *Umbellularia californica*
2. *Oenothera spp*
3. *Borage officinalis*
4. *Arabidopsis thaliana*

Options :

- 55317220209. 1
- 55317220210. 2
- 55317220211. 3
- 55317220212. 4

Question Number : 154 Question Id : 5531725068 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is not a characteristic feature of SSR markers?

1. Codominant
2. Reproducible
3. Polyallelic
4. Dominant

Options :

- 55317220213. 1
- 55317220214. 2
- 55317220215. 3
- 55317220216. 4

Question Number : 155 Question Id : 5531725069 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Non gel-based assays are used for detection of

1. SSRs
2. SNPs
3. RAPDs
4. ISSRs

Options :

- 55317220217. 1
- 55317220218. 2
- 55317220219. 3
- 55317220220. 4

Question Number : 156 Question Id : 5531725070 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

RIL population is developed by

1. Backcross method
2. Pedigree method
3. Single seed descent method
4. Anther culture

Options :

- 55317220221. 1
- 55317220222. 2
- 55317220223. 3
- 55317220224. 4

**Question Number : 157 Question Id : 5531725071 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The contribution of an individual locus towards total performance of a quantitative trait is estimated by

1. Correlation coefficient
2. Coefficient of determination
3. Regression coefficient
4. ANOVA

Options :

- 55317220225. 1
- 55317220226. 2
- 55317220227. 3
- 55317220228. 4

**Question Number : 158 Question Id : 5531725072 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Association mapping is not based on variations

1. occurring in natural population.
2. accumulated over many generations.
3. arising due to mutations.
4. occurring in fixed mapping populations.

Options :

- 55317220229. 1
- 55317220230. 2
- 55317220231. 3
- 55317220232. 4

**Question Number : 159 Question Id : 5531725073 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The genetic basis of comparative genomic approach is

1. Synteny among genomes
2. Genetic diversity among genomes
3. Collinearity among genomes
4. Synteny and collinearity among genomes

Options :

- 55317220233. 1
- 55317220234. 2
- 55317220235. 3
- 55317220236. 4

Question Number : 160 Question Id : 5531725074 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The characteristic feature of a somatic embryo is

1. It is unipolar
2. It originates from many cells
3. It cannot be easily separated from explant
4. There is no vascular connection with explant

Options :

55317220237. 1

55317220238. 2

55317220239. 3

55317220240. 4

Question Number : 161 Question Id : 5531725075 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Ono is a somaclonal variety of

1. Sugarcane
2. Banana
3. Potato
4. Strawberry

Options :

55317220241. 1

55317220242. 2

55317220243. 3

55317220244. 4

Question Number : 162 Question Id : 5531725076 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The cell wall constituent of fungi is

1. Peptidoglycan
2. Chitin
3. Hemicellulose
4. None of the above

Options :

55317220245. 1

55317220246. 2

55317220247. 3

55317220248. 4

Question Number : 163 Question Id : 5531725077 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Protein coat of virus is

1. Capsule
2. Capsid
3. Envelope
4. Coat

Options :

- 55317220249. 1
- 55317220250. 2
- 55317220251. 3
- 55317220252. 4

Question Number : 164 Question Id : 5531725078 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Specialized nitrogen fixing cell in filamentous cyanobacteria is

1. Akinetes
2. Cysts
3. Endospore
4. Heterocyst

Options :

- 55317220253. 1
- 55317220254. 2
- 55317220255. 3
- 55317220256. 4

Question Number : 165 Question Id : 5531725079 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

In bacteria, first amino acid to initiate synthesis of a new polypeptide chain is

1. Methionine
2. Cysteine
3. Lysine
4. Arginine

Options :

- 55317220257. 1
- 55317220258. 2
- 55317220259. 3
- 55317220260. 4

Question Number : 166 Question Id : 5531725080 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Currently, bacterial phylogeny is based on

1. GC content
2. DNA-DNA hybridization
3. 16 rRNA gene sequencing
4. DNA melting temperature analysis

Options :

- 55317220261. 1
- 55317220262. 2
- 55317220263. 3
- 55317220264. 4

Question Number : 167 Question Id : 5531725081 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The energy source for the genus *Nitrosomonas* is

- 1. Ammonia
- 2. Nitrate
- 3. Nitrite
- 4. Molecular nitrogen

Options :

- 55317220265. 1
- 55317220266. 2
- 55317220267. 3
- 55317220268. 4

Question Number : 168 Question Id : 5531725082 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

What does the bacteriophage M13 contains as its genetic material?

- 1. ss RNA
- 2. ds RNA
- 3. ss DNA
- 4. ds DNA

Options :

- 55317220269. 1
- 55317220270. 2
- 55317220271. 3
- 55317220272. 4

Question Number : 169 Question Id : 5531725083 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

For glycolysis to continue, NAD must be generated through

- 1. Fermentation
- 2. Aerobic respiration
- 3. Anaerobic respiration
- 4. All of the above

Options :

- 55317220273. 1
- 55317220274. 2
- 55317220275. 3
- 55317220276. 4

Question Number : 170 Question Id : 5531725084 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Immediately after inoculation of the microbial cells into fresh medium, the phase in which population remains temporarily unchanged is referred to as

1. Lag phase
2. Log phase
3. Stationary phase
4. Decline phase

Options :

55317220277. 1

55317220278. 2

55317220279. 3

55317220280. 4

Question Number : 171 Question Id : 5531725085 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following compound is produced as a secondary metabolite in fermentation process ?

1. Lactic acid
2. Amino acid
3. Ethanol
4. Penicillin

Options :

55317220281. 1

55317220282. 2

55317220283. 3

55317220284. 4

Question Number : 172 Question Id : 5531725086 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is an example for symbiosis?

1. AM fungi + plants
2. *Rhizobium* + legumes
3. *Frankia* + Actinorhizobial plants
4. All of the above

Options :

55317220285. 1

55317220286. 2

55317220287. 3

55317220288. 4

Question Number : 173 Question Id : 5531725087 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Nodulation of parasponia, a non- leguminous plant in due to

1. *Rhizobium*
2. *Frankia*
3. Cyanobacteria
4. *Herbaspirillum*

Options :

- 55317220289. 1
- 55317220290. 2
- 55317220291. 3
- 55317220292. 4

Question Number : 174 Question Id : 5531725088 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Protection of nitrogenase in *Clostridium* is due to

1. Leghaemoglobin
2. Seta protein coat
3. Higher respiratory activity in the vicinity of nitrogenase
4. *Clostridium* nitrogenase does not require any protection from oxygen

Options :

- 55317220293. 1
- 55317220294. 2
- 55317220295. 3
- 55317220296. 4

Question Number : 175 Question Id : 5531725089 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

PGPR produces ACC deaminase to reduce the level of

1. Acetylene
2. Ethylene
3. IAA
4. Oxygen

Options :

- 55317220297. 1
- 55317220298. 2
- 55317220299. 3
- 55317220300. 4

Question Number : 176 Question Id : 5531725090 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The term Rhizosphere was coined by

1. Hiltner
2. Beijerinck
3. Winogradsky
4. Pasteur

Options :

- 55317220301. 1
- 55317220302. 2
- 55317220303. 3
- 55317220304. 4

**Question Number : 177 Question Id : 5531725091 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Which of the following is a microaerobic N₂ fixing bacteria?

- 1. *Azotobacter*
- 2. *Clostridium*
- 3. *Azospirillum*
- 4. *Rhizobium*

Options :

- 55317220305. 1
- 55317220306. 2
- 55317220307. 3
- 55317220308. 4

**Question Number : 178 Question Id : 5531725092 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Nitrogen fixation by prokaryotes is due to the presence of

- 1. Nif gene
- 2. Pen gene
- 3. Cry gene
- 4. Myc gene

Options :

- 55317220309. 1
- 55317220310. 2
- 55317220311. 3
- 55317220312. 4

**Question Number : 179 Question Id : 5531725093 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Which microbe has been used against insect pests?

- 1. *Agrobacterium tumefaciens*
- 2. *Agrobacterium rhizogenes*
- 3. *Bacillus thuringiensis*
- 4. *Fusarium nudum*

Options :

- 55317220313. 1
- 55317220314. 2
- 55317220315. 3
- 55317220316. 4

Question Number : 180 Question Id : 5531725094 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The oxidation of elemental sulphur is mainly performed by

1. *Thiobacillus sp*
2. *Glomus sp*
3. *Bacillus sp*
4. *Aspergillus sp*

Options :

55317220317. 1

55317220318. 2

55317220319. 3

55317220320. 4

Question Number : 181 Question Id : 5531725095 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Match the items in Group I with those of Group II.

(a) Axenic culture culture	I	More than one microbe in a culture
(b) Clone culture physiological stage	II	All cells are in same
(c) Synchronous culture contaminants	III	Culture free from all
(d) Mixed culture derived from single cell	IV	Population in a culture

1. a -(IV), b -(III), c- (II), d- (I)
2. a-(II), b-(IV), c -(I), d- (III)
3. a-(I), b-(III), c-(II), d-(IV)
4. a-(III), b-(IV), c-(II), d-(I)

Options :

55317220321. 1

55317220322. 2

55317220323. 3

55317220324. 4

Question Number : 182 Question Id : 5531725096 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Heterocyst's of cyanobacteria lack

1. PS I
2. PS II
3. Nitrogenase
4. Nitrogenase reductase

Options :

55317220325. 1

55317220326. 2

55317220327. 3

55317220328. 4

**Question Number : 183 Question Id : 5531725097 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

In an autoclave, which form of heat is used for sterilization?

1. Dry heat
2. Moist heat
3. Vacuum heat
4. All of the above

Options :

55317220329. 1

55317220330. 2

55317220331. 3

55317220332. 4

**Question Number : 184 Question Id : 5531725098 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The optimal pH for methane production by methanogenic bacteria is

1. 4.1 to 5.4
2. 6.8 to 7.2
3. 8.4 to 9.4
4. 9.8 to 10.8

Options :

55317220333. 1

55317220334. 2

55317220335. 3

55317220336. 4

**Question Number : 185 Question Id : 5531725099 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Presumptive, confirmative and completed tests are associated with

1. Potability test of drinking water
2. Food spoilage
3. Waste water treatment
4. Air quality testing

Options :

55317220337. 1

55317220338. 2

55317220339. 3

55317220340. 4

**Question Number : 186 Question Id : 5531725100 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

The ability of microscope to distinguish two objects into two separate objects is referred to as

1. Resolving power
2. Wave length
3. Numerical Aperture
4. Magnification

Options :

- 55317220341. 1
- 55317220342. 2
- 55317220343. 3
- 55317220344. 4

Question Number : 187 Question Id : 5531725101 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is NOT the criterion for using rRNA as evolutionary chronometers?

1. Larger size of ribosomal RNAs
2. rRNAs are functionally invariant
3. rRNAs are universally distributed
4. rRNAs have enzyme activity

Options :

- 55317220345. 1
- 55317220346. 2
- 55317220347. 3
- 55317220348. 4

Question Number : 188 Question Id : 5531725102 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Industrial production of citric acid requires

1. Oxygen, sugars and *Acetobacter sp*
2. Oxygen, sugars and *E. coli*
3. Oxygen, sugars and *Aspergillus niger*
4. Oxygen, sugars and *Azospirillum lipoferum*

Options :

- 55317220349. 1
- 55317220350. 2
- 55317220351. 3
- 55317220352. 4

Question Number : 189 Question Id : 5531725103 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Putrefaction is the anaerobic decomposition of

1. Protein
2. Carbohydrate
3. Fat
4. Lipid

Options :

- 55317220353. 1
- 55317220354. 2
- 55317220355. 3
- 55317220356. 4

**Question Number : 190 Question Id : 5531725104 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Restriction endonuclease which recognize and cut same recognition sequences are known as

- 1. Isoschizomers
- 2. Isozymes
- 3. Isoaccepting endonuclease
- 4. Abzymes

Options :

- 55317220357. 1
- 55317220358. 2
- 55317220359. 3
- 55317220360. 4

**Question Number : 191 Question Id : 5531725105 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Stable transformation of plants is reliably obtained by

- 1. *Agrobacterium* plasmid integration
- 2. Electroporation
- 3. Microinfection
- 4. Silicon Carbide whisker

Options :

- 55317220361. 1
- 55317220362. 2
- 55317220363. 3
- 55317220364. 4

**Question Number : 192 Question Id : 5531725106 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 4 Wrong Marks : 1

Which of the following eukaryotic organism have been proven to be great industrial importance?

- 1. *Penicillium chrysogenum*
- 2. *Bacillus subtilis*
- 3. *Saccharomyces cerevisiae*
- 4. *Streptomyces griseus*

Options :

- 55317220365. 1
- 55317220366. 2
- 55317220367. 3
- 55317220368. 4

Question Number : 193 Question Id : 5531725107 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Virus mediated transfer of gene in bacteria is referred to as

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

Options :

55317220369. 1

55317220370. 2

55317220371. 3

55317220372. 4

Question Number : 194 Question Id : 5531725108 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Match the items in Group I with the items in Group II.

Group I

Group II

- | | | |
|-----------------|-----|---------------------------------|
| (a) Brandy | I | <i>Ashbya gossypii</i> |
| (b) Citric acid | II | <i>Acetobacter aceti</i> |
| (c) Vinegar | III | <i>Saccharomyces cerevisiae</i> |
| (d) Riboflavin | IV | <i>Aspergillus niger</i> |

1. a- (III), b-(II), c-(IV), d-(I)
2. a -(III), b-(IV), c-(II), d-(I)
3. a-(I), b -(III), c-(II), d-(IV)
4. a-(II), b-(IV), c-(III), d- (I)

Options :

55317220373. 1

55317220374. 2

55317220375. 3

55317220376. 4

Question Number : 195 Question Id : 5531725109 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The substrate for restriction enzyme is_

1. ss RNA
2. ds DNA
3. ds RNA
4. Cell wall protein

Options :

55317220377. 1

55317220378. 2

55317220379. 3

55317220380. 4

Question Number : 196 Question Id : 5531725110 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which one of the following is considered as a coliform?

1. *Pseudomonas*
2. *Proteus*
3. *Enterobacter*
4. *Streptococcus*

Options :

55317220381. 1

55317220382. 2

55317220383. 3

55317220384. 4

Question Number : 197 Question Id : 5531725111 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

The source of electron donor and electron acceptor is organic molecule in which of the following processes?

1. Aerobic respiration
2. Anaerobic respiration
3. Fermentation
4. All of the above

Options :

55317220385. 1

55317220386. 2

55317220387. 3

55317220388. 4

Question Number : 198 Question Id : 5531725112 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

What is the order of regents used in Gram stain?

1. Crystal violet, iodine, safranin, decolourizer
2. Crystal violet, iodine, decolourizer, safranin
3. Safranin, crystal violet, decolourizer, iodine
4. Crystal violet, safranin, iodine, decolourizer

Options :

55317220389. 1

55317220390. 2

55317220391. 3

55317220392. 4

Question Number : 199 Question Id : 5531725113 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following fungi on infecting crop roots can improve the uptake of phosphorous and other nutrients?

1. *Saccharomyces cerevisiae*
2. *Candida torulopsis*
3. AM fungi
4. *Aspergillus niger*

Options :

55317220393. 1

55317220394. 2

55317220395. 3

55317220396. 4

Question Number : 200 Question Id : 5531725114 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 1

Which of the following is NOT the method of genetic recombination in bacteria?

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

Options :

55317220397. 1

55317220398. 2

55317220399. 3

55317220400. 4