

National Testing Agency

Question Paper Name :	Agricultural Processing and Food Engineering 17th September Shift 2
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Agricultural Processing and Food Engineering

Group Number :	1
Group Id :	190889116
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	480
Is this Group for Examiner? :	No

Part A: General Knowledge

Section Id :	190889272
Section Number :	1
Section type :	Online

Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	80
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889312
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 19088913222 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

Which of the following is the device used to measure the power and speed of the wind?

1. Avometer
2. Anemometer
3. Airometer
4. Aviontimeter

Options :

19088952781. 1

19088952782. 2

19088952783. 3

19088952784. 4

Question Number : 2 Question Id : 19088913223 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

Optical fibre used the concept of which of the following?

1. Reflection
2. Refraction
3. Total internal reflection
4. Total internal refraction

Options :

19088952785. 1

19088952786. 2

19088952787. 3

19088952788. 4

Question Number : 3 Question Id : 19088913224 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Yellow vein mosaic is the viral disease of which of the following plants?

1. Ladyfinger
2. Papaya
3. Sugarcane
4. Banana

Options :

19088952789. 1

19088952790. 2

19088952791. 3

19088952792. 4

Question Number : 4 Question Id : 19088913225 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following organ(s) is affected by Mumps disease?

1. Entire body
2. Skin
3. Eye
4. Parotid

Options :

19088952793. 1

19088952794. 2

19088952795. 3

19088952796. 4

Question Number : 5 Question Id : 19088913226 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is the chemical name of vitamin B₂?

1. Riboflavin
2. Calciferol
3. Pyridoxin
4. Niacin

Options :

19088952797. 1

19088952798. 2

19088952799. 3

19088952800. 4

Question Number : 6 Question Id : 19088913227 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is not the input unit of the computer?

1. Mouse
2. Keyboard
3. Screen
4. Scanner

Options :

19088952801. 1

19088952802. 2

19088952803. 3

19088952804. 4

Question Number : 7 Question Id : 19088913228 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The digital computer operates on which of the following principle?

1. Measurement
2. Calculation
3. Logical
4. Electrification

Options :

19088952805. 1

19088952806. 2

19088952807. 3

19088952808. 4

Question Number : 8 Question Id : 19088913229 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The non-cooperation movement of Gandhiji was launched in which of the following year?

1. 1915
2. 1922
3. 1920
4. 1930

Options :

19088952809. 1

19088952810. 2

19088952811. 3

19088952812. 4

Question Number : 9 Question Id : 19088913230 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

An Islamic revivalist movement named Wahabi movement was founded by which of the following person?

1. Sian Saheb
2. Syed Ahmed
3. Haji Shariat-Allah
4. DaduMian

Options :

19088952813. 1

19088952814. 2

19088952815. 3

19088952816. 4

Question Number : 10 Question Id : 19088913231 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is considered as the “Magna Carta of England Education in India”?

1. Hunter education commission
2. Lord Macaulay’s Minute
3. Wood’s Despatch
4. Thomas Babington Macaulay

Options :

19088952817. 1

19088952818. 2

19088952819. 3

19088952820. 4

Question Number : 11 Question Id : 19088913232 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following nutrient does not come under the ambit of ‘macro-nutrients in Soil Health Card?

1. Nitrogen
2. Zinc
3. Phosphorous
4. Potassium

Options :

19088952821. 1

19088952822. 2

19088952823. 3

19088952824. 4

Question Number : 12 Question Id : 19088913233 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Cole crops, root crops and legumes come under the ambit of which of the following?

1. Olericulture
2. Pomology
3. Viticulture
4. Arboriculture

Options :

19088952825. 1

19088952826. 2

19088952827. 3

19088952828. 4

Question Number : 13 Question Id : 19088913234 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The study of individual trees, shrubs, vines, and perennial woody plants is known as which of the following?

1. Turf management
2. Arboriculture
3. Pomology
4. Viticulture

Options :

19088952829. 1

19088952830. 2

19088952831. 3

19088952832. 4

Question Number : 14 Question Id : 19088913235 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The ministry is implementing MIDH (Mission for Integrated Development of Horticulture) with effect from which of the following year?

1. 2012-13
2. 2019-20
3. 2015-16
4. 2014-15

Options :

19088952833. 1

19088952834. 2

19088952835. 3

19088952836. 4

Question Number : 15 Question Id : 19088913236 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The interaction of soils with living things, particularly plants are well known as which of the following?

1. Edaphology
2. Pedology
3. Soil zoology
4. Pedogenesis

Options :

19088952837. 1

19088952838. 2

19088952839. 3

19088952840. 4

Question Number : 16 Question Id : 19088913237 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following systems has also incorporated social aspects in itself?

1. Landscaping
2. Permaculture
3. Horticulture
4. Forest gardening

Options :

19088952841. 1

19088952842. 2

19088952843. 3

19088952844. 4

Question Number : 17 Question Id : 19088913238 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What do you term the phenomenon whereby the specific gene is added to the plant for producing a desirable phenotype?

1. Genetic manipulation
2. Genetic recombination
3. Genetic modification
4. Genetic hybridisation

Options :

19088952845. 1

19088952846. 2

19088952847. 3

19088952848. 4

Question Number : 18 Question Id : 19088913239 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the focus of the participatory plant breeding program?

1. Scientists
2. Plants
3. Environment
4. Farmers

Options :

19088952849. 1

19088952850. 2

19088952851. 3

19088952852. 4

Question Number : 19 Question Id : 19088913240 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How do you term the form of agriculture, in which, industrialized production of crops and animal products takes place?

1. Manufactured agriculture
2. Modern agriculture
3. Industrial agriculture
4. Mechanistic agriculture

Options :

19088952853. 1

19088952854. 2

19088952855. 3

19088952856. 4

Question Number : 20 Question Id : 19088913241 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Micro-irrigation fund of Rs. 5.000 crore has been placed with which of the following organization?

1. NABARD
2. IDBI
3. SBI
4. RRBs

Options :

19088952857. 1

19088952858. 2

19088952859. 3

19088952860. 4

Part B Core : Agricultural Engineering and Technology

Section Id :	190889273
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889313
Question Shuffling Allowed :	Yes

Question Number : 21 Question Id : 19088913242 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: The hammer mill is a machine, which is commonly used for spice grinding.

Reason R: The hammer mill works on impact force and causes less heating of spices during grinding.

In light of the above statements, choose the *most appropriate* answer from the options given below

1. Both **A** and **R** are correct and **R** is the correct explanation of **A**
2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**
3. **A** is correct but **R** is not correct
4. **A** is not correct but **R** is correct

Options :

19088952861. 1

19088952862. 2

19088952863. 3

19088952864. 4

Question Number : 22 Question Id : 19088913243 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The fluid flow in a tube will be laminar, if the Reynold's number is less than 4100.

Statement II: The heat transfer will be more, if the fluid flow changes from laminar to turbulent zone.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088952865. 1

19088952866. 2

19088952867. 3

19088952868. 4

Question Number : 23 Question Id : 19088913244 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I:The rubber roll sheller is an equipment commonly used in the modern rice mills.

Statement II:The milling of wheat can also be done in the rubber roll sheller.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088952869. 1

19088952870. 2

19088952871. 3

19088952872. 4

Question Number : 24 Question Id : 19088913245 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The moisture content of 35% wet basis for a grain is almost equivalent to

1. 26% dry basis
2. 44% dry basis
3. 54% dry basis
4. 185% dry basis

Options :

19088952873. 1

19088952874. 2

19088952875. 3

19088952876. 4

Question Number : 25 Question Id : 19088913246 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following does NOT involve heat exchangers ?

1. LSU dryer
2. Boiler
3. Pasteuriser
4. Evaporator

Options :

19088952877. 1

19088952878. 2

19088952879. 3

19088952880. 4

Question Number : 26 Question Id : 19088913247 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Sphericity	I. Porosity
B. Volume	II. Dielectric property
C. Microwave	III. Platform scale method
D. Toluene	IV. Shape

Choose the correct answer from the options given below:

1. A - II, B - I, C - IV, D - III
2. A - III, B - IV, C - II, D - I
3. A - IV, B - III, C - II, D - I
4. A - III, B - IV, C - I, D - II

Options :

19088952881. 1

19088952882. 2

19088952883. 3

19088952884. 4

Question Number : 27 Question Id : 19088913248 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Force(s) responsible for size reduction of material in hammer mill includes:

A. Compression

B. Shear

C. Impact

D. Cutting

Choose the *correct* answer from the options given below:

1. A, B and C only
2. C only
3. A and C only
4. B and C only

Options :

19088952885. 1

19088952886. 2

19088952887. 3

19088952888. 4

Question Number : 28 Question Id : 19088913249 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Relative humidity of air reduces with an increase in dry bulb temperature.

Reason R : Mass of water present in the air affects relative humidity.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088952889. 1

19088952890. 2

19088952891. 3

19088952892. 4

**Question Number : 29 Question Id : 19088913250 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Which of the following is used for calculation of lateral pressure in deep bins?

1. Janssen formula
2. Rankine formula
3. Henderson equation
4. Plank equation

Options :

19088952893. 1

19088952894. 2

19088952895. 3

19088952896. 4

Question Number : 30 Question Id : 19088913251 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which process destroys only pathogenic organisms?

1. Blanching
2. Pasteurization
3. Sterilization
4. Canning

Options :

19088952897. 1

19088952898. 2

19088952899. 3

19088952900. 4

Question Number : 31 Question Id : 19088913252 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the time required for ploughing 15 ha of land by a 2-bottom, 50 cm plough, if the speed of the plough is 5 km.h^{-1} and time lost in turning is 10 per cent.

1. 11.11 hour
2. 22.22 hour
3. 33.33 hour
4. 44.44 hour

Options :

19088952901. 1

19088952902. 2

19088952903. 3

19088952904. 4

Question Number : 32 Question Id : 19088913253 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A pair of bullocks exerts 240 kg pull at 60° to the horizontal, while making a V-shaped furrow of 25 cm width and 10 cm deep. Assuming the speed of ploughing 1.8 km.h^{-1} , calculate the horse power developed by the bullocks.

1. 0.6 HP
2. 0.8 HP
3. 1.0 HP
4. 1.2 HP

Options :

19088952905. 1

19088952906. 2

19088952907. 3

19088952908. 4

Question Number : 33 Question Id : 19088913254 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

During calibration of seed drill, following data are noted

- a) number of rotation of wheel = 450
- b) seed dropped = 25 kg
- c) number of furrow openers = 8
- d) spacing between furrows = 35 cm
- e) wheel diameter = 25 cm

Calculate the seed rate in kg.ha^{-1} .

1. 150
2. 200
3. 250
4. 300

Options :

19088952909. 1

19088952910. 2

19088952911. 3

19088952912. 4

Question Number : 34 Question Id : 19088913255 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A four cylinder 4-stroke gas engine has cylinder diameter of 20 cm; stroke-bore ratio is 1.5; clearance volume 2500 cm^3 ; engine speed 300 rpm; mean effective pressure 5 kg.cm^{-2} ; mechanical efficiency 70%. Calculate the IHP of the engine in kW.

1. 23.45
2. 31.43
3. 46.90
4. 62.86

Options :

19088952913. 1

19088952914. 2

19088952915. 3

19088952916. 4

Question Number : 35 Question Id : 19088913256 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A field sprayer is operated by a tractor at a speed of 6 km.h^{-1} . The sprayer boom has 15 nozzles spaced 40 cm apart. Time lost in turning is 8% and tank filling is 7%. Calculate the area covered per hour.

1. 1.53 ha
2. 1.80 ha
3. 3.06 ha
4. 3.60 ha

Options :

19088952917. 1

19088952918. 2

19088952919. 3

19088952920. 4

Question Number : 36 Question Id : 19088913257 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The diameter of a disc plough is:

1. Proportional to the maximum depth of ploughing and inversely proportional to the cosine of the tilt angle.
2. Proportional to the depth of ploughing and inversely proportional to the tilt angle
3. Proportional to the radius of curvature of the disc as well as cosine of apex angle
4. Inversely proportional to the radius of curvature of disc and sine of disc angle.

Options :

19088952921. 1

19088952922. 2

19088952923. 3

19088952924. 4

Question Number : 37 Question Id : 19088913258 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements is NOT correct for a turbocharger fitted to a tractor engine?

1. Turbocharger is a supercharger driven by exhaust gas turbine.
2. Exhaust gas from the engine enter the turbine housing and drive the turbine wheel as well as compressor wheel.
3. Turbocharger increases the density of the air delivered to the engine cylinder thereby allows the engine to burn more fuel to develop more power.
4. Though a turbocharged engine develops more power than a naturally aspired engine, it consumes more fuel per unit power developed.

Options :

19088952925. 1

19088952926. 2

19088952927. 3

19088952928. 4

Question Number : 38 Question Id : 19088913259 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements:

Statement-I: Hydraulic system in an agricultural tractor reduce the effort required for a particular function, provide easy power transmission from rotation to translation, easy and cheap overload protection, easy steering, braking and implement lifting etc.

Statement-II: Efficiencies of hydraulic systems are comparatively less than that of mechanical systems.

Choose the *correct* answer from the options given below:

1. Statement-I and Statement-II, both are true
2. Statement-I and Statement-II, both are false
3. Statement-I is true but Statement-II is false
4. Statement-I is false but Statement-II is true

Options :

19088952929. 1

19088952930. 2

19088952931. 3

19088952932. 4

Question Number : 39 Question Id : 19088913260 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I (Alloying elements in steel) with List II (Property conferred on steel by the element)

List I	List II
Alloying elements in steel	Property conferred on steel by the element
A. Nickle	I. Corrosion resistance
B. Chromium	II. Magnetic permeability
C. Tungsten	III. Heat resistance
D. Silicon	IV. Hardenability

Choose the correct answer from the options given below

1. A - IV, B - I, C - III, D - II
2. A - IV, B - I, C - II, D - III
3. A - I, B - IV, C - III, D - II
4. A - I, B - IV, C - II, D - III

Options :

19088952933. 1

19088952934. 2

19088952935. 3

19088952936. 4

Question Number : 40 Question Id : 19088913261 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a petrol engine, the voltage required to jump spark in a given spark-plug gap does NOT depend on:

1. Compression ratio of engine
2. Indicated mean effective pressure
3. Speed of the engine
4. Size of the engine

Options :

19088952937. 1

19088952938. 2

19088952939. 3

19088952940. 4

Question Number : 41 Question Id : 19088913262 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If soil bulk density is excess of 1.6 g.cm^{-3} , it will

- A. Restrict root growth
- B. Enhance aeration
- C. Restrict water movement
- D. Reduce level of porosity
- E. Enhance soil fertility

Choose the *correct* answer from the options given below:

1. A, B and D only
2. A, C and D only
3. A, B and C only
4. A, B and E only

Options :

19088952941. 1

19088952942. 2

19088952943. 3

19088952944. 4

Question Number : 42 Question Id : 19088913263 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following are the characteristics of an airblast sprayer?

- A. It uses air stream to carry droplets
- B. It is used for spraying orchard crops
- C. It is used for spraying row crops
- D. It uses energy from hydraulic pressure
- E. It uses comparatively larger spray droplets than those of high-pressure sprayers

Choose the *correct* answer from the options given below:

- 1. A, B and E only
- 2. A, C and D only
- 3. A, B and C only
- 4. A, B and D only

Options :

19088952945. 1

19088952946. 2

19088952947. 3

19088952948. 4

Question Number : 43 Question Id : 19088913264 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Horizontal axis lift type wind mills are mostly used.

Reason R : Lift type wind mills have high tip speed ratio in the range of 13:1.

In light of the above statements, choose the *correct* answer from the options given below

- 1. Both **A** and **R** are true and **R** is the correct explanation of **A**
- 2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
- 3. **A** is true but **R** is false
- 4. **A** is false but **R** is true

Options :

19088952949. 1

19088952950. 2

19088952951. 3

19088952952. 4

Question Number : 44 Question Id : 19088913265 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following parameters can be indirectly measured using Linear variable differential transducer (LVDT)?

A. Surface tension

B. Pressure

C. Temperature

D. Acceleration

E. Force

Choose the *correct* answer from the options given below:

1. A, B and D only
2. A, B and C only
3. B, C and D only
4. B, D, and E only

Options :

19088952953. 1

19088952954. 2

19088952955. 3

19088952956. 4

Question Number : 45 Question Id : 19088913266 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

How many frequent weighing scales are there in general-purpose sound measuring equipment?

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

Options :

19088952957. 1

19088952958. 2

19088952959. 3

19088952960. 4

**Question Number : 46 Question Id : 19088913267 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The amount of solar radiation striking the earth is called

1. Solar luminosity
2. Solar constant
3. Insolation
4. Solarization

Options :

19088952961. 1

19088952962. 2

19088952963. 3

19088952964. 4

**Question Number : 47 Question Id : 19088913268 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Wind turbine machines intended for generating substantial power should have large rotors and located in areas of high wind speeds.

Reason R : Maximum power available in the wind varies according to the square of rotor diameter and square of wind speed.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088952965. 1

19088952966. 2

19088952967. 3

19088952968. 4

Question Number : 48 Question Id : 19088913269 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Fuel cell converts chemical energy into electrical energy.

Statement II: Fuel cell works on the principle of photo-electric effect.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088952969. 1

19088952970. 2

19088952971. 3

19088952972. 4

Question Number : 49 Question Id : 19088913270 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Fuel cell	I. Light energy into electrical energy
B. Photovoltaic cell	II. Kinetic energy into electrical energy
C. Turbine & Generator	III. Chemical energy into electrical energy
D. Solar cooker	IV. Light energy into heat energy
E. Combustion engine	V. Mechanical energy into electrical energy
F. Generator	VI. Chemical energy into mechanical energy

Choose the **correct** answer from the options given below:

1. A-III, B-I, C-II, D-IV, E-VI, F- V
2. A-I, B-III, C-V, D-VI, E-IV, F-II
3. A-VI, B-IV, C-V, D-I, E-III, F-II
4. A-III, B-IV, C-V, D-I, E-VI, F-II

Options :

19088952973. 1

19088952974. 2

19088952975. 3

19088952976. 4

Question Number : 50 Question Id : 19088913271 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the statements given below:

- A. Biodiesel production from vegetable oils involves anaerobic fermentation
- B. Pyranometers can be used to measure global radiation
- C. Janta biogas plant is a fixed dome biogas plant
- D. Savonius and Darrieus rotors are example of vertical axis wind turbines
- E. Wind vanes are used for measurement of wind speed

Choose the **correct** answer from the options given below:

- 1. A, B and D only
- 2. A, C and E only
- 3. B, C and D only
- 4. A, B, C, D and E only

Options :

19088952977. 1

19088952978. 2

19088952979. 3

19088952980. 4

Question Number : 51 Question Id : 19088913272 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is annual average rainfall in India?

- 1. 100 cm
- 2. 119 cm
- 3. 150 cm
- 4. 200 cm

Options :

19088952981. 1

19088952982. 2

19088952983. 3

19088952984. 4

Question Number : 52 Question Id : 19088913273 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Rain is said to be light rain, if rainfall intensity is:

1. < 2.5 mm/h
2. 2.6-5.0 mm/h
3. 5.1-7.5 mm/h
4. 7.6-10 mm/h

Options :

19088952985. 1

19088952986. 2

19088952987. 3

19088952988. 4

Question Number : 53 Question Id : 19088913274 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Steps of water Erosion are:

- A. Detachment
- B. Transportation
- C. Deposition

Choose the *correct* answer from the options given below:

1. A and B only
2. B and C only
3. A and C only
4. A, B and C

Options :

19088952989. 1

19088952990. 2

19088952991. 3

19088952992. 4

Question Number : 54 Question Id : 19088913275 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The day to day activities of a watershed development project under National Watershed Development Project for Rainfed Areas (NWDPA) are carried out by:

1. Watershed Development Team
2. Watershed Committee
3. Watershed Association
4. User Group

Options :

19088952993. 1

19088952994. 2

19088952995. 3

19088952996. 4

Question Number : 55 Question Id : 19088913276 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Green house structure should be designed for:

- A. Dead Load
- B. Live load
- C. Wind load
- D. Snow load

Choose the *correct* answer from the options given below:

1. A, B and C only
2. B, C and D only
3. A, C and D only
4. A, B, C, and D

Options :

19088952997. 1

19088952998. 2

19088952999. 3

19088953000. 4

Question Number : 56 Question Id : 19088913277 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

One bar pressure is equal to how many psi?

1. 14.5
2. 13.5
3. 4.5
4. 3.5

Options :

19088953001. 1

19088953002. 2

19088953003. 3

19088953004. 4

Question Number : 57 Question Id : 19088913278 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

LEPA irrigation stands for

1. Low Energy Pressurized Application
2. Large Emitter Pressurized Application
3. Low Energy Precision Application
4. Large Emitter Precision Application

Options :

19088953005. 1

19088953006. 2

19088953007. 3

19088953008. 4

Question Number : 58 Question Id : 19088913279 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
Dimensionless Number	Ratio
A. Reynold's Number	I. Inertia force to viscous force
B. Euler's Number	II. Inertia force to gravitational force
C. Froude's Number	III. Inertia force to surface tension force
D. Weber's Number	IV. Inertia force to elastic force
	V. Inertia force to pressure force

Choose the correct answer from the options given below:

1. A - V, B - II, C - III, D - I
2. A - I, B - V, C - II, D - III
3. A - I, B - III, C - II, D - IV
4. A - V, B - III, C - II, D - I

Options :

19088953009. 1

19088953010. 2

19088953011. 3

19088953012. 4

Question Number : 59 Question Id : 19088913280 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Considering the efficiency of different irrigation methods, which of the following sequence is correct?

1. Drip > Sprinkler > Furrow > Check basin
2. Drip > Sprinkler > Check basin > Furrow
3. Drip > Furrow > Sprinkler > Check basin
4. Drip > Furrow > Check basin > Sprinkler

Options :

19088953013. 1

19088953014. 2

19088953015. 3

19088953016. 4

Question Number : 60 Question Id : 19088913281 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements about tensiometers are true?

- A. Tensiometers are used for estimation of soil moisture
- B. Useful limit of most tensiometers is at about 0.85 atmospheres
- C. Tensiometers are not well suited for sandy soils
- D. Tensiometers provide direct measure of the tenacity with which water is held by soils

Choose the *correct* answer from the options given below:

1. A, B and C only
2. A and B only
3. A and C only
4. A, B and D only

Options :

19088953017. 1

19088953018. 2

19088953019. 3

19088953020. 4

Question Number : 61 Question Id : 19088913282 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Water requirement of crop is sum of

- A. Consumptive use
- B. Application Losses
- C. Special Needs
- D. Effective rainfall

Choose the correct answer form the options given below:

- 1. A, B & D only
- 2. A, B & C only
- 3. B, C & D only
- 4. A, B, C & D only

Options :

19088953021. 1

19088953022. 2

19088953023. 3

19088953024. 4

Question Number : 62 Question Id : 19088913283 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Froude's Number is the ratio of

- 1. Inertial force to the viscous force
- 2. Viscous force to the gravitational force
- 3. Inertial force to the gravitational force
- 4. Gravitational force to the hydrostatic force

Options :

19088953025. 1

19088953026. 2

19088953027. 3

19088953028. 4

Question Number : 63 Question Id : 19088913284 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Flumes are also called as critical flow sections.

Reason R: A critical flow occurs along the length of the flumes.

In light of the above statements, choose the *correct* answer from the options given below

1. A. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. B. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. C. **A** is true but **R** is false
4. D. **A** is false but **R** is true

Options :

19088953029. 1

19088953030. 2

19088953031. 3

19088953032. 4

Question Number : 64 Question Id : 19088913285 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The following statements are given with respect to unconfined aquifer.

- A. It is not confined by an upper impermeable layer
- B. Water in this aquifer is at higher than atmospheric pressure
- C. The upper surface of the zone of saturation is known as the water table
- D. The level of water in a well constructed in this aquifer is the level of water table
- E. Artesian wells are observed in this aquifer

Choose the *correct* answer from the options given below

- 1. Only A, B & C are correct
- 2. Only A, C, D are correct
- 3. Only B, C & D are correct
- 4. Only A, C & E are correct

Options :

19088953033. 1

19088953034. 2

19088953035. 3

19088953036. 4

Question Number : 65 Question Id : 19088913286 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A certain amount of sodium chloride is dissolved in 1 litres of water. When the electrical conductivity was measured, it was found to be 10 dS/m. How much sodium chloride was dissolved in water?

- 1. 12.8 gm
- 2. 6.4 gm
- 3. 0.64 gm
- 4. 64 gm

Options :

19088953037. 1

19088953038. 2

19088953039. 3

19088953040. 4

Question Number : 66 Question Id : 19088913287 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Sherman	I. Infiltration rate
B. Darcy's law	II. Spacing of Drains
C. Hooghoudts equation	III. Flow through porous media
D. Green-Ampt equation	IV. Hydrograph
	V. Flood routing

Choose the correct answer from the options given below:

1. A -IV , B - V, C - II, D - III
2. A - IV, B - III, C - II, D - I
3. A - V, B - IV, C - III, D - II
4. A - I, B - IV, C - II, D - III

Options :

19088953041. 1

19088953042. 2

19088953043. 3

19088953044. 4

Question Number : 67 Question Id : 19088913288 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The depth (in centimeters) of water drained off from a given area in 24 hours is known as

1. Watershed
2. Hydrograph
3. Aquifer
4. Drainage design rate

Options :

19088953045. 1

19088953046. 2

19088953047. 3

19088953048. 4

Question Number : 68 Question Id : 19088913289 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of types of greenhouse is specifically meant for hilly areas?

1. Lean to type
2. Uneven span type
3. Saw tooth type
4. Ridge and furrow type

Options :

19088953049. 1

19088953050. 2

19088953051. 3

19088953052. 4

Question Number : 69 Question Id : 19088913290 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Anticyclones are high pressure areas.

Reason R: If the size of the raindrop is more than 8 mm, we call it rainfall.

In light of the above statements, choose the *most appropriate* answer from the options given below

1. Both **A** and **R** are correct and **R** is the correct explanation of **A**
2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**
3. **A** is correct but **R** is not correct
4. **A** is not correct but **R** is correct

Options :

19088953053. 1

19088953054. 2

19088953055. 3

19088953056. 4

Question Number : 70 Question Id : 19088913291 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following components as part of precision agriculture. Choose the one which does NOT belong to the group.

1. Geographical Positioning System (GPS)
2. Information gathering devices/methodology
3. Decision Support Systems (DSS)
4. Furrow irrigation methods

Options :

19088953057. 1

19088953058. 2

19088953059. 3

19088953060. 4

Part C : Agricultural Processing and Food Engineering

Section Id :	190889274
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889314
Question Shuffling Allowed :	Yes

Question Number : 71 Question Id : 19088913292 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: A reversible process is one which can be performed either in forward direction or in reverse direction following the same path and only infinitely small changes are produced in external systems.

Statement II: A reversible process is only an ideal concept and does not take place in reality.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953061. 1

19088953062. 2

19088953063. 3

19088953064. 4

Question Number : 72 Question Id : 19088913293 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The Bernoulli's equation can be applied only for the flow in pipes.

Statement II: The Bernoulli's equation can not be used when the flow is assisted by a pump.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953065. 1

19088953066. 2

19088953067. 3

19088953068. 4

Question Number : 73 Question Id : 19088913294 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Conditioning method of pulses involves mixing edible oil to the whole pulses.

Reason R: Conditioning is done in order to improve the flavour of the pulses.

In light of the above statements, choose the *most appropriate* answer from the options given below

1. Both **A** and **R** are correct and **R** is the correct explanation of **A**
2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A**
3. **A** is correct but **R** is not correct
4. **A** is not correct but **R** is correct

Options :

19088953069. 1

19088953070. 2

19088953071. 3

19088953072. 4

Question Number : 74 Question Id : 19088913295 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Glass jars and bottles are prepared by heating sand with other components to a very high temperature.

Statement II: The main constituent of sand is silica.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953073. 1

19088953074. 2

19088953075. 3

19088953076. 4

Question Number : 75 Question Id : 19088913296 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following statements.

- A. Kraft paper is stronger than sulphite paper.
- B. Kraft paper can be bleached to have a white colour.
- C. Kraft paper can not be prepared in several layers or plies.
- D. Printing can not be done on Kraft paper.

Choose the *correct* answer from the options given below:

- 1. A and B only
- 2. A, B and D only
- 3. B, C and D only
- 4. A and C only

Options :

19088953077. 1

19088953078. 2

19088953079. 3

19088953080. 4

Question Number : 76 Question Id : 19088913297 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Thermoforming	I. Flexible film
B. Double seaming	II. Paper packaging material
C. Calendering	III. Plastic containers
D. Sulphate process	IV. Metal cans
	V. FFS system

Choose the **correct** answer from the options given below:

1. A - I, B - III, C - II, D - V
2. A -II, B -III, C - I, D - IV
3. A - III, B - IV, C - I, D - II
4. A - II, B -IV, C - V, D - III

Options :

19088953081. 1

19088953082. 2

19088953083. 3

19088953084. 4

Question Number : 77 Question Id : 19088913298 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The idlers are used in the belt conveyor to support the load.

Statement II: The spacing of the idlers depends on both the width of the belt as well as the density of material.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953085. 1

19088953086. 2

19088953087. 3

19088953088. 4

**Question Number : 78 Question Id : 19088913299 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The high pressure processing can be applied only for pumpable foods.

Statement II: The process can be operated either at room temperature, elevated temperature, but not under chilled conditions.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953089. 1

19088953090. 2

19088953091. 3

19088953092. 4

**Question Number : 79 Question Id : 19088913300 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The thermal boundary layer in case of convective heat transfer is the film or the layer which causes the major resistance to heat transfer.

Statement II: In a heat exchanger, the thermal boundary layer should be kept as thick as possible.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953093. 1

19088953094. 2

19088953095. 3

19088953096. 4

**Question Number : 80 Question Id : 19088913301 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The hydrolysis of sucrose causes formation of glucose and fructose.

Statement II: The lypase supports the hydrolysis of sucrose to glucose and fructose.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953097. 1

19088953098. 2

19088953099. 3

19088953100. 4

Question Number : 81 Question Id : 19088913302 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange the following materials in terms of their increasing thermal conductivities (i.e. from the lowest to highest).

A. Asbestos

B. Cotton wool

C. Glass

D. Brass

E. Ice

Choose the *correct* answer from the options given below

1. B-A-E-C-D

2. A-B-E-C-D

3. B-A-C-E-D

4. A-B-E-D-C

Options :

19088953101. 1

19088953102. 2

19088953103. 3

19088953104. 4

Question Number : 82 Question Id : 19088913303 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The FSSAI is under the Ministry of Food, Govt. of India.

Statement II: After the implementation of FSSAI, the ISO 22000 standard has been repealed and does not exist now.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953105. 1

19088953106. 2

19088953107. 3

19088953108. 4

**Question Number : 83 Question Id : 19088913304 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The arrangement of equipment in an automatic milk homogenisation and pasteurisation plant is an example of process form of layout.

Statement II: The arrangement of equipment in a vegetable dehydration plant is an example of process form of layout.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

Options :

19088953109. 1

19088953110. 2

19088953111. 3

19088953112. 4

Question Number : 84 Question Id : 19088913305 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Kick's law	I. Sedimentaion
B. Stokes' law	II. Mixing
C. Beer-Lambart Law	III. Size reduction
D. Planck's equation	IV. Freezing
	V. Transmission of light

Choose the **correct** answer from the options given below:

1. A -I , B -III , C - II, D - IV
2. A -III, B -V , C -I , D - IV
3. A -III , B - IV, C - II, D - I
4. A -III , B -I , C - V, D - IV

Options :

19088953113. 1

19088953114. 2

19088953115. 3

19088953116. 4

Question Number : 85 Question Id : 19088913306 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Sigma factor	I. Freezing
B. Reflux ratio	II. Distillation
C. Loss factor	III. Evaporation
D. Duhring's rule	IV. Centrifuge
	V. Microwave heating

Choose the **correct** answer from the options given below:

1. A - V , B -III , C -II , D -IV
2. A - II, B -III , C - V, D - IV
3. A -III , B - V, C -II , D - I
4. A - IV, B -II , C - V, D - III

Options :

19088953117. 1

19088953118. 2

19088953119. 3

19088953120. 4

Question Number : 86 Question Id : 19088913307 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If k is the thermal conductivity, ρ is the density, h is the surface heat transfer coefficient and c_p is the specific heat of a material, the thermal diffusivity is given as

1. $\frac{K}{\rho.C_p}$
2. $\frac{K}{\rho.h.C_p}$
3. $\frac{h.K}{\rho.C_p}$
4. $\frac{\rho}{K.C_p}$

Options :

19088953121. 1

19088953122. 2

19088953123. 3

19088953124. 4

**Question Number : 87 Question Id : 19088913308 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The usual temperature maintained in frozen storage of fruits and vegetables is

1. -25°C to -29°C
2. -16°C to -18°C
3. -8°C to 0°C
4. -4°C to 0°C

Options :

19088953125. 1

19088953126. 2

19088953127. 3

19088953128. 4

**Question Number : 88 Question Id : 19088913309 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The differential speed of break rolls in a wheat mill is

1. 1.25:1
2. 1.5:1
3. 2.0:1
4. 2.5:1

Options :

19088953129. 1

19088953130. 2

19088953131. 3

19088953132. 4

Question Number : 89 Question Id : 19088913310 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

An isochoric thermodynamic process is the one in which

1. Pressure remains constant
2. Volume remains constant
3. Density remains constant
4. Both temperature and volume remain constant

Options :

19088953133. 1

19088953134. 2

19088953135. 3

19088953136. 4

Question Number : 90 Question Id : 19088913311 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following fluids can be used for super-critical fluid extraction ?

1. Helium
2. Hydrogen
3. Nitrogen
4. Carbon dioxide

Options :

19088953137. 1

19088953138. 2

19088953139. 3

19088953140. 4

Question Number : 91 Question Id : 19088913312 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The constantan is an alloy of

1. 60% Cu and 40% Ni
2. 60% Cu and 40% Fe
3. 40% Cu and 60% Ni
4. 40% Cu and 60% Fe

Options :

19088953141. 1

19088953142. 2

19088953143. 3

19088953144. 4

Question Number : 92 Question Id : 19088913313 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the case of a bucket elevator, if n is the rpm of the pulley and r is the radius of the pulley, then the pole length (PL) is given as

1. $PL=895/(n.r)$
2. $PL=29.9/n^2$
3. $PL=29.9/(n.r)$
4. $PL=895/n^2$

Options :

19088953145. 1

19088953146. 2

19088953147. 3

19088953148. 4

Question Number : 93 Question Id : 19088913314 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following treatment can reduce the dissolved salts in form of sulphates, chlorides and bicarbonates of Na, Mg and Ca from process water?

1. Precipitation
2. Coagulation
3. Chlorination
4. Zeolite process

Options :

19088953149. 1

19088953150. 2

19088953151. 3

19088953152. 4

Question Number : 94 Question Id : 19088913315 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In heat exchanger calculations, if C is the heat capacity, U is the heat transfer coefficient and A is the area, the number of transfer units (NTU) is given as

1. $NTU = \frac{UA}{C_{\min}}$
2. $NTU = \frac{UA}{C_{\max}}$
3. $NTU = \frac{C_{\min}}{UA}$
4. $NTU = \frac{C_{\max}}{UA}$

Options :

19088953153. 1

19088953154. 2

19088953155. 3

19088953156. 4

Question Number : 95 Question Id : 19088913316 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In an actively modified atmosphere packaging (MAP), which of the following is used as an ethylene absorber?

1. Ferrous oxide
2. Magnesium oxide
3. Calcium oxide
4. Potassium permanganate

Options :

19088953157. 1

19088953158. 2

19088953159. 3

19088953160. 4

Question Number : 96 Question Id : 19088913317 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

High value of retardation time in a viscoelastic material indicates that the -

- A. Viscous property overpowers elastic property
- B. Elastic property dominates viscous property
- C. Material is rigid
- D. Material behaves as fluid with instantaneous initial rigidity
- E. Material is brittle

Choose the *correct* answer from the options given below:

1. A only
2. B and E only
3. A and D only
4. C and E only

Options :

19088953161. 1

19088953162. 2

19088953163. 3

19088953164. 4

Question Number : 97 Question Id : 19088913318 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A generalized Maxwell model consists of n Maxwell elements with a

1. Spring in parallel with n^{th} element
2. Dashpot in parallel with n^{th} element
3. Spring in series with n^{th} element
4. Dashpot in series with n^{th} element

Options :

19088953165. 1

19088953166. 2

19088953167. 3

19088953168. 4

Question Number : 98 Question Id : 19088913319 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
A. Specific heat	I. Specific surface
B. Warner-Bratzler	II. Heat of vapourization method
C. Carman-Kozeny	III. Siebel's equation
D. Thermal conductivity	IV. Toughness

Choose the correct answer from the options given below:

1. A - III, B - I, C - IV, D - II
2. A - III, B - IV, C - I, D - II
3. A - II, B - III, C - IV, D - I
4. A - II, B - IV, C - I, D - III

Options :

19088953169. 1

19088953170. 2

19088953171. 3

19088953172. 4

**Question Number : 99 Question Id : 19088913320 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Among L^* , a^* and b^* colour values, a^* represents which of the following colours?

A. Yellowness

B. Redness

C. Greenness

D. Blueness

Choose the *correct* answer from the options given below:

1. A and B only
2. B only
3. B and C only
4. C and D only

Options :

19088953173. 1

19088953174. 2

19088953175. 3

19088953176. 4

**Question Number : 100 Question Id : 19088913321 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

ISO-9001 Certification relates to:

1. HACCP
2. Food Safety Management System
3. Energy Management System
4. Quality Management System

Options :

19088953177. 1

19088953178. 2

19088953179. 3

19088953180. 4

**Question Number : 101 Question Id : 19088913322 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Non-climacteric fruits becomes more palatable after detaching from mother plant.

Reason R : They are not capable of generating ethylene after harvest.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088953181. 1

19088953182. 2

19088953183. 3

19088953184. 4

**Question Number : 102 Question Id : 19088913323 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Vapour compression systems used in evaporators -

- A. Assist in reducing energy requirements
- B. Compress part of inlet vapours
- C. Compress part of exit vapours
- D. Improve the quality of concentrated product

Choose the *correct* answer from the options given below:

- 1. A only
- 2. A and B only
- 3. A and C only
- 4. C and D only

Options :

19088953185. 1

19088953186. 2

19088953187. 3

19088953188. 4

Question Number : 103 Question Id : 19088913324 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : The process of thawing takes longer time than the process of freezing

Reason R : Thermal conductivity of ice is greater than water

In light of the above statements, choose the *correct* answer from the options given below

- 1. Both **A** and **R** are true and **R** is the correct explanation of **A**
- 2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
- 3. **A** is true but **R** is false
- 4. **A** is false but **R** is true

Options :

19088953189. 1

19088953190. 2

19088953191. 3

19088953192. 4

**Question Number : 104 Question Id : 19088913325 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Deep bed drying	I. Sterilization
B. Air flow resistance	II. Hukills method
C. Pulse milling	III. Shedd's Chart
D. UHT process	IV. Kupritz formula

Choose the **correct** answer from the options given below:

1. A - IV, B - III, C - II, D - I
2. A - II, B - IV, C - III, D - I
3. A - II, B - III, C - IV, D - I
4. A - IV, B - I, C - II, D - III

Options :

19088953193. 1

19088953194. 2

19088953195. 3

19088953196. 4

**Question Number : 105 Question Id : 19088913326 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Arrange the given membrane separation processes in the order of their ability to separate particles/molecules in ascending order

- A. Ultrafiltration
- B. Nanofiltration
- C. Hyperfiltration
- D. Microfiltration
- E. Particlefiltration

Choose the *correct* answer from the options given below

- 1. A, B, C, D, E
- 2. C, B, A, D, E
- 3. B, C, D, A, E
- 4. C, B, D, A, E

Options :

- 19088953197. 1
- 19088953198. 2
- 19088953199. 3
- 19088953200. 4

Question Number : 106 Question Id : 19088913327 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a size reduction experiment, sorghum grain is milled from an initial 2mm to 1 mm grits. The power requirement, using Rittinger's law, was found to be 6.5 kW. The value of constant c is

- 1. 3.25
- 2. 15
- 3. 65
- 4. 13

Options :

- 19088953201. 1
- 19088953202. 2
- 19088953203. 3

19088953204. 4

Question Number : 107 Question Id : 19088913328 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Steam economy of a multiple effect evaporator is higher in comparison to single effect evaporator

Reason R : Vapours recompression reduces energy requirement in evaporation process

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088953205. 1

19088953206. 2

19088953207. 3

19088953208. 4

Question Number : 108 Question Id : 19088913329 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Specific gravity separator is suitable for separating black pepper from a mixture of black pepper and papaya seeds

Reason R : Size and shape of papaya seeds are identical to black pepper

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088953209. 1

19088953210. 2

19088953211. 3

19088953212. 4

Question Number : 109 Question Id : 19088913330 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Mustard seeds were dried at 115°C using a tunnel dryer. At 35°C ambient temperature, the exit air temperature was observed to be 99°C. The coefficient of performance of the dryer will be:

1. 0.8
2. 2.0
3. 1.5
4. 0.2

Options :

19088953213. 1

19088953214. 2

19088953215. 3

19088953216. 4

Question Number : 110 Question Id : 19088913331 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

It is required to transfer 18000 kcal of heat every hour. When the overall heat transfer coefficient of a counter flow heat exchanger is $500 \text{ kcal/m}^2 \cdot \text{h} \cdot ^\circ\text{C}$ and LMTD is 12°C , heat transfer area required will be:

1. 4.5 m^2
2. 6 m^2
3. 3 m^2
4. 12 m^2

Options :

19088953217. 1

19088953218. 2

19088953219. 3

19088953220. 4

Question Number : 111 Question Id : 19088913332 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Separation efficiency of a cyclone separator is –

- A. Directly proportional to height of the cyclone
- B. Inversely proportional to radius of cyclone
- C. Directly proportional to radius of cyclone
- D. Directly proportional to outlet duct diameter
- E. Inversely proportional to size of particle

Choose the *correct* answer from the options given below:

1. D only
2. A and B only
3. A and C only
4. B and E only

Options :

19088953221. 1

19088953222. 2

19088953223. 3

19088953224. 4

**Question Number : 112 Question Id : 19088913333 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A : Janssen's formula is used for computation of lateral pressure in deep bin

Reason R : Ratio of lateral to linear pressure exerted by grain on walls is assumed to vary with depth of grain

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

Options :

19088953225. 1

19088953226. 2

19088953227. 3

19088953228. 4

**Question Number : 113 Question Id : 19088913334 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Match **List I** with **List II**

List I	List II
A. Airy's formula	I. Insect
B. Moisture migration	II. Sliding wedge theory
C. Fumigation	III. Temperature
D. Hot spots inside stored grain	IV. Disinfection

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - IV, D - III
2. A - II, B - I, C - III, D - IV
3. A - II, B - III, C - I, D - IV
4. A - II, B - III, C - IV, D - I

Options :

19088953229. 1

19088953230. 2

19088953231. 3

19088953232. 4

Question Number : 114 Question Id : 19088913335 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The difference between the total pressure at the fan outlet and the inlet is known as

1. Fan total pressure
2. Fan static pressure
3. Fan velocity pressure
4. Fan kinetic pressure

Options :

19088953233. 1

19088953234. 2

19088953235. 3

19088953236. 4

Question Number : 115 Question Id : 19088913336 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When food grain is stored in a silo in hot climate, moisture migration within the grain mass results in spoilage at

- A. Bottom
- B. Top
- C. Alongside walls
- D. Along central axis

Choose the *correct* answer from the options given below:

- 1. A only
- 2. B only
- 3. A and C only
- 4. B and D only

Options :

19088953237. 1

19088953238. 2

19088953239. 3

19088953240. 4

Question Number : 116 Question Id : 19088913337 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Packaging in which subsidiary constituents have been deliberately included in or on either the packaging material or the package headspace to enhance the performance of the package system is known as

- 1. Smart packaging
- 2. Modified atmospheric packaging
- 3. Intelligent packaging
- 4. Active packaging

Options :

19088953241. 1

19088953242. 2

19088953243. 3

19088953244. 4

**Question Number : 117 Question Id : 19088913338 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Cover and Plinth method of grain storage is a

- A. Form of bag storage
- B. Transit storage
- C. Type of open storage method
- D. Indoor storage method

Choose the *correct* answer from the options given below:

1. A and B only
2. A and C only
3. A, B and C only
4. A, B and D only

Options :

19088953245. 1

19088953246. 2

19088953247. 3

19088953248. 4

**Question Number : 118 Question Id : 19088913339 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Flow measuring device(s) which do(es) not measure the flow directly, rather measure(s) another physical quantity related to flow include:

- A. Lobed-impeller meter
- B. Rotameter
- C. Turbine flow meter
- D. Nutating disc meter

Choose the *correct* answer from the options given below:

- 1. B, C and D only
- 2. B and C only
- 3. A and D only
- 4. B only

Options :

- 19088953249. 1
- 19088953250. 2
- 19088953251. 3
- 19088953252. 4

Question Number : 119 Question Id : 19088913340 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In an infrared heating experiment, temperature of the surface recorded were 90°C, 100°C and 110°C. The average surface temperature expressed on the Fahrenheit scale is

- 1. 212
- 2. 87
- 3. 100
- 4. 68

Options :

- 19088953253. 1
- 19088953254. 2
- 19088953255. 3
- 19088953256. 4

Question Number : 120 Question Id : 19088913341 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Major limitations of the Supervisory Control and Data Acquisition software include:

A. Collection of data from PLC

B. Display of data

C. Recall historical data

D. Analyze data trends

Choose the *correct* answer from the options given below:

1. A, C and D only
2. B and C only
3. C and D only
4. A and D only

Options :

19088953257. 1

19088953258. 2

19088953259. 3

19088953260. 4