

9/16/2020

National Testing Agency

Question Paper Name :	Advances in Agricultural Engineering
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Advances in Agricultural Engineering

Group Number :	1
Group Id :	8995143
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No

Advances in Agricultural Engineering

Section Id :	8995143
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100

9/16/2020

Number of Questions to be attempted :	100
Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	8995143
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 899514141 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

When hydrogen ions outnumber hydroxyl ions in a soil, the soil becomes -

- a) Acidic
- b) Basic
- c) Neutral
- d) None of the above

Options :

- 899514561. 1
- 899514562. 2
- 899514563. 3
- 899514564. 4

Question Number : 2 Question Id : 899514142 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

9/16/2020

With increase in clay content of soil, the Cation Exchange Capacity-

- a) Increases
- b) Remains unaltered
- c) Decreases
- d) Decreases, then increases

Options :

899514565. 1

899514566. 2

899514567. 3

899514568. 4

Question Number : 3 Question Id : 899514143 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following cations are required to calculate Cation Exchange Capacity of a soil?

- a) Calcium
- b) Magnesium
- c) Ammonium
- d) All of the above

Options :

899514569. 1

899514570. 2

899514571. 3

9/16/2020

899514572. 4

Question Number : 4 Question Id : 899514144 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The lightness or darkness of a soil is measured as

- a) Hue
- b) Value
- c) Chroma
- d) Redness

Options :

899514573. 1

899514574. 2

899514575. 3

899514576. 4

Question Number : 5 Question Id : 899514145 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which of the following soil separates has the highest water and nutrient holding capacity?

- a) Sand
- b) Silt
- c) Clay
- d) Gravel

Options :

899514577. 1

899514578. 2

899514579. 3

899514580. 4

Question Number : 6 Question Id : 899514146 Question Type : MCQ Option Shuffling : No Display Question

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Relative proportion of sand, silt and clay in a soil is known as-

- a) Soil structure
- b) Soil texture
- c) Soil strength
- d) Soil permeability

Options :

899514581. 1

899514582. 2

899514583. 3

9/16/2020

899514584. 4

Question Number : 7 Question Id : 899514147 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Distinct structural units formed as a result of aggregation of soil separates are termed as-

- a) Pores
- b) Channels
- c) Separates
- d) Peds

Options :

899514585. 1

899514586. 2

899514587. 3

899514588. 4

Question Number : 8 Question Id : 899514148 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

The apparent conductivity of soil increases with increase in

- a) Clay
- b) Water content
- c) Soluble salts
- d) All of the above

Options :

- 899514589. 1
- 899514590. 2
- 899514591. 3
- 899514592. 4

Question Number : 9 Question Id : 899514149 Question Type : MCQ Option Shuffling : No Display Question

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Apparent conductivity of a soil is measured in-

- a) mS/m
- b) $m\Omega.m$
- c) V/m
- d) ρ/m

Options :

- 899514593. 1
- 899514594. 2
- 899514595. 3
- 899514596. 4

9/16/2020

Question Number : 10 Question Id : 899514150 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The wavelength range at which VisNIR spectroscopy operates is

- a) 350-750 nm
- b) 350-1050 nm
- c) 350-1900 nm
- d) 350-2500 nm

Options :

- 899514597. 1
- 899514598. 2
- 899514599. 3
- 899514600. 4

Question Number : 11 Question Id : 899514151 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

What is used to optimize the spectroradiometer?

- a) Black reference panel
- b) White reference panel
- c) Red reference panel
- d) Blue reference panel

Options :

- 899514601. 1
- 899514602. 2
- 899514603. 3

9/16/2020

899514604. 4

Question Number : 12 Question Id : 899514152 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the full form of DEM?

- a) Digital Elevation Method
- b) Digital Evolution Model
- c) Digital Elevation Model
- d) Digital Elevation Mapping

Options :

899514605. 1

899514606. 2

899514607. 3

899514608. 4

Question Number : 13 Question Id : 899514153 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$Z(s) = Z^*(s) + \epsilon'(s) + \epsilon''(s)$. In this equation, what is $Z^*(s)$?

- a) Deterministic component
 - b) Pure noise
 - c) Random component
 - d) Spatially correlated component
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9/16/2020

Options :

899514609. 1

899514610. 2

899514611. 3

899514612. 4

Question Number : 14 Question Id : 899514154 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0****Spatial Variability**
$$= \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

- a) Random component + pure noise + human error
- b) Deterministic process + stoichiometric process + human error
- c) Deterministic process + stochastic process + pure noise
- d) Deterministic process + stoichiometric process + pure noise

Options :

899514613. 1

899514614. 2

899514615. 3

899514616. 4

Question Number : 15 Question Id : 899514155 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

9/16/2020

If $S(X_i, Y_i)$ denotes a location, then what are X_i and Y_i ?

- a) Values of the coordinates
- b) Values of the location
- c) Accurate position in an area
- d) All of these

Options :

899514617. 1

899514618. 2

899514619. 3

899514620. 4

Question Number : 16 Question Id : 899514156 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In Inverse distance interpolation, the sum of all the weights should be

- a) 1
- b) 0
- c) <1
- d) >0

Options :

899514621. 1

899514622. 2

899514623. 3

899514624. 4

9/16/2020

Question Number : 17 Question Id : 899514157 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

Soil properties change with-

- a) Time
- b) Climate
- c) Relief
- d) All of the above

Options :

899514625. 1

899514626. 2

899514627. 3

899514628. 4

Question Number : 18 Question Id : 899514158 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

Which one is not a variogram model?

- a) Gaussian
- b) Exponential
- c) Linear
- d) Circular

Options :

899514629. 1

899514630. 2

9/16/2020

899514631. 3

899514632. 4

Question Number : 19 Question Id : 899514159 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Variogram measures the variability of the data _____

- a) With respect to actual distribution
- b) With respect to random distribution
- c) With respect to spatial distribution
- d) All of these

Options :

899514633. 1

899514634. 2

899514635. 3

899514636. 4

Question Number : 20 Question Id : 899514160 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The standard version of Kriging is called-

- a) Ordinary kriging
 - b) Universal kriging
 - c) Indicator kriging
 - d) Cokriging
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9/16/2020

Options :

- 899514637. 1
- 899514638. 2
- 899514639. 3
- 899514640. 4

Question Number : 21 Question Id : 899514161 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The future mechanization should develop efficient machines that will require-

- a) More energy per hectare
- b) Less energy per hectare
- c) More energy per ton of produce
- d) Less energy per ton of produce

Options :

- 899514641. 1
- 899514642. 2
- 899514643. 3
- 899514644. 4

Question Number : 22 Question Id : 899514162 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

The process of agricultural mechanization is dynamic, because it has -

- a) No ultimate goal
- b) Ultimate goal to introduce agricultural robots
- c) Ultimate goal to eliminate human control
- d) Ultimate goal to eliminate human presence

Options :

899514645. 1
899514646. 2
899514647. 3
899514648. 4

Question Number : 23 Question Id : 899514163 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The current trend in tractors is

- a) Track-layered tractors
- b) Dual wheel tractors
- c) Less powerful small tractors
- d) More powerful large tractors

Options :

899514649. 1
899514650. 2
899514651. 3
899514652. 4

9/16/2020

Question Number : 24 Question Id : 899514164 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

Which of the following, you think is relatively more challenging task in mechanization-

- a) Water lifting for irrigation
- b) Harvesting of fruits
- c) Tillage
- d) Planting

Options :

899514653. 1

899514654. 2

899514655. 3

899514656. 4

Question Number : 25 Question Id : 899514165 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

In the nine stages in the adoption process of mechanization, *stationary power substitution* stage comes after-

- a) Motive power substitution
- b) Farming system adaptation
- c) Plant adaptation
- d) Draft animal power application

9/16/2020

Options :

- 899514657. 1
- 899514658. 2
- 899514659. 3
- 899514660. 4

Question Number : 26 Question Id : 899514166 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When considering technical, economic and social characteristics of local situation, the agriculture is referred to as-

- a) Intensive agriculture
- b) Extensive agriculture
- c) Appropriate agriculture
- d) Sustainable agriculture

Options :

- 899514661. 1
- 899514662. 2
- 899514663. 3
- 899514664. 4

Question Number : 27 Question Id : 899514167 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which of the following is NOT the core principle purpose of mechanization?

- a) Increase in labor productivity
- b) Increase in land productivity
- c) Decrease in cost of production
- d) Decrease in environmental impact

Options :

899514665. 1
899514666. 2
899514667. 3
899514668. 4

Question Number : 28 Question Id : 899514168 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

India's position in world agriculture is the First in production of these agricultural produce, except-

- a) Wheat
- b) Pulses
- c) Banana
- d) Jute

Options :

899514669. 1
899514670. 2
899514671. 3
899514672. 4

9/16/2020

Question Number : 29 Question Id : 899514169 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Considering the number of operational land holding, proportion of the marginal land (<1 ha) in India is about-

- a) One-fourth
- b) One-third
- c) Half
- d) Two-third

Options :

899514673. 1

899514674. 2

899514675. 3

899514676. 4

Question Number : 30 Question Id : 899514170 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

9/16/2020

The proportion of electricity consumption in Indian agriculture of the country's overall total annual electricity consumption is about-

- a) <5%
- b) 20%
- c) 50%
- d) 80%

Options :

- 899514677. 1
- 899514678. 2
- 899514679. 3
- 899514680. 4

Question Number : 31 Question Id : 899514171 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The proportion of total gross irrigated area out of the total area sown in the country is about-

- a) <5%
- b) 20%
- c) 50%
- d) 80%

Options :

- 899514681. 1
- 899514682. 2
- 899514683. 3

9/16/2020

899514684. 4

Question Number : 32 Question Id : 899514172 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The current average consumption of plant nutrients per unit of gross cropped area in the country is about-

- a) 75 kg/ha
- b) 125 kg/ha
- c) 195 kg/ha
- d) 225 kg/ha

Options :

899514685. 1

899514686. 2

899514687. 3

899514688. 4

Question Number : 33 Question Id : 899514173 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which among the following crops in the country is the most expensive to grow, considering the average costs of production-

- a) Sugarcane
- b) Potato
- c) Cotton
- d) Rice

Options :

- 899514689. 1
- 899514690. 2
- 899514691. 3
- 899514692. 4

Question Number : 34 Question Id : 899514174 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Total material flowing through the harvesting machine is known as-

- a) Field efficiency
- b) Field capacity
- c) Material capacity
- d) Throughput capacity

Options :

- 899514693. 1
- 899514694. 2
- 899514695. 3
- 899514696. 4

9/16/2020

Question Number : 35 Question Id : 899514175 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Field Efficiency of a machine is defined as the ratio of-

- a) Effective field capacity to Theoretical field capacity
- b) Theoretical field capacity to Effective field capacity
- c) Material capacity to Throughput capacity
- d) Throughput capacity to Material capacity

Options :

899514697. 1

899514698. 2

899514699. 3

899514700. 4

Question Number : 36 Question Id : 899514176 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The energy generated through the metabolic transformation of food energy into muscle energy in the human body is referred to as-

- a) Exosomatic energy
- b) Endosomatic energy
- c) Direct energy
- d) Indirect energy

9/16/2020

Options :

- 899514701. 1
- 899514702. 2
- 899514703. 3
- 899514704. 4

Question Number : 37 Question Id : 899514177 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For an agricultural ecosystem where very small workforce is engaged in agriculture, and the labor productivity is very high, the Exo:Endo ratio of energies in agriculture would normally be-

- a) High (>30)
- b) Low (<10)
- c) Not depending on these two factors
- d) Not defined

Options :

- 899514705. 1
- 899514706. 2
- 899514707. 3
- 899514708. 4

Question Number : 38 Question Id : 899514178 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Life Cycle Assessment is a tool used for evaluating system's performance in the dimension of-

- a) Technical
- b) Economics
- c) Energy
- d) Environment

Options :

- 899514709. 1
- 899514710. 2
- 899514711. 3
- 899514712. 4

Question Number : 39 Question Id : 899514179 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Energy Efficiency Ratio (EER) used for evaluating system's performance, is the ratio of-

- a) Energy input : Energy output
- b) Energy output : Energy input
- c) Product input : Product output
- d) Product output : Product input

Options :

- 899514713. 1
- 899514714. 2

9/16/2020

899514715. 3

899514716. 4

Question Number : 40 Question Id : 899514180 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Eco-efficiency, used for evaluating system's performance, is the ratio of-

- a) GHG emissions : Product output
- b) Gross economic return : GHG emissions
- c) GHG emissions : Production cost
- d) Product output : Gross economic return

Options :

899514717. 1

899514718. 2

899514719. 3

899514720. 4

Question Number : 41 Question Id : 899514181 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

9/16/2020

Rubber dam foundation is connected to the downstream riverbed by a steep slope of-

- a) 1:4 to 1:2
- b) 1:2 to 1:3
- c) 1:1 to 1:4
- d) 1:1 to 1:2

Options :

899514721. 1

899514722. 2

899514723. 3

899514724. 4

Question Number : 42 Question Id : 899514182 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The range of drainable porosity (%) for clayey textured soils is ____

- a) 20-30
- b) 13-19
- c) 5-12
- d) 1-4

Options :

899514725. 1

899514726. 2

899514727. 3

899514728. 4

9/16/2020

Question Number : 43 Question Id : 899514183 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following structure is recommended for the drops of more than 9m?

- a) Drop spillway
- b) Chute spillway
- c) Drop inlet spillway
- d) All of the above

Options :

899514729. 1

899514730. 2

899514731. 3

899514732. 4

Question Number : 44 Question Id : 899514184 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which of the following types of gullies are formed when both surface and subsurface soils are eroded?

- a) U-shaped
- b) V-shaped
- c) L-Shaped
- d) Rectangular

Options :

899514733. 1
899514734. 2
899514735. 3
899514736. 4

Question Number : 45 Question Id : 899514185 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lysimeter is used to measure

- a) Evapotranspiration
- b) Infiltration
- c) Hydraulic conductivity
- d) All of above

Options :

899514737. 1
899514738. 2
899514739. 3
899514740. 4

9/16/2020

Question Number : 46 Question Id : 899514186 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is correct?

- a) Sheet erosion refers to soil loss caused by the movement of ice sheets across a landscape
- b) Gullies are scars that are small enough to be smoothed by normal tillage
- c) Erosion is most likely when rainfall rate exceeds the soil's infiltration capacity
- d) Rills on cropland are too large for a tractor to pass over

Options :

899514741. 1

899514742. 2

899514743. 3

899514744. 4

Question Number : 47 Question Id : 899514187 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

A tile drainage system is laid along a length of 30 m with laterals spaced 25 m apart. If the outflow through one lateral is measured to be 132000 L/day, the drainage co-efficient (in cm/day) will be

- a) 0.176
- b) 17.6
- c) 1.76
- d) 176

Options :

899514745. 1

899514746. 2

899514747. 3

899514748. 4

Question Number : 48 Question Id : 899514188 Question Type : MCQ Option Shuffling : No Display Question

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

An area of 1 ha was irrigated in 15 h with a stream of 20 L/s. Depth of root zone was 80 cm and available moisture holding capacity 20 cm/m. Irrigation was applied when 50% of available moisture was depleted. Water application efficiency was 60%. Determine the water storage efficiency.

- a) 61%
- b) 71%
- c) 51%
- d) 81%

Options :

899514749. 1

899514750. 2

899514751. 3

899514752. 4

Question Number : 49 Question Id : 899514189 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

If the yield for an irrigated and rainfed rice is 3.9 and 2.5 t/ha, respectively, and the evapotranspiration for these is 45 and 35 cm, respectively, the Yield-ET ratio of the crop (in kg/ha-cm) will be-

- a) 140
- b) 120
- c) 100
- d) 160

Options :

899514753. 1

899514754. 2

899514755. 3

899514756. 4

Question Number : 50 Question Id : 899514190 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

A farm of 10 ha area constitute of 70% cultivated land and 30% pasture land, observed a maximum rainfall intensity of 30 years record as 42 mm/h. Assuming the runoff coefficient for cultivated land as 0.5 and pasture land as 0.36, determine the peak runoff (in m^3/s).

- a) 0.5-0.6
- b) 0.7-0.8
- c) 1.0-2.0
- d) 5.0-6.0

Options :

899514757. 1

899514758. 2

899514759. 3

899514760. 4

Question Number : 51 Question Id : 899514191 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Red edge is located in a wavelength band between approximately-

- a) 490-530 nm
- b) 790-830 nm
- c) 690-730 nm
- d) 790-810 nm

Options :

899514761. 1

9/16/2020

899514762. 2

899514763. 3

899514764. 4

Question Number : 52 Question Id : 899514192 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of these missions is dedicated to precipitation measurements?

- a) NASA-JAXA-TRMM
- b) NOAA CMOPH
- c) MADRAS
- d) All of the above

Options :

899514765. 1

899514766. 2

899514767. 3

899514768. 4

Question Number : 53 Question Id : 899514193 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which one of these variables is generally obtained by data assimilation models?

- a) Soil Moisture
- b) Runoff
- c) Vegetation Index
- d) Snow cover

Options :

- 899514769. 1
- 899514770. 2
- 899514771. 3
- 899514772. 4

Question Number : 54 Question Id : 899514194 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A dry vegetation has _____

- a) A lower reflectance in red region than of healthy vegetation
- b) A higher reflectance in red region than of healthy vegetation
- c) A higher reflectance in infrared region than of healthy vegetation
- d) None of the above

Options :

- 899514773. 1
- 899514774. 2
- 899514775. 3
- 899514776. 4

9/16/2020

Question Number : 55 Question Id : 899514195 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Hydrological Response Units (HRUs) are defined by.....

- a) lumping similar land use, and slope characteristics within a given sub-basin based on user-defined thresholds for each category
- b) lumping similar land use, soil type, and optionally slope characteristics within a given sub-basin based on user-defined thresholds for each category
- c) lumping only similar soil type within a given sub-basin based on user-defined thresholds
- d) None of the above

Options :

899514777. 1

899514778. 2

899514779. 3

899514780. 4

Question Number : 56 Question Id : 899514196 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

9/16/2020

Agricultural Drought is commonly identified by analysing?

- a) NDVI, and Evapotranspiration
- b) Precipitation
- c) Runoff, and Ground water
- d) Soil Temperature

Options :

- 899514781. 1
- 899514782. 2
- 899514783. 3
- 899514784. 4

Question Number : 57 Question Id : 899514197 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ratio of the total solar radiant energy returned by a planetary body to the total radiant energy incident on the body, the called:

- a) Reflectance
- b) Reflectance factor
- c) Albedo
- d) None of these

Options :

- 899514785. 1
- 899514786. 2
- 899514787. 3

9/16/2020

899514788. 4

Question Number : 58 Question Id : 899514198 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The spectral region of the electromagnetic radiation which passes through the atmosphere without much attenuation is known as:

- a) Ozone hole
- b) Atmospheric window
- c) Ozone window
- d) Black hole

Options :

899514789. 1

899514790. 2

899514791. 3

899514792. 4

Question Number : 59 Question Id : 899514199 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

The instruments which provide electromagnetic radiation of specified wave length or a band of wave lengths to illuminate the earth surface are called:

- a) Sensors
- b) Passive sensors
- c) Active sensors
- d) None of these

Options :

899514793. 1

899514794. 2

899514795. 3

899514796. 4

Question Number : 60 Question Id : 899514200 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Leaf reflectance depends primarily on:

- a) The pigments
- b) Internal cell structure
- c) Equivalent water content
- d) All of these

Options :

899514797. 1

899514798. 2

899514799. 3

899514800. 4

9/16/2020

Question Number : 61 Question Id : 899514201 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Temperature time combination for vat pasteurization of milk is

- a) 63°C for 30 min
- b) 66°C for 15 min
- c) 70°C for 20 min
- d) 60°C for 40 min

Options :

- 899514801. 1
- 899514802. 2
- 899514803. 3
- 899514804. 4

Question Number : 62 Question Id : 899514202 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

9/16/2020

F-value can be calculated by the formula-

a) $F_T = D_T \log\left(\frac{N}{N_0}\right)$

b) $F_T = D_T \log\left(\frac{N_0}{N}\right)$

c) $F_T = Z \log\left(\frac{N}{N_0}\right)$

d) $F_T = D_T \log\left(\frac{D}{N_0}\right)$

Options :

899514805. 1

899514806. 2

899514807. 3

899514808. 4

Question Number : 63 Question Id : 899514203 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Which of the following is not a concentrating type solar collector system

- a) Parabolic trough system
- b) Linear fresnel reflector
- c) Solar dish system
- d) Evacuated tube collector

Options :

- 899514809. 1
- 899514810. 2
- 899514811. 3
- 899514812. 4

Question Number : 64 Question Id : 899514204 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one is NOT a critical processing factors for ultra sound pasteurization:

- a) amplitude of the ultrasound waves
- b) exposure/contact time with the microorganisms
- c) type of microorganisms
- d) type of food material

Options :

- 899514813. 1
- 899514814. 2
- 899514815. 3
- 899514816. 4

9/16/2020

Question Number : 65 Question Id : 899514205 Question Type : MCQ Option Shuffling : No Display Question

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Generally PEF treatment is applied for

- a) Minimum 10 min
- b) Less than 1 sec
- c) More than 30 min
- d) None of the above

Options :

899514817. 1

899514818. 2

899514819. 3

899514820. 4

Question Number : 66 Question Id : 899514206 Question Type : MCQ Option Shuffling : No Display Question

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Solar ovens work on the principle of _____ to convert sunlight to heat

- a) absorption
- b) reflection
- c) green house effect
- d) absorption, reflection and green house effect

Options :

899514821. 1

899514822. 2

9/16/2020

899514823. 3

899514824. 4

Question Number : 67 Question Id : 899514207 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The capacity of wind turbines used for grain milling purpose is in the range of

- _____
- a) 1-5 MW
 - b) 3-15 MW
 - c) 2-22 MW
 - d) 2-20 MW

Options :

899514825. 1

899514826. 2

899514827. 3

899514828. 4

Question Number : 68 Question Id : 899514208 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

The D value at 121°C and z value of microbial spore in a food material are 30 s and 10 °C, respectively. The D value of the spore at 150°C will be _____.

- a) 0.038 s
- b) 0.564 s
- c) 0.122 s
- d) 1.243 s

Options :

- 899514829. 1
- 899514830. 2
- 899514831. 3
- 899514832. 4

Question Number : 69 Question Id : 899514209 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

After critical moisture content, _____ starts.

- a) Saturated drying region
- b) Unsaturated drying region
- c) Constant drying region
- d) None of the mentioned

Options :

- 899514833. 1
- 899514834. 2

9/16/2020

899514835. 3

899514836. 4

Question Number : 70 Question Id : 899514210 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Most commonly used refrigerant in direct immersion freezing of food is-

- a) R-22
- b) CFC
- c) Liq. N₂
- d) R-410

Options :

899514837. 1

899514838. 2

899514839. 3

899514840. 4

Question Number : 71 Question Id : 899514211 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is a water soluble Vitamin:

- a) Vitamin C
- b) Vitamin D
- c) Vitamin E
- d) Vitamin A

9/16/2020

Options :

- 899514841. 1
- 899514842. 2
- 899514843. 3
- 899514844. 4

Question Number : 72 Question Id : 899514212 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A color measurement movement in the $+b^*$ direction depicts a shift toward

- a) Green
- b) Red
- c) Yellow
- d) Blue

Options :

- 899514845. 1
- 899514846. 2
- 899514847. 3
- 899514848. 4

Question Number : 73 Question Id : 899514213 Question Type : MCQ Option Shuffling : No Display Quest

Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

The term biomass most often refers to _____.

- a) Inorganic matter
- b) Organic matter
- c) Chemicals
- d) Ammonium compounds

Options :

899514849. 1

899514850. 2

899514851. 3

899514852. 4

Question Number : 74 Question Id : 899514214 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following provides good quality dried products?

- a) Open sun drying
- b) Direct solar drying
- c) Mixed-mode solar drying
- d) Indirect solar drying

Options :

899514853. 1

899514854. 2

899514855. 3

899514856. 4

9/16/2020

Question Number : 75 Question Id : 899514215 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Exergy rate of the collector entrance is the sum of _____ and the exergy of the input fluid.

- a) Exergy rate of absorber plate
- b) Energy rate of solar radiation
- c) Exergy rate of solar radiation
- d) Energy of the incoming fluid

Options :

899514857. 1

899514858. 2

899514859. 3

899514860. 4

Question Number : 76 Question Id : 899514216 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The _____ in a dryer is the amount of energy required to remove unit quantity of water from the product.

- a) Dryer efficiency
- b) Specific energy consumption
- c) Heat utilization factor
- d) Pickup efficiency

Options :

9/16/2020

899514861. 1

899514862. 2

899514863. 3

899514864. 4

Question Number : 77 Question Id : 899514217 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Shrinkage in food material is greatly affected by_____.

- a) Carbohydrate content in the food
- b) Fat content in the food
- c) Porosity of the material
- d) Moisture content of food

Options :

899514865. 1

899514866. 2

899514867. 3

899514868. 4

Question Number : 78 Question Id : 899514218 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Due to HPP treatment the oxidation of _____ and heme release and displacement are responsible for the loss of red color and reduction in perceived quality.

- a) Chlorophyll
- b) Hemoglobin
- c) Myoglobin
- d) Melanin

Options :

899514869. 1
899514870. 2
899514871. 3
899514872. 4

Question Number : 79 Question Id : 899514219 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

_____ is the commonly used process for preservation of horticultural crops.

- a) PEF
- b) Ozone treatment
- c) Cold plasma
- d) Sulfite treatment

Options :

9/16/2020

899514873. 1

899514874. 2

899514875. 3

899514876. 4

Question Number : 80 Question Id : 899514220 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The presence of gaps in salmon muscle after PEF treatment may be because of lower _____ in the muscle.

- a) Vascular tissue
- b) Epidermis
- c) Connecting tissue
- d) Fat

Options :

899514877. 1

899514878. 2

899514879. 3

899514880. 4

Question Number : 81 Question Id : 899514221 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

What is the wild progenitor of corn

- a) Maize
- b) Jowar
- c) Teosinte
- d) Triticum

Options :

899514881. 1
899514882. 2
899514883. 3
899514884. 4

Question Number : 82 Question Id : 899514222 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Pure line theory was proposed by whom?

- a) Jonathen
- b) Mendel
- c) Hugo de Vries
- d) Johannsen

Options :

899514885. 1
899514886. 2
899514887. 3
899514888. 4

9/16/2020

Question Number : 83 Question Id : 899514223 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

SOS signaling in plant deals with stress

- a) Anoxia
- b) Salt
- c) Heat
- d) Flood

Options :

899514889. 1

899514890. 2

899514891. 3

899514892. 4

Question Number : 84 Question Id : 899514224 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

Biochemical markers deal with

- a) DNA
- b) RNA
- c) Protein
- d) Nucleic acid

Options :

899514893. 1

899514894. 2

899514895. 3

9/16/2020

899514896. 4

Question Number : 85 Question Id : 899514225 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

SSR is a based molecular marker

- a) Digestion
- b) Radioactive
- c) Hybridization
- d) Polymerase Chain Reaction

Options :

899514897. 1

899514898. 2

899514899. 3

899514900. 4

Question Number : 86 Question Id : 899514226 Question Type : MCQ Option Shuffling : No Display Quest**Mandatory : No Single Line Question Option : No Option Orientation : Vertical****Correct Marks : 1 Wrong Marks : 0**

What is the length of primer used in RAPD

- a) 5-8 mers
- b) 10-12 mers
- c) 15-20 mers
- d) More than 20 mers

9/16/2020

Options :

- 899514901. 1
- 899514902. 2
- 899514903. 3
- 899514904. 4

Question Number : 87 Question Id : 899514227 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Number of primers used in SSR marker, are -

- a) One
- b) Two
- c) Three
- d) Four

Options :

- 899514905. 1
- 899514906. 2
- 899514907. 3
- 899514908. 4

Question Number : 88 Question Id : 899514228 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Suaeda salsa belong to which of the following category

- a) Recreto halophytes
- b) Euhalophytes
- c) Pseudo halophytes
- d) Glycophytes

Options :

899514909. 1
899514910. 2
899514911. 3
899514912. 4

Question Number : 89 Question Id : 899514229 Question Type : MCQ Option Shuffling : No Display Quest
Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Plant transformation is done through bacteria

- a) *Agrobacterium* sp.
- b) *Bacillus* sp.
- c) *Rhizobium* sp.
- d) *Vibrio* sp.

Options :

899514913. 1
899514914. 2
899514915. 3
899514916. 4

9/16/2020

Question Number : 90 Question Id : 899514230 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The reproducibility of which of the following marker is very poor?

- a) RFLP
- b) RAPD
- c) SSR
- d) SNP

Options :

899514917. 1
899514918. 2
899514919. 3
899514920. 4

Question Number : 91 Question Id : 899514231 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Crown gall disease was first identified in which plant?

- a) Apple
- b) Mango
- c) Guava
- d) Grapes

Options :

899514921. 1
899514922. 2

9/16/2020

899514923. 3

899514924. 4

Question Number : 92 Question Id : 899514232 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Opines are amino acids derivatives found in which type of tissues?

- a) Tumour
- b) Normal
- c) Both normal as well as tumour
- d) None of the above

Options :

899514925. 1

899514926. 2

899514927. 3

899514928. 4

Question Number : 93 Question Id : 899514233 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the full form of T4SS?

- a) Type II secretory system
- b) Type IV secretion system
- c) Type I secretion system
- d) Type III secretory system

9/16/2020

Options :

- 899514929. 1
- 899514930. 2
- 899514931. 3
- 899514932. 4

Question Number : 94 Question Id : 899514234 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which virulence genes induce the expression of other vir gene?

- a) *vir* A and *vir* G
- b) *vir* C and *vir* D
- c) *vir* B and *vir* E
- d) *vir* A and *Vir* B

Options :

- 899514933. 1
- 899514934. 2
- 899514935. 3
- 899514936. 4

Question Number : 95 Question Id : 899514235 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Disarmed T-DNA means the removal of genes for synthesis of

- a) auxins
- b) cytokinin
- c) opines
- d) All of the above

Options :

899514937. 1

899514938. 2

899514939. 3

899514940. 4

Question Number : 96 Question Id : 899514236 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Nutritive value of potato can be increased by expression of which gene?

- a) GUS
- b) Lcy
- c) HCHL
- d) AmA1

Options :

899514941. 1

899514942. 2

899514943. 3

899514944. 4

9/16/2020

Question Number : 97 Question Id : 899514237 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the correct chemical compound that denotes Vitamin A.

- a) Retinal
- b) Retinol
- c) Retinoic acid
- d) Zeaxanthin

Options :

- 899514945. 1
- 899514946. 2
- 899514947. 3
- 899514948. 4

Question Number : 98 Question Id : 899514238 Question Type : MCQ Option Shuffling : No Display Question : Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The Golden Rice-2 accumulate a very high amount of carotene because of the use of

- a) *psy* gene of *Zea mays* origin
- b) *psy* gene of Daffodil origin
- c) *psy* gene of *Oryza* origin
- d) *psy* gene of tomato origin

Options :

9/16/2020

899514949. 1

899514950. 2

899514951. 3

899514952. 4

Question Number : 99 Question Id : 899514239 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Why gene transfer to plastid is consider environmentally safe than nuclear transformation?

- a) Biparental inheritance
- b) Paternal inheritance
- c) Uniparental inheritance
- d) Maternal inheritance

Options :

899514953. 1

899514954. 2

899514955. 3

899514956. 4

Question Number : 100 Question Id : 899514240 Question Type : MCQ Option Shuffling : No Display Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

9/16/2020

Identify the correct integration mechanism that operates while transferring a foreign gene to a plastid genome.

- a) Illegitimate
- b) Homologous
- c) Heterologous
- d) Non-homologous

Options :

899514957. 1

899514958. 2

899514959. 3

899514960. 4