

# National Testing Agency

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## Advances in Agricultural Engineering

**Group Number :** 1  
**Group Id :** 2886071  
**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 :** 2886071  
**Section Number :** 1  
**Section type :** Online  
**Mandatory or Optional:** Mandatory  
**Number of Questions:** 100  
**Number of Questions to be attempted:** 100  
**Section Marks:** 100

**Sub-Section Number:** 1  
**Sub-Section Id:** 2886071  
**Question Shuffling Allowed :** Yes

**Question Number : 1 Question Id : 2886071 Question Type : MCQ Option Shuffling : No**

**Correct Marks : 1 Wrong Marks : 0**

Soil reaction is a measure of

- a) Electrical conductivity
- b) Acidity or alkalinity
- c) Cation Exchange Capacity
- d) Colour

**Options :**

**2886071. 1**

2886072. 2

2886073. 3

2886074. 4

Question Number : 2 Question Id : 2886072 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

As the Cation Exchange Capacity of soil increases, its water holding capacity

- a) Increases
- b) Remains unaltered
- c) Decreases
- d) None of the above

Options :

2886075. 1

2886076. 2

2886077. 3

2886078. 4

Question Number : 3 Question Id : 2886073 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Soil colour provides information about which of the following soil properties?

- a) Soil organic matter content
- b) Soil minerals
- c) Seasonal high water tables
- d) All of the above

Options :

2886079. 1

28860710. 2

28860711. 3

28860712. 4

Question Number : 4 Question Id : 2886074 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which is a relatively permanent soil property?

- a) Soil pH
- b) Soil colour
- c) Soil texture
- d) Soil structure

Options :

28860713. 1

28860714. 2

28860715. 3

28860716. 4

Question Number : 5 Question Id : 2886075 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which of the following has more Specific Surface Area?

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

Options :

28860717. 1

28860718. 2

28860719. 3

28860720. 4

Question Number : 6 Question Id : 2886076 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

What is the structure of a soil with roughly, cube-like peds?

- a) Spheroidal
- b) Platy
- c) Blocky
- d) Prismatic

Options :

28860721. 1

28860722. 2

28860723. 3

28860724. 4

Question Number : 7 Question Id : 2886077 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which type of soil structure is usually seen in subsoils with high sodium content in dry climate?

- a) Granular
- b) Columnar
- c) Blocky
- d) Prismatic

Options :

28860725. 1

28860726. 2

28860727. 3

28860728. 4

Question Number : 8 Question Id : 2886078 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

How many soil textural classes are there in the USDA Classification system?

- a) 5
- b) 10
- c) 12
- d) 18

Options :

28860729. 1

28860730. 2

28860731. 3

28860732. 4

Question Number : 9 Question Id : 2886079 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which of the following elements are used as a proxy for measuring pH using the Portable X-ray Fluorescence (PXRF) Spectrometer?

- a) Al
- b) Ca
- c) Mg
- d) All of the above

Options :

28860733. 1

28860734. 2

28860735. 3

28860736. 4

Question Number : 10 Question Id : 28860710 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0

The weighted, average conductivity for a column of earthen materials to a certain depth is known as

- a) Actual conductivity
- b) Apparent conductivity
- c) Mean conductivity
- d) True conductivity

Options :

28860737. 1

28860738. 2

28860739. 3

28860740. 4

Question Number : 11 Question Id : 28860711 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0

Which of the following is used to split the light into different wavelength before detection in a spectroradiometer?

- a) Light probe
- b) Grating
- c) Control software
- d) InGas detector

Options :

28860741. 1

28860742. 2

28860743. 3

28860744. 4

Question Number : 12 Question Id : 28860712 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The minima in the spectral reflectance curves of soil are due to

- a) Absorption
- b) Reflection
- c) Transmission
- d) Illumination

Options :

28860745. 1

28860746. 2

28860747. 3

28860748. 4

Question Number : 13 Question Id : 28860713 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Derivative spectra are used to

- a) Optimize the spectrometer
- b) Increase the spectral resolution
- c) Both a and b
- d) None of the above

Options :

28860749. 1

28860750. 2

28860751. 3

28860752. 4

Question Number : 14 Question Id : 28860714 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

What is the full form of LIBS?

- a) Light Induced Breakdown Spectroscopy
- b) Laser Induced Breakdown Spectroscopy
- c) Laser Induced Breakdown Spectrometer
- d) Laser Inductive Breakdown Spectrometer

Options :

28860753. 1

28860754. 2

28860755. 3

28860756. 4

Question Number : 15 Question Id : 28860715 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

What is breakdown in LIBS process?

- a) Activation of plasma
- b) Formation of plasma
- c) Deactivation of plasma
- d) All of the above

Options :

28860757. 1

28860758. 2

28860759. 3

28860760. 4

Question Number : 16 Question Id : 28860716 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

How to reduce nutrient loss in an Integrated nutrient management?

- a) By improving the biological, physical and chemical activities in the soil
- b) By synchronizing the nutrient application with the plant uptake
- c) By minimizing the deterioration of soil health
- d) By all of the above

Options :

28860761. 1

28860762. 2

28860763. 3

28860764. 4

Question Number : 17 Question Id : 28860717 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Select the wrong answer.

- a) Inorganic fertilizers are more concentrated than the organic fertilizers
- b) Mineral fertilizers are bulky in nature
- c) Nutrient availability is fast in case of inorganic fertilizer
- d) Inorganic fertilizers are mainly used to supply only one (sometimes more than one) specific nutrients

Options :

28860765. 1

28860766. 2

28860767. 3

28860768. 4

Question Number : 18 Question Id : 28860718 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

How India attained self-sufficiency in food production?

- a) By using new varieties of cereals
- b) By using more fertilizers
- c) By controlling the pest infestation
- d) By using Dwarf and fertilizer responsive varieties of cereals

Options :

28860769. 1

28860770. 2

28860771. 3

28860772. 4

Question Number : 19 Question Id : 28860719 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0



Which one is an organic fertilizer?

- a) Coated Urea
- b) MOP
- c) By-products of farming and allied industries
- d) None of these

Options :

28860773. 1

28860774. 2

28860775. 3

28860776. 4

Question Number : 20 Question Id : 28860720 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Application of only one nutrient in a huge quantity can \_\_\_\_\_

- a) Disturb the nutrient balance in the soil
- b) Create nutrient imbalance in the plants
- c) May decrease the uptake of other vital nutrients
- d) All of the above

Options :

28860777. 1

28860778. 2

28860779. 3

28860780. 4

Question Number : 21 Question Id : 28860721 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The future mechanization should develop machines that are-

- a) Complex in operation and handling
- b) Simple in operation and handling
- c) High-tech in operation and handling
- d) Not affected by considerations on operational ease

Options :

28860781. 1

28860782. 2

28860783. 3

28860784. 4

Question Number : 22 Question Id : 28860722 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

To efficiently utilize the larger and more powerful tractors, the tillage tools must be designed for-

- a) Fewer number of working elements
- b) Shallower depth of operation
- c) Slower speed of operation
- d) Higher speed of operation

Options :

28860785. 1

28860786. 2

28860787. 3

28860788. 4

Question Number : 23 Question Id : 28860723 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The nine stages in the adoption process of mechanization are proposed as-

- a) Labor-saving technology
- b) Cost-saving technology
- c) Productivity-enhancing technology
- d) Safety-enhancing technology

Options :

28860789. 1

28860790. 2

28860791. 3

28860792. 4

Question Number : 24 Question Id : 28860724 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

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

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

Options :

28860793. 1

28860794. 2

28860795. 3

28860796. 4

Question Number : 25 Question Id : 28860725 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a direct means for increasing agricultural production?

- a) Increase in cropping intensity
- b) Increase in production yield
- c) Decrease in production losses
- d) Decrease in fertilizer use per hectare

Options :

28860797. 1

28860798. 2

28860799. 3

288607100. 4

Question Number : 26 Question Id : 28860726 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

In production of Jute, India's position in world agriculture is-

- a) First
- b) Second
- c) Third
- d) Fourth

Options :

288607101. 1

288607102. 2

288607103. 3

288607104. 4

Question Number : 27 Question Id : 28860727 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

The proportion of the total agricultural land in India, under the marginal land (<1 ha) category is about-

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

Options :

288607105. 1

288607106. 2

288607107. 3

288607108. 4

Question Number : 28 Question Id : 28860728 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Considering it's gross cropped area, the following crop is sown on the largest area of the country-

- a) Wheat
- b) Pulses
- c) Rice
- d) Sugarcane

Options :

288607109. 1

288607110. 2

288607111. 3

288607112. 4

Question Number : 29 Question Id : 28860729 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which of the following crop in the country has more than 90% total gross irrigated area out of the total area sown?

- a) Pulses
- b) Fruits & vegetables
- c) Rice
- d) Wheat

Options :

288607113. 1

288607114. 2

288607115. 3

288607116. 4

Question Number : 30 Question Id : 28860730 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The current average productivity of all food grains in the country is about-

- a) < 1 t/ha
- b) 1.2 t/ha
- c) 2.2 t/ha
- d) 3.2 t/ha

Options :

288607117. 1

288607118. 2

288607119. 3

288607120. 4

Question Number : 31 Question Id : 28860731 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

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

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

Options :

288607121. 1

288607122. 2

288607123. 3

288607124. 4

Question Number : 32 Question Id : 28860732 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which horsepower range of the agricultural tractors currently constitutes the highest proportion of the annual sale?

- a) <30 hp
- b) 31-40 hp
- c) 41-50 hp
- d) >50 hp

Options :

288607125. 1

288607126. 2

288607127. 3

288607128. 4

Question Number : 33 Question Id : 28860733 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which of the following states is in the category of *low mechanization – low yield*?

- a) Punjab
- b) Kerala
- c) Maharashtra
- d) Sikkim

Options :

288607129. 1

288607130. 2

288607131. 3

288607132. 4

Question Number : 34 Question Id : 28860734 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Material Capacity of a harvesting machine is the flowrate of-

- a) Cleaned grains
- b) Uncleaned grains
- c) Uncleaned grains with chaff
- d) Uncleaned grains with chaff and foreign matter

Options :

288607133. 1

288607134. 2

288607135. 3

288607136. 4

Question Number : 35 Question Id : 28860735 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

The ratio of Effective field capacity to Theoretical field capacity is known as-

- a) Field efficiency
- b) Machine efficiency
- c) Machine performance index
- d) Operator performance index

Options :

288607137. 1

288607138. 2

288607139. 3

288607140. 4

Question Number : 36 Question Id : 28860736 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

The energy generated by transforming energy outside the human body is referred to as-

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

Options :

288607141. 1

288607142. 2

288607143. 3

288607144. 4

Question Number : 37 Question Id : 28860737 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

For an agricultural ecosystem where very large workforce is engaged in agriculture, and the labor productivity is very low, 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 :

288607145. 1

288607146. 2

288607147. 3

288607148. 4

Question Number : 38 Question Id : 28860738 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Analytical Hierarchy Process is a tool mainly used for evaluating system's performance in the dimensions, except of-

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

Options :

288607149. 1

288607150. 2

288607151. 3

288607152. 4

Question Number : 39 Question Id : 28860739 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0



Energy Productivity used for evaluating system's performance, is the ratio of-

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

Options :

288607153. 1

288607154. 2

288607155. 3

288607156. 4

Question Number : 40 Question Id : 28860740 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The ratio of Gross economic return to GHG emissions per hectare of agricultural activity is known as-

- a) Financial efficiency
- b) Emission efficiency
- c) Technical efficiency
- d) Eco efficiency

Options :

288607157. 1

288607158. 2

288607159. 3

288607160. 4

Question Number : 41 Question Id : 28860741 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Deep open drain is not appropriate for\_\_\_\_

- a) Small catchments
- b) Big catchments
- c) Soil is compact and stable
- d) All of the above

Options :

288607161. 1

288607162. 2

288607163. 3

288607164. 4

Question Number : 42 Question Id : 28860742 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which of the following is the advantage of rubber dam over other hydraulic structures?

- a) Simple structure
- b) Low cost
- c) Adjustable crest gate
- d) All of the above

Options :

288607165. 1

288607166. 2

288607167. 3

288607168. 4

Question Number : 43 Question Id : 28860743 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

In-situ rainwater harvesting is suitable in soils having

- a) High water holding capacity
- b) High hydraulic conductivity
- c) High sand content
- d) None of the above

Options :

288607169. 1

288607170. 2

288607171. 3

288607172. 4

Question Number : 44 Question Id : 28860744 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Field is divided into small units surrounded by dikes in-

- a) Basin irrigation
- b) Furrow irrigation
- c) Sprinkler irrigation
- d) Drip irrigation

Options :

288607173. 1

288607174. 2

288607175. 3

288607176. 4

Question Number : 45 Question Id : 28860745 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Irrigation efficiency in drip irrigation system is-

- a. 30-35%
- b. 40-50%
- c. 90-95%
- d. >100 %

Options :

288607177. 1

288607178. 2

288607179. 3

288607180. 4

Question Number : 46 Question Id : 28860746 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is non-recording type of rain gauge-

- a) Symons type
- b) Tipping bucket
- c) Float type
- d) Siphon type

Options :

288607181. 1

288607182. 2

288607183. 3

288607184. 4

Question Number : 47 Question Id : 28860747 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

At drops of up to 3 m, which of the following structure is recommended-

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

Options :

288607185. 1

288607186. 2

288607187. 3

288607188. 4

Question Number : 48 Question Id : 28860748 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which of the following is Hooghoudt's assumption?

- a) The soil is homogeneous and isotropic
- b) The soil is not homogeneous and nor isotropic
- c) Dupuit-Forcheimer assumptions is not valid
- d) Darcy's law is not valid for flow of water through soil into the drain

Options :

288607189. 1

288607190. 2

288607191. 3

288607192. 4

Question Number : 49 Question Id : 28860749 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

A class-A Pan was setup adjacent to a lake. The depth of water in the Pan at beginning was 160 mm. In that week, a rainfall of 60 mm was observed. If the depth of water in the pan at the end of the week was 190 mm, assuming Pan coefficient as 0.7, the Pan evaporation (in mm) and lake evaporation (in mm) of the week will be-

- a) 21 and 21
- b) 21 and 30
- c) 30 and 21
- d) 220 and 30

Options :

288607193. 1

288607194. 2

288607195. 3

288607196. 4

Question Number : 50 Question Id : 28860750 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

A forest area of 9 ha has runoff coefficient of 0.1 and characterized as having rainfall intensity of 5 cm/h in 30 years' record. The peak runoff (in lps) generated from this area will be-

- a) 0.125
- b) 1.250
- c) 12.50
- d) 125.0

Options :

288607197. 1

288607198. 2

288607199. 3

288607200. 4

Question Number : 51 Question Id : 28860751 Question Type : MCQ Option Shuffling : No

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 :

288607201. 1

288607202. 2

288607203. 3

288607204. 4

Question Number : 52 Question Id : 28860752 Question Type : MCQ Option Shuffling : No  
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 :

288607205. 1

288607206. 2

288607207. 3

288607208. 4

Question Number : 53 Question Id : 28860753 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Healthy vegetation reflects energy in what parts of the electromagnetic spectrum?

- a) Blue and Green
- b) Blue and Red
- c) Green and Red
- d) Green and Near-Infrared

Options :

288607209. 1

288607210. 2

288607211. 3

288607212. 4

Question Number : 54 Question Id : 28860754 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

A reflectance of vegetation in the shortwave region is altered by the-

- a) cell structure of the leaf
- b) water content of the leaf
- c) leaf pigments
- d) a and b

Options :

288607213. 1

288607214. 2

288607215. 3

288607216. 4

Question Number : 55 Question Id : 28860755 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which one of these statement/statements is/are true?

- a) Radar scattering is sensitive to the dielectric properties of soil
- b) Radar scattering is not influenced by the dielectric properties of soil
- c) Radar scattering is governed the brightness temperature of the soil.
- d) b and a

Options :

288607217. 1

288607218. 2

288607219. 3

288607220. 4

Question Number : 56 Question Id : 28860756 Question Type : MCQ Option Shuffling : No

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 :

288607221. 1

288607222. 2

288607223. 3

288607224. 4

Question Number : 57 Question Id : 28860757 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The arrangement of terrain features which provides attributes: the shape, size and texture of objects, is called ...

- a) temporal variation
- b) spatial variation
- c) spectral variation
- d) None of these

Options :

288607225. 1

288607226. 2

288607227. 3

288607228. 4

Question Number : 58 Question Id : 28860758 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

A reduction of nitrogen nutrient in plants-

- a) Affects leaf color
- b) Reduces pigment concentration
- c) Increases the visible reflectivity
- d) All of the above

Options :

288607229. 1

288607230. 2

288607231. 3

288607232. 4

Question Number : 59 Question Id : 28860759 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0



Key components of 'spatial data' quality include-

- a) Positional accuracy
- b) Temporal accuracy
- c) Lineage and completeness
- d) All of the above

Options :

288607233. 1

288607234. 2

288607235. 3

288607236. 4

Question Number : 60 Question Id : 28860760 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a classification of scattering principle?

- a) Rayleigh scattering
- b) Faraday scattering
- c) Mie scattering
- d) Non-selective scattering

Options :

288607237. 1

288607238. 2

288607239. 3

288607240. 4

Question Number : 61 Question Id : 28860761 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The most pressure resistant microorganism is-

- a) Fungi
- b) Mold
- c) Gram negative bacteria
- d) Bacterial spores

Options :

288607241. 1

288607242. 2

288607243. 3

288607244. 4

Question Number : 62 Question Id : 28860762 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Solar drying of food products involve \_\_\_\_\_ mode of heat transfer.

- a) Conduction
- b) Convection
- c) Radiation
- d) Conduction, convection and radiation

Options :

288607245. 1

288607246. 2

288607247. 3

288607248. 4

Question Number : 63 Question Id : 28860763 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Instantaneous thermal efficiency of solar collector is given as \_\_\_\_\_

- a)  $\eta_i = \tau\alpha - U_L \frac{T_p - T_a}{I}$
- b)  $\eta_i = \tau_0\alpha_0 - U_L \frac{T_p - T_a}{I}$
- c)  $\eta_i = \tau_0\alpha_0 - U_b \frac{T_p - T_i}{I}$
- d)  $\eta_i = \tau\alpha - U_b \frac{T_o - T_i}{\tau}$

Options :

288607249. 1

288607250. 2

288607251. 3

288607252. 4

Question Number : 64 Question Id : 28860764 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

In the solar dryer,\_\_\_\_\_.

- a) Exergy is conserved, Energy is not conserved
- b) Energy is conserved, Exergy is not conserved
- c) Both exergy and energy are conserved
- d) Neither exergy nor energy is conserved

Options :

288607253. 1

288607254. 2

288607255. 3

288607256. 4

Question Number : 65 Question Id : 28860765 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Fick's law of mass diffusion is analogous to \_\_\_\_\_ and is generally solved in drying processes to describe \_\_\_\_\_.

- a) Fourier Equation, Moisture transfer
- b) Continuity Equation, Moisture transfer
- c) Fourier Equation, Heat transfer
- d) Continuity Equation, Heat transfer

Options :

288607257. 1

288607258. 2

288607259. 3

288607260. 4

Question Number : 66 Question Id : 28860766 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which technology is also known as Joule heating of food-

- a) Pulsed electric field
- b) Ultrasound
- c) Microwave heating
- d) Ohmic heating

Options :

288607261. 1

288607262. 2

288607263. 3

288607264. 4

Question Number : 67 Question Id : 28860767 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

The biological effects of irradiation create damage in the \_\_\_\_\_ of the cell instigating a lesion of the DNA or breaking both strands of DNA.

- a) Mineral
- b) Viscosity
- c) Genetic material
- d) Cell wall

Options :

288607265. 1

288607266. 2

288607267. 3

288607268. 4

Question Number : 68 Question Id : 28860768 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a fat-soluble vitamin?

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

Options :

288607269. 1

288607270. 2

288607271. 3

288607272. 4

Question Number : 69 Question Id : 28860769 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Discoloration of dry food is primarily associated with the reactions involving-

- a) Lipid, water and protein
- b) Carbohydrates, water, and protein
- c) Water and carbohydrates
- d) Fat, ash and carbohydrate

Options :

288607273. 1

288607274. 2

288607275. 3

288607276. 4

Question Number : 70 Question Id : 28860770 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

A color measurement movement in the +a\* direction depicts a shift toward

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

Options :

288607277. 1

288607278. 2

288607279. 3

288607280. 4

Question Number : 71 Question Id : 28860771 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

In HPP pasteurization pressure varies in the range of \_\_\_\_\_ to \_\_\_\_\_ MPa

- a) 100 to 500
- b) 1200 to 1300
- c) 1500 to 2000
- d) 100 to 900

Options :

288607281. 1

288607282. 2

288607283. 3

288607284. 4

Question Number : 72 Question Id : 28860772 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Low temperature geothermal power plants operate in the temperature range from \_\_\_\_\_ to \_\_\_\_\_ °C.

- a) 15 to 55
- b) 22 to 35
- c) 20 to 70
- d) 15 to 40

Options :

288607285. 1

288607286. 2

288607287. 3

288607288. 4

Question Number : 73 Question Id : 28860773 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

In Ultra sound pasteurization, it is \_\_\_\_\_ that disrupt cellular structural and functional components up to the point of cell-lysis.

- a) Electrochemical socks
- b) Mechanical socks
- c) Thermal socks
- d) Micromechanical shocks

Options :

288607289. 1

288607290. 2

288607291. 3

288607292. 4

Question Number : 74 Question Id : 28860774 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Drying is a multiphysics problem, where coupled \_\_\_\_\_, \_\_\_\_\_ and momentum transport processes occur inside the material and also exchange processes with the environment takes place at air–material (or material–material) interfaces.

- a) Water, air
- b) Energy, mass
- c) Water, solid
- d) Convection, diffusion

Options :

288607293. 1

288607294. 2

288607295. 3

288607296. 4

Question Number : 75 Question Id : 28860775 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0

The dose of gamma radiation for sterilization of food is \_\_\_\_\_ to \_\_\_\_\_ kGy.

- a) 2, 3
- b) 2, 5
- c) 10, 50
- d) 50, 85

Options :

288607297. 1

288607298. 2

288607299. 3

288607300. 4

Question Number : 76 Question Id : 28860776 Question Type : MCQ Option Shuffling : No Correct Marks : 1 Wrong Marks : 0

In the classification of low temperature plasma, quasi-equilibrium plasma has temperature in the range of \_\_\_\_\_ to \_\_\_\_\_.

- a) 25, 150 °C
- b) 100, 150 °C
- c) 100, 250 °C
- d) 250, 350 °C

Options :

288607301. 1

288607302. 2

288607303. 3

288607304. 4

Question Number : 77 Question Id : 28860777 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

\_\_\_\_\_ photons can also be accountable for inactivation of microorganisms  
by cold plasma technology.

- a) X-ray
- b) UV
- c) Gamma
- d) Infra red

Options :

288607305. 1

288607306. 2

288607307. 3

288607308. 4

Question Number : 78 Question Id : 28860778 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The mode of enzyme inactivation by HPP is due to change of \_\_\_\_\_ of  
protein.

- a) Primary structure
- b) Tertiary structure
- c) Secondary structure
- d) Primary and secondary structure

Options :

288607309. 1

288607310. 2

288607311. 3

288607312. 4

Question Number : 79 Question Id : 28860779 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0



Application of PEF cause permanent \_\_\_\_\_ of the cell membrane.

- a) Permeabilization
- b) Crystallization
- c) Lesion
- d) Transesterification

Options :

288607313. 1

288607314. 2

288607315. 3

288607316. 4

Question Number : 80 Question Id : 28860780 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

When ultrasound wave passes through food, a region of \_\_\_\_\_ and \_\_\_\_\_ is created.

- a) High voltage, low voltage
- b) Compression, expansion
- c) Nodes, antinodes
- d) Frequency, wavelength

Options :

288607317. 1

288607318. 2

288607319. 3

288607320. 4

Question Number : 81 Question Id : 28860781 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

What is the full form of AMF?

- a) Arbuscular Medicinal Fungi
- b) Arbuscular Mycorrhiza Fungi
- c) Agricultural Medicinal Fungi
- d) Agricultural Microbial Fungi

Options :

288607321. 1

288607322. 2

288607323. 3

288607324. 4

Question Number : 82 Question Id : 28860782 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Continuous inbreeding leads to .....

- a) Homozygosity
- b) Heterozygosity
- c) Hybridity
- d) Luxuriance

Options :

288607325. 1

288607326. 2

288607327. 3

288607328. 4

Question Number : 83 Question Id : 28860783 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

In back cross breeding method, the parent used several times in crossing is-

- a) Recurrent parent
- b) Donor parent
- c) Non-recurrent parent
- d) None of them

Options :

288607329. 1

288607330. 2

288607331. 3

288607332. 4

Question Number : 84 Question Id : 28860784 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

“SynCom” is associated with

- a) Synthetic seed
- b) Commercial seed
- c) Microbial population
- d) Marker

Options :

288607333. 1

288607334. 2

288607335. 3

288607336. 4

Question Number : 85 Question Id : 28860785 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The polymorphism detected in RFLP depends on .....

- a) Restriction site
- b) PCR
- c) DNA content
- d) Temperature

Options :

288607337. 1

288607338. 2

288607339. 3

288607340. 4

Question Number : 86 Question Id : 28860786 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

How many primers are used in ISSR marker

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

Options :

288607341. 1

288607342. 2

288607343. 3

288607344. 4

Question Number : 87 Question Id : 28860787 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The exchangeable sodium percentage (ESP) in sodic soil is .....

- a) > 15
- b) < 15
- c) < 10
- d) > 5

Options :

288607345. 1

288607346. 2

288607347. 3

288607348. 4

Question Number : 88 Question Id : 28860788 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

PLD $\alpha$  and PA are involved in the mediation of salt stress through ..... signaling.

- a) GA<sub>3</sub>
- b) CDPK
- c) CaM
- d) MAPK

Options :

288607349. 1

288607350. 2

288607351. 3

288607352. 4

Question Number : 89 Question Id : 28860789 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

Most abundant salt associated with salt stress in plants is .....

- a) Potassium
- b) Sodium
- c) Calcium
- d) Magnesium

Options :

288607353. 1

288607354. 2

288607355. 3

288607356. 4

Question Number : 90 Question Id : 28860790 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

NHX1 protein is localized in ..... organelle to combat salt stress.

- a) Vacuole
- b) Endoplasmic Reticulum
- c) Nucleus
- d) Mitochondria

Options :

288607357. 1

288607358. 2

288607359. 3

288607360. 4

Question Number : 91 Question Id : 28860791 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which technique is most commonly used to introduce genes into dicots?

- a) Biolistic
- b) Electroporation
- c) Microinjection
- d) Agrobacterium-mediated transformation

Options :

288607361. 1

288607362. 2

288607363. 3

288607364. 4

Question Number : 92 Question Id : 28860792 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Crown gall needs which phytohormone(s) to grow?

- a) Auxin and gibberellin
- b) Cytokinin
- c) Auxin and cytokinin
- d) Cytokinin and ethylene

Options :

288607365. 1

288607366. 2

288607367. 3

288607368. 4

Question Number : 93 Question Id : 28860793 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which compound is mainly responsible the orange colour in carrot?

- a) Xanthophyll
- b) Beta-Carotene
- c) Leutin
- d) Cyanidin

Options :

288607369. 1

288607370. 2

288607371. 3

288607372. 4

Question Number : 94 Question Id : 28860794 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

*Agrobacterium tumefaciens* is a.....

- a) Gram (+) bacteria
- b) Gram (-) bacteria
- c) Fungi
- d) Yeast

Options :

288607373. 1

288607374. 2

288607375. 3

288607376. 4

Question Number : 95 Question Id : 28860795 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which vir gene act as nuclear localization signal to drive it in the plant nucleus?

- a) *Vir A*
- b) *Vir B*,
- c) *vir D2*
- d) *Vir E2*

Options :

288607377. 1

288607378. 2

288607379. 3

288607380. 4

Question Number : 96 Question Id : 28860796 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

What is the source of AmA1 gene

- a) *Amaranthus hypocondriacus*
- b) *Amaranthus spinosus*
- c) *Amaranthus viridus*
- d) *Amaranthus retroflexus*

Options :

288607381. 1

288607382. 2

288607383. 3

288607384. 4

Question Number : 97 Question Id : 28860797 Question Type : MCQ Option Shuffling : No

Correct Marks : 1 Wrong Marks : 0

The precursor of carotenoid synthesis is

- a) Lycopene
- b) GGPP
- c) Proline
- d) Sucrose

Options :

288607385. 1

288607386. 2

288607387. 3

288607388. 4

Question Number : 98 Question Id : 28860798 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

What is the full form of GBSS?

- a) Globular-bound starch synthase
- b) Gall-bound starch synthase
- c) Granule-bound starch synthase
- d) Granule-bound storage system

Options :

288607389. 1

288607390. 2

288607391. 3

288607392. 4

Question Number : 99 Question Id : 28860799 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

Which compound is responsible for red colour of tomato?

- a) Lycopene
- b) Beta- carotene
- c) Alpha- carotene
- d) Astaxanthin

Options :

288607393. 1

288607394. 2

288607395. 3

288607396. 4

Question Number : 100 Question Id : 288607100 Question Type : MCQ Option Shuffling : No  
Correct Marks : 1 Wrong Marks : 0

The selectable marker gene used in plastid transformation is-

- a) aadA
- b) psbA
- c) nptII
- d) rml6

Options :

288607397. 1



288607398. 2

288607399. 3

288607400. 4