National Testing Agency

Question Paper Name :	AGRICULTURAL ENGINEERING AND TECHNOLOGY 17th September 2021 Shift1
Subject Name :	AGRICULTURAL ENGINEERING AND TECHNOLOGY
Creation Date :	2021-09-17 15:50:05
Duration :	120
Total Marks :	480
Display Marks:	Yes

AGRICULTURAL ENGINEERING AND TECHNOLOGY

Group Number :	1
Group Id :	19088956
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

AGRICULTURAL ENGINEERING AND TECHNOLOGY -1

Section Id :	190889130
Section Number :	1
Section type :	Online

Question Number : 1 Question Id : 1908896022 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Find the value of x and y for the following equations

$2x + 3y = 20$
$2x - y = 12$

1. 8, 3
2. 5, 2
3. 2, 5
4. 7, 2

Options :

19088923981. 1

19088923982. 2

19088923983. 3

19088923984. 4

Question Number : 2 Question Id : 1908896023 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Two or more vectors parallel to the same line, irrespective of their magnitude and direction, constitute

1. Unit vectors
2. Co-initial vectors
3. Equal vectors
4. Collinear vectors

Options :

19088923985. 1

19088923986. 2

19088923987. 3

19088923988. 4

Question Number : 3 Question Id : 1908896024 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The mean, median and mode for the data (5, 6, 9, 3,2,5,8,1,7,4) is

1. 5, 5, 9
2. 10, 5, 4
3. 5, 2, 5
4. 5, 5, 5

Options :

19088923989. 1

19088923990. 2

19088923991. 3

19088923992. 4

Question Number : 4 Question Id : 1908896025 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A bag contains 5 Red and 6 White balls. A person draws two balls one after the other without replacing the first one. The probability that both balls will be of same color will be

1. 2/11
2. 25/30
3. 5/11
4. 25/36

Options :

19088923993. 1

19088923994. 2

19088923995. 3

19088923996. 4

Question Number : 5 Question Id : 1908896026 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Objective function and constraints are part of

1. Linear programming
2. Fourier series
3. Vector algebra
4. Probability

Options :

19088923997. 1

19088923998. 2

19088923999. 3

19088924000. 4

Question Number : 6 Question Id : 1908896027 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The best measure of central tendency and dispersion are respectively

1. Mean , Mode
2. Median, Variance
3. Mean, Standard deviation
4. Median, Quartile

Options :

19088924001. 1

19088924002. 2

19088924003. 3

19088924004. 4

Question Number : 7 Question Id : 1908896028 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The value of integral $\int (7x^6 + 1)$ is

1. $x^7 + k$
2. $7x^7 + x + k$
3. $x^7 + x + k$
4. $x^6 + x + k$

Options :

19088924005. 1

19088924006. 2

19088924007. 3

19088924008. 4

Question Number : 8 Question Id : 1908896029 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Find the value of $\dfrac{d\,(\tan x)}{dx}$

1. $\cot^2 x$
2. $\sec^2 x$
3. $\dfrac{1}{\tan x}$
4. $\sec x$

Options :

19088924009. 1

19088924010. 2

19088924011. 3

19088924012. 4

Question Number : 9 Question Id : 1908896030 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In power transmission slip is usually expressed as the percentage of

1. Speed enhancement
2. Speed reduction
3. Power enhancement
4. Power reduction

Options :

19088924013. 1

19088924014. 2

19088924015. 3

19088924016. 4

Question Number : 10 Question Id : 1908896031 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Transformer is a device used for

1. Changing the electrical energy into mechanical energy
2. Changing the mechanical energy into electrical energy
3. Changing the voltage from one value to another without change in frequency
4. Changing the frequency from one value to another without change in voltage

Options :

19088924017. 1

19088924018. 2

19088924019. 3

19088924020. 4

Question Number : 11 Question Id : 1908896032 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In an electric circuit, current is directly proportional to electromotive force and inversely proportional to the resistance. This is known as

1. Darcy's Law
2. Ohm's Law
3. Faraday's Law
4. Maxwell's Law

Options :

19088924021. 1

19088924022. 2

19088924023. 3

19088924024. 4

Question Number : 12 Question Id : 1908896033 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Correctness or exactness in measurements is associated with accuracy and not with the precision

Statement II: It is not possible to have precise measurements which are not accurate

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 :

19088924025. 1

19088924026. 2

19088924027. 3

19088924028. 4

Question Number : 13 Question Id : 1908896034 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. Precision	I. Maximum distance or angle through which any part of mechanical system may be moved without causing motion of next part
B. Drift	II. Smallest increment in measurand that can be detected with certainty by instrument
C. Resolution	III. Gradual departure of the instrument output from the calibrated value
D. Backlash	IV. The ability of device to give identical output on repetition of same input signal

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

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

Options :

19088924029. 1

19088924030. 2

19088924031. 3

19088924032. 4

Question Number : 14 Question Id : 1908896035 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following parts of DC motor can sustain maximum temperature rise?

1. Armature winding
2. Field winding
3. Slip ring
4. Commutator

Options :

19088924033. 1

19088924034. 2

19088924035. 3

19088924036. 4

Question Number : 15 Question Id : 1908896036 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

11001 in binary system corresponds to following number in decimal system

1. 25
2. 20
3. 30
4. 15

Options :

19088924037. 1

19088924038. 2

19088924039. 3

19088924040. 4

Question Number : 16 Question Id : 1908896037 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Cold air at 10^0C is forced to flow over a plate maintained at 40^0C. The mean heat transfer coefficient is (h_m= 30 W/m^2.^{0}C). The heat flow rate from plate to air through a plate area of A = 2 m^2 will be

1. 0.9 kW
2. 1.8 kW
3. 2.7 kW
4. 3.6 kW

Options :

19088924041. 1

19088924042. 2

19088924043. 3

19088924044. 4

Question Number : 17 Question Id : 1908896038 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

On a cold morning, a metal surface on touching is felt colder than a wooden surface because the metal has

1. Low thermal conductivity
2. High thermal conductivity
3. High specific heat
4. Low specific heat

Options :

19088924045. 1

19088924046. 2

19088924047. 3

19088924048. 4

Question Number : 18 Question Id : 1908896039 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. Conduction	I. Stefan-Boltzmann Law
B. Convection	II. Fick's Law
C. Radiation	III. Newton's law of cooling
D. Mass Transfer	IV. Fourier Law

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

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

Options :

19088924049. 1

19088924050. 2

19088924051. 3

19088924052. 4

Question Number : 19 Question Id : 1908896040 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The correct relationship between Pecklet number (Pe), Reynold number (Re), Prandtl number (Pr), Rayleigh number (Ra) and Grashoff number (Gr) is

1. Pe = Re x Pr ; Ra= Gr x Pr
2. Ra = Re x Pr ; Pe = Gr x Pr
3. Re = Pe x Pr ; Gr = Ra x Pr
4. Pe x Gr = Re x Pr

Options :

19088924053. 1

19088924054. 2

19088924055. 3

19088924056. 4

Question Number : 20 Question Id : 1908896041 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A beaker is filled with water at 4° C. One time temperature is increased by few degrees above 4° C and another time it is decreased few degrees below 4° C. One shall observe that

1. The level remains constant in each case
2. In the first case water overflows while in second case it comes down
3. In first case water comes down while in second case it over flows
4. Water overflows in both cases

Options :

19088924057. 1

19088924058. 2

19088924059. 3

19088924060. 4

Question Number : 21 Question Id : 1908896042 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Pump coverts mechanical power to fluid power and actuator converts hydraulic power to mechanical power

Statement II: Hydraulic cylinder provides rotary mechanical power and hydraulic motor provides linear mechanical power

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924061. 1

19088924062. 2

19088924063. 3

19088924064. 4

Question Number : 22 Question Id : 1908896043 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When two pulleys of different diameters are connected by means of an open belt drive, then the angle of contact taken into consideration should be of the

1. Large pulley
2. Smaller pulley
3. Average of two pulleys
4. Difference of two pulleys

Options :

19088924065. 1

19088924066. 2

19088924067. 3

19088924068. 4

Question Number : 23 Question Id : 1908896044 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a 4-bar linkage, if the lengths of shortest, longest and other two links are denoted by s, l, p and q, then it would result in Grashof's linkage provided

1. $l+p < s+q$
2. $l+s < p+q$
3. $l+p = s+q$
4. $l+s = p+q$

Options :

19088924069. 1

19088924070. 2

19088924071. 3

19088924072. 4

Question Number : 24 Question Id : 1908896045 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Density index or relative density is defined as

1. $(e_{max} - e)/ (e_{min} - e)$
2. $(e_{max} - e)/ (e_{max} - e_{min})$
3. $(e_{max} - e_{min})/ (e_{max} - e)$
4. $(e_{min} - e)/ (e_{max} - e_{min})$

Where, e_{max} = void ratio in the loosest state
e_{min} = voids ratio in the densest state
e = natural void ratio of the deposit

Options :

19088924073. 1

19088924074. 2

19088924075. 3

19088924076. 4

Question Number : 25 Question Id : 1908896046 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If 80 kg MB plough is pulled by a horizontal force of 46 kg, find the angle of friction between plough body and horizontal surface.

1. 30°
2. 40°
3. 45°
4. 60°

Options :

19088924077. 1

19088924078. 2

19088924079. 3

19088924080. 4

Question Number : 26 Question Id : 1908896047 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A weight lifting machine is used to lift a load of 70 kg through 30 cm distance. If 30 kg load is applied to move a distance 100 cm, find efficiency of the machine.

1. 66%
2. 70%
3. 75%
4. 80%

Options :

19088924081. 1

19088924082. 2

19088924083. 3

19088924084. 4

Question Number : 27 Question Id : 1908896048 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The stage at which the change of shape of material becomes more rapid than the increase of force is called 'yield point'.

Statement II: After yield point the change of shape is permanent

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924085. 1

19088924086. 2

19088924087. 3

19088924088. 4

Question Number : 28 Question Id : 1908896049 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Amount of heat required to change unit mass of substance from one phase to another phase is known as

1. Specific heat
2. Entropy
3. Latent heat
4. Enthalpy

Options :

19088924089. 1

19088924090. 2

19088924091. 3

19088924092. 4

Question Number : 29 Question Id : 1908896050 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In hydrometer method of sedimentation analysis, which correction is always negative

1. Temperature
2. Meniscus correction
3. Dispersing agent correction
4. Composite correction

Options :

19088924093. 1

19088924094. 2

19088924095. 3

19088924096. 4

Question Number : 30 Question Id : 1908896051 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In particle size distribution curve, effective diameter is a measure of particle size such that

1. 10% of the particles are finer than this size
2. 30% of the particles are finer than this size
3. 50% of the particles are finer than this size
4. 60% of the particles are finer than this size

Options :

19088924097. 1

19088924098. 2

19088924099. 3

19088924100. 4

Question Number : 31 Question Id : 1908896052 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The functions of flywheel are

A. To absorb excess energy during the power stroke

B. To provide extra energy over and above that developed by the engine

C. To serve sometimes as a pulley for transmitting engine power

D. To control the operation of cam shaft

E. To connect crankshaft with the final drive

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

1. A Only
2. A, C Only
3. A, B, C Only
4. A, B, E Only

Options :

19088924101. 1

19088924102. 2

19088924103. 3

19088924104. 4

Question Number : 32 Question Id : 1908896053 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: In a seed drill with flutted roller metering mechanism, the number of fluted rollers is same as the number of furrow openers

Reason R: Flutted roller maintains the spacing between the seeds in a row

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 :

19088924105. 1

19088924106. 2

19088924107. 3

19088924108. 4

Question Number : 33 Question Id : 1908896054 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The ratio of the net pull produced to the dynamic normal load on the traction device is known as

1. Motion resistance ratio
2. Net traction coefficient
3. Tractive efficiency
4. Wheel traction

Options :

19088924109. 1

19088924110. 2

19088924111. 3

19088924112. 4

Question Number : 34 Question Id : 1908896055 Question Type : MCQ Option Shuffling : No Is
Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The tractor tyre of

A. Radial-ply type improves coefficient of traction

B. Radial-ply type improves tractive efficiency

C. Radial-ply type is advantageous for soft soil

D. Bias-ply type works good on highways

E. Bias-ply type is suitable for soft soil

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

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

Options :

19088924113. 1

19088924114. 2

19088924115. 3

19088924116. 4

Question Number : 35 Question Id : 1908896056 Question Type : MCQ Option Shuffling : No Is
Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following helps in maintaining uniform depth of ploughing for M B plough?

1. Gauge wheel
2. Frog
3. Landslide
4. Jointer

Options :

19088924117. 1

19088924118. 2

19088924119. 3

19088924120. 4

Question Number : 36 Question Id : 1908896057 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: Solar pond is an artificially constructed water pond in which significant temperature rise occurs in lower region

Reason R: The salinity gradient (salt-slope) gives pond a vertical density difference creating a non-convecting environment

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 :

19088924121. 1

19088924122. 2

19088924123. 3

19088924124. 4

Question Number : 37 Question Id : 1908896058 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the time required for ploughing of 9 hectare of land by a 2-bottom, 50 cm MB plough, if the speed of operation is 5 km.h^{-1} and time lost in turning is 10 per cent.

1. 10 h
2. 11 h
3. 20 h
4. 22 h

Options :

19088924125. 1

19088924126. 2

19088924127. 3

19088924128. 4

Question Number : 38 Question Id : 1908896059 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the time required to sow 10.8 hectare field, if a seed drill consists of 9 furrow openers for dropping seeds and working efficiency of drill is 80%. Assume that furrow openers are 20 cm apart from one another and working speed is 5 km.h^{-1}.

1. 5 h
2. 9 h
3. 10 h
4. 15 h

Options :

19088924129. 1

19088924130. 2

19088924131. 3

19088924132. 4

Question Number : 39 Question Id : 1908896060 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Castor yield is obtained maximum with 120,000 plants per hectare. The rows are 50 cm apart and average emergence of 80 per cent is expected. What is the number of seeds in a hill, if hill spacing is 40 cm.

1. 1 seed
2. 2 seeds
3. 3 seeds
4. 4 seeds

Options :

19088924133. 1

19088924134. 2

19088924135. 3

19088924136. 4

Question Number : 40 Question Id : 1908896061 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Determine the rate of application of a tractor operated sprayer having 9 m swath. A chemical is sprayed at 30 liters per minute with forward speed of 4 km.h^{-1}.

1. 500 l.ha^{-1}
2. 1000 l.ha^{-1}
3. 1500 l.ha^{-1}
4. 1800 l.ha^{-1}

Options :

19088924137. 1

19088924138. 2

19088924139. 3

19088924140. 4

Question Number : 41 Question Id : 1908896062 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A combine having 2 m cutter bar is operated at a speed of 4 km.h^{-1} to harvest wheat crop. If 20% time is lost in turning, loading and unloading, calculate the harvested area in 8 hours.

1. 4.0 ha
2. 4.8 ha
3. 5.12 ha
4. 3.24 ha

Options :

19088924141. 1

19088924142. 2

19088924143. 3

19088924144. 4

Question Number : 42 Question Id : 1908896063 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate BHP of 4-stroke engine having 200 mm diameter and 350 mm stroke length, with speed of 450 rpm. After 2 stroke pressure generated is 20 kg.cm^{-2}. Assume engine efficiency as 80 per cent.

1. 80 HP
2. 88 HP
3. 110 HP
4. 124 HP

Options :

19088924145. 1

19088924146. 2

19088924147. 3

19088924148. 4

Question Number : 43 Question Id : 1908896064 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the torque developed, if a tractor engine is operating at a speed of 3500 rpm and brake power recorded by the prony brake dynamometer is 44 kW.

1. 120 N-m
2. 220 N-m
3. 360 N-m
4. 440 N-m

Options :

19088924149. 1

19088924150. 2

19088924151. 3

19088924152. 4

Question Number : 44 Question Id : 1908896065 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Find the clearance volume of an engine whose displacement volume is 1500 cm^3 and compression ratio 8:2.

1. 375 cm^3
2. 500 cm^3
3. 875 cm^3
4. 1125 cm^3

Options :

19088924153. 1

19088924154. 2

19088924155. 3

19088924156. 4

Question Number : 45 Question Id : 1908896066 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Calculate the theoretical power generated by a wind rotor of 5 m diameter with wind velocity of 7.2 km.h^{-1}. Assume air density as 1.4 kg.m^{-3}.

1. 100 W
2. 110 W
3. 200 W
4. 220 W

Options :

19088924157. 1

19088924158. 2

19088924159. 3

19088924160. 4

Question Number : 46 Question Id : 1908896067 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Design an appropriate size of biogas plant for a family of 6 members owning 2 cows, 2 buffaloes and 2 calves. One candle lamp is used for lighting purpose for 4 hours. (Assumption: dung production by cow, buffalo and calf are 10 kg, 15 kg and 5 kg respectively; cooking requirement is 0.25 m^3 gas per day per person and 0.12 m^3 gas per hour per lamp; gas production 0.04 m^3 per kg of dung)

1. 1.8 m^3
2. 2.0 m^3
3. 3.0 m^3
4. 2.5 m^3

Options :

19088924161. 1

19088924162. 2

19088924163. 3

19088924164. 4

Question Number : 47 Question Id : 1908896068 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the machines are considered dangerous machines as per Dangerous Machines Act, 1983?

A. Power thresher

B. Power winnower

C. Power operated chaff cutter

D. Power operated sugarcane crusher

E. Power tiller

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

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

Options :

19088924165. 1

19088924166. 2

19088924167. 3

19088924168. 4

Question Number : 48 Question Id : 1908896069 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The efficiency of four basic modes of human power output varies as per the following

1. Cranking > Pedaling > Pushing > Pulling
2. Pulling > Pushing > Cranking > Pedaling
3. Pushing > Pedaling > Pulling > Cranking
4. Pedaling > Pulling > Pushing > Cranking

Options :

19088924169. 1

19088924170. 2

19088924171. 3

19088924172. 4

Question Number : 49 Question Id : 1908896070 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Fraction of airborne dust which enters the body but is trapped in nose, throat and upper respiratory tract is called inhalable dust

Statement II: Dust particles of size lesser than 5 μm are categorized as inhalable dust

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 :

19088924173. 1

19088924174. 2

19088924175. 3

19088924176. 4

Question Number : 50 Question Id : 1908896071 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: Only positive displacement pumps are used in fluid power systems

Reason R: Positive displacement pumps maintain nearly constant pump flow rate independent of the pressure

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 :

19088924177. 1

19088924178. 2

19088924179. 3

19088924180. 4

Question Number : 51 Question Id : 1908896072 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Efficiency of an Otto cycle increases as the compression ratio decreases.

Statement II: As the fuel-cutoff approaches zero, the efficiency of diesel cycle approaches that of Otto cycle for same compression ratio

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 :

19088924181. 1

19088924182. 2

19088924183. 3

19088924184. 4

Question Number : 52 Question Id : 1908896073 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The lowest temperature at which fuel ceases to flow is known as

1. Cloud point
2. Pour point
3. Flash point
4. Anniline point

Options :

19088924185. 1

19088924186. 2

19088924187. 3

19088924188. 4

Question Number : 53 Question Id : 1908896074 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. Tractive efficiency	I. Ratio of net pull produced to dynamic normal load
B. Net traction coefficient	II. Ratio of output power to input power
C. Motion resistance ratio	III. Rolling resistance force divided by normal load
D. Gross traction	IV. Force that cannot be measured but calculated from driving torque and effective radius

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

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

Options :

19088924189. 1

19088924190. 2

19088924191. 3

19088924192. 4

Question Number : 54 Question Id : 1908896075 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The percentage regulation in a governor with speed at no load 1100 rpm and speed at load 900 rpm is:

1. 12 %
2. 20 %
3. 120 %
4. 400 %

Options :

19088924193. 1

19088924194. 2

19088924195. 3

19088924196. 4

Question Number : 55 Question Id : 1908896076 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The tractor engine is designed to have

1. Maximum torque and maximum power produced at same engine speed
2. Maximum torque at lower speed compared to speed corresponding to maximum power
3. Maximum torque at higher speed compared to speed corresponding to maximum power
4. Maximum torque at double the engine speed compared to speed at maximum power

Options :

19088924197. 1

19088924198. 2

19088924199. 3

19088924200. 4

Question Number : 56 Question Id : 1908896077 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

For towed wheel and self-propelled wheel, which of the following conditions hold good

A. For towed wheel axle torque is zero

B. For self-propelled wheel axle torque is zero

C. For towed wheel pull is zero

D. For self-propelled wheel pull is zero

E. For towed wheel and self-propelled wheel neither axle torque nor pull is zero

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

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

Options :

19088924201. 1

19088924202. 2

19088924203. 3

19088924204. 4

Question Number : 57 Question Id : 1908896078 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

With respect to tractor steering system, the motion transfer takes place in the sequence

A. King pin

B. Steering wheel

C. Pitman arm

D. Drag link

E. Steering arm

Choose the *correct* answer from the options given below

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

Options :

19088924205. 1

19088924206. 2

19088924207. 3

19088924208. 4

Question Number : 58 Question Id : 1908896079 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Cone index is a measure of

1. Soil pulverization
2. Soil fertility
3. Soil organic matter
4. Soil strength

Options :

19088924209. 1

19088924210. 2

19088924211. 3

19088924212. 4

Question Number : 59 Question Id : 1908896080 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Mufflers are provided in tractor to control

1. Vibration
2. Noise
3. Emission
4. Fuel consumption

Options :

19088924213. 1

19088924214. 2

19088924215. 3

19088924216. 4

Question Number : 60 Question Id : 1908896081 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: Super charged petrol engines employ lower compression ratios

Reason R: Super charging results in increase in the intake temperature of engine, reduction of ignition delay and thus tendency to detonate or pre-ignite

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 :

19088924217. 1

19088924218. 2

19088924219. 3

19088924220. 4

Question Number : 61 Question Id : 1908896082 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: Blanching is recommended pretreatment for dehydration of vegetables

Reason R: Hot water affects polyphenol oxidase

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 :

19088924221. 1

19088924222. 2

19088924223. 3

19088924224. 4

Question Number : 62 Question Id : 1908896083 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: PUSA bin is a simple moisture free storage structure

Reason R: PUSA bin is recommended as indoor structure

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 :

19088924225. 1

19088924226. 2

19088924227. 3

19088924228. 4

Question Number : 63 Question Id : 1908896084 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 : Radiation is the quickest mode of heat transfer.

Reason R : Electromagnetic waves penetrate into the object.

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 :

19088924229. 1

19088924230. 2

19088924231. 3

19088924232. 4

Question Number : 64 Question Id : 1908896085 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 : Angle of repose of grains changes with moisture content.

Reason R : Moisture content affects linear dimensions of grains.

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 :

19088924233. 1

19088924234. 2

19088924235. 3

19088924236. 4

Question Number : 65 Question Id : 1908896086 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Sequence of unit operations in process of refining of crude oil

A. Deodourization

B. Removal of soaps

C. Winterization

D. Neutralization

E. Bleaching

Choose the *correct* answer from the options given below

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

Options :

19088924237. 1

19088924238. 2

19088924239. 3

19088924240. 4

Question Number : 66 Question Id : 1908896087 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Fluidized bed drying is best suitable for granular material

Statement II: Fluidized bed drying can be effectively used for purees and slurries

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924241. 1

19088924242. 2

19088924243. 3

19088924244. 4

Question Number : 67 Question Id : 1908896088 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Rubber roll shellers are used in wheat milling for dehusking.

Statement II: In rubber roll sheller, two rollers rotate in opposite direction but at the same speed.

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924245. 1

19088924246. 2

19088924247. 3

19088924248. 4

Question Number : 68 Question Id : 1908896089 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: FSSAI was established under Food Safety and Standards Act, 2006

Statement II: ISO 9000 series relates to food safety measures

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 :

19088924249. 1

19088924250. 2

19088924251. 3

19088924252. 4

Question Number : 69 Question Id : 1908896090 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Falling rate period of drying process is one during which

A. Drying rate depends mainly on properties of food material

B. Moisture is not available on the surface of food material

C. Drying rate decreases

D. Drying rate depends only on the capacity of drying air to pickup moisture from the surface

E. Drying rate remains constant

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

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

Options :

19088924253. 1

19088924254. 2

19088924255. 3

19088924256. 4

Question Number : 70 Question Id : 1908896091 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If the water activity of food is 0.5 to 0.6, then

A. Enzymatic activity is completely ceased

B. No bacterial activity takes place

C. No non- enzymatic browning activity

D. No mold growth on food

E. Lipid does not oxidise

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

1. D, E Only
2. B, E Only
3. B, D Only
4. C, B Only

Options :

19088924257. 1

19088924258. 2

19088924259. 3

19088924260. 4

Question Number : 71 Question Id : 1908896092 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In case of loose housing type of dairy barn

A. Floor space requirement per cow is less as compared to stall barn

B. Feed consumption per cow is less than stall barn arrangement

C. Cows are milked in milking parlor

D. Labour requirement is less

E. Possibility of spread of disease is low

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

1. C, D Only
2. D, A Only
3. A, B Only
4. B Only

Options :

19088924261. 1

19088924262. 2

19088924263. 3

19088924264. 4

Question Number : 72 Question Id : 1908896093 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a separation process, efficiency of a screen can be improved by

A. Using multiple screens one above the other

B. Using screen knockers

C. Uniformly feeding the material over full width of the screen

D. Using lower percentage open area of screen

E. Setting high degree of inclination

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

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

Options :

19088924265. 1

19088924266. 2

19088924267. 3

19088924268. 4

Question Number : 73 Question Id : 1908896094 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. Parboiling	I. Paddy
B. Under runner huller	II. Corn milling
C. Loose housing barn	III. Wheat
D. Tempering degerming	IV. Milking parlor

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

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

Options :

19088924269. 1

19088924270. 2

19088924271. 3

19088924272. 4

Question Number : 74 Question Id : 1908896095 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The process of storing grain in a gas tight container to deplete oxygen and accumulate carbon dioxide is known as

1. CAP storage
2. Hermetic storage
3. Aseptic storage
4. High pressure storage

Options :

19088924273. 1

19088924274. 2

19088924275. 3

19088924276. 4

Question Number : 75 Question Id : 1908896096 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Parboiling of paddy is a

1. Hydro-thermal pretreatment
2. Thermal treatment
3. Thermo-mechanical treatment
4. Soaking and drying treatment

Options :

19088924277. 1

19088924278. 2

19088924279. 3

19088924280. 4

Question Number : 76 Question Id : 1908896097 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a process of separation of particle using cyclone separator, centrifugal force acting on the particle can be increased by:

1. Increasing radius of rotation
2. Reducing radius of rotation
3. Increasing acceleration due to gravity
4. Reducing tangential velocity of particle

Options :

19088924281. 1

19088924282. 2

19088924283. 3

19088924284. 4

Question Number : 77 Question Id : 1908896098 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Lateral pressure exerted by grain in a silo was found to be 2000 kg.m^{-2}. If the Rankine's coefficient is 0.5, vertical pressure in the silo will be:

1. 1000 kg.m^{-2}
2. 4000 kg.m^{-2}
3. 2000 kg.m^{-2}
4. 0 kg.m^{-2}

Options :

19088924285. 1

19088924286. 2

19088924287. 3

19088924288. 4

Question Number : 78 Question Id : 1908896099 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Screw conveyor can be used to move grains up to an angle of

1. 90°
2. 45°
3. 20°
4. 60°

Options :

19088924289. 1

19088924290. 2

19088924291. 3

19088924292. 4

Question Number : 79 Question Id : 1908896100 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which among the following is a fat soluble vitamin

1. Ascorbic acid
2. Retinol
3. Riboflavin
4. Thiamine

Options :

19088924293. 1

19088924294. 2

19088924295. 3

19088924296. 4

Question Number : 80 Question Id : 1908896101 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which among the following equipment utilizes centrifugal force

1. Rubber roll sheller
2. Paddy separator
3. Engleberg huller
4. Impact type paddy dehusker

Options :

19088924297. 1

19088924298. 2

19088924299. 3

19088924300. 4

Question Number : 81 Question Id : 1908896102 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If force of friction of material is 1/4th of the force normal to the surface of contact, then co-efficient of friction will be equal to

1. 0.25
2. 0.50
3. 0.75
4. 4.00

Options :

19088924301. 1

19088924302. 2

19088924303. 3

19088924304. 4

Question Number : 82 Question Id : 1908896103 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Process of seed dressing implies to:

1. Drying of seeds to safe storage level
2. Slightly scrapping outer core of seeds
3. Application of chemicals to protect against fungal/insect attack
4. Process of cleaning and grading

Options :

19088924305. 1

19088924306. 2

19088924307. 3

19088924308. 4

Question Number : 83 Question Id : 1908896104 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Force employed in hammer mill is

1. Only impact
2. Impact and compression
3. Impact and shear
4. Shear only

Options :

19088924309. 1

19088924310. 2

19088924311. 3

19088924312. 4

Question Number : 84 Question Id : 1908896105 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When 100 kilo calories of heat was removed from 10 kg apples stored at 20°C, final temperature of apple was observed to be 15°C. Specific heat of apple will be

1. 0.5 cal/kg °C
2. 1.0 cal/kg °C
3. 2.0 kcal/kg °C
4. 5.0 kcal/kg°C

Options :

19088924313. 1

19088924314. 2

19088924315. 3

19088924316. 4

Question Number : 85 Question Id : 1908896106 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Colloidal mills are used for size reduction of:

1. All solids
2. Semi solid foods
3. Liquids
4. Fibrous foods only

Options :

19088924317. 1

19088924318. 2

19088924319. 3

19088924320. 4

Question Number : 86 Question Id : 1908896107 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In a vapour compression refrigeration system, the refrigerant passes through the following component before it enters into the evaporator

1. Expansion valve
2. Condenser
3. Flow diversion valve
4. Compressor

Options :

19088924321. 1

19088924322. 2

19088924323. 3

19088924324. 4

Question Number : 87 Question Id : 1908896108 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Temperature dependence of a biological reaction is expressed by:

1. Stoke's law
2. Q_{10} value
3. D value
4. Z value

Options :

19088924325. 1

19088924326. 2

19088924327. 3

19088924328. 4

Question Number : 88 Question Id : 1908896109 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Sublimation of ice occurs at:

1. Triple point of water
2. Above the triple point of water
3. Any temperature and pressure combination
4. Below the triple point of water

Options :

19088924329. 1

19088924330. 2

19088924331. 3

19088924332. 4

Question Number : 89 Question Id : 1908896110 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is recognized as best way to define, evaluate and control risk to ensure food safety

1. Good manufacturing practice
2. HACCP
3. FSSAI
4. Food Safety Objectives (FSO)

Options :

19088924333. 1

19088924334. 2

19088924335. 3

19088924336. 4

Question Number : 90 Question Id : 1908896111 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In multiple effect evaporator which method of feeding allows use of best quality steam on most difficult material to concentrate

1. Forward feed
2. Parallel feed
3. Mixed feed
4. Reverse feed

Options :

19088924337. 1

19088924338. 2

19088924339. 3

19088924340. 4

Question Number : 91 Question Id : 1908896112 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Water level in piezometer represents

1. Water table
2. Phreatic water level
3. Pressure head in pipe during pumping
4. Pressure head in pipe during rainy season

Options :

19088924341. 1

19088924342. 2

19088924343. 3

19088924344. 4

Question Number : 92 Question Id : 1908896113 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If the apparent specific gravity of a soil is 1.4 and moisture content is 14%, the moisture in terms of cm per m of soil is

1. 14.0
2. 19.6
3. 28.0
4. 7.0

Options :

19088924345. 1

19088924346. 2

19088924347. 3

19088924348. 4

Question Number : 93 Question Id : 1908896114 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Water course is any channel which is supplied with water from a canal but which is not maintained at the cost of the Government. The carrying capacity of water course generally varies

1. 10 to 30 litres per second
2. 30 to 120 litres per second
3. 0.75 to 5.5 cubic meter per second
4. 4.0 to 8.5 cubic meter per second

Options :

19088924349. 1

19088924350. 2

19088924351. 3

19088924352. 4

Question Number : 94 Question Id : 1908896115 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Water conveyance efficiency is defined as ratio of

1. $$\frac{\text{Water delivered to the irrigated plot}}{\text{Water delivered from source}}$$

2. $$\frac{\text{Water stored in root zone during the irrigation}}{\text{Water delivered to the plot}}$$

3. $$\frac{\text{Water stored in root zone during irrigation}}{\text{Water needed in root zone prior to irrigation}}$$

4. $$\frac{\text{Average numerical deviation in depth of water stored from the average depth stored during irrigation}}{\text{Average depth of water stored during irrigation}}$$

Options :

19088924353. 1

19088924354. 2

19088924355. 3

19088924356. 4

Question Number : 95 Question Id : 1908896116 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Amount of water in a soil available to plants is determined by

1. Saturation capacity - field capacity
2. Field capacity – wilting point
3. Wilting point – oven dry soil
4. Porosity of soil – drainable porosity

Options :

19088924357. 1

19088924358. 2

19088924359. 3

19088924360. 4

Question Number : 96 Question Id : 1908896117 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The constant rate at which soil takes in water after an extended period of time is called as

1. Initial infiltration rate
2. Instantaneous infiltration rate
3. Basic infiltration rate
4. Hydraulic conductivity of soil

Options :

19088924361. 1

19088924362. 2

19088924363. 3

19088924364. 4

Question Number : 97 Question Id : 1908896118 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Contour bunding is technically not feasible if the land slope is greater than

1. 3%
2. 5%
3. 6%
4. 10%

Options :

19088924365. 1

19088924366. 2

19088924367. 3

19088924368. 4

Question Number : 98 Question Id : 1908896119 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In case of shallow wells, the depth of pumping water level is:

1. 20 m
2. 6 m
3. 5 m
4. 10 m

Options :

19088924369. 1

19088924370. 2

19088924371. 3

19088924372. 4

Question Number : 99 Question Id : 1908896120 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the Universal Soil Loss equation, factor K refers to

1. Erosivity factor
2. Length of slope factor
3. Conservation practices factor
4. Erodibility factor

Options :

19088924373. 1

19088924374. 2

19088924375. 3

19088924376. 4

Question Number : 100 Question Id : 1908896121 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following regarding the water lifting devices and find the odd man out

1. Scoop
2. Swing basket
3. Percussion drilling
4. Archemedian screw

Options :

19088924377. 1

19088924378. 2

19088924379. 3

19088924380. 4

Question Number : 101 Question Id : 1908896122 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: Sub-surface drainage is long lasting and has lesser maintenance

Reason R: In surface drainage system weed growth and farm machinery movement interrupts flow

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 :

19088924381. 1

19088924382. 2

19088924383. 3

19088924384. 4

Question Number : 102 Question Id : 1908896123 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 distance from the centre of the well to the outer limit of the cone of depression is known as radius of influence.

Reason R: Radius of influence depends on the pumping rate, length of pumping period, aquifer characteristics, slope of the water table and recharge in the zone of influence of the well.

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 :

19088924385. 1

19088924386. 2

19088924387. 3

19088924388. 4

Question Number : 103 Question Id : 1908896124 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: Level bench terraces are generally used in those areas, which receives medium rainfall and have highly permeable soils.

Reason R: Level bench terraces are constructed in steep slope regions and they are level having slope less than 1 per cent.

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 :

19088924389. 1

19088924390. 2

19088924391. 3

19088924392. 4

Question Number : 104 Question Id : 1908896125 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: Orographic precipitation is that on which occurs when moist air masses may get lifted up to higher altitudes due to presence of mountain barriers

Reason R: Infiltration is the flow of water into the ground through the soil surface and it is measured by using double ring infiltrometer

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 :

19088924393. 1

19088924394. 2

19088924395. 3

19088924396. 4

Question Number : 105 Question Id : 1908896126 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 : Darcy's Law is used in studying groundwater flow in alluvial formations

Reason R : The specific yield of clay soil is 15-30% , whereas, it is 1-10% for gravel

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 :

19088924397. 1

19088924398. 2

19088924399. 3

19088924400. 4

Question Number : 106 Question Id : 1908896127 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 : Sprinkler irrigation system is not suitable for clay soil

Reason R : Water distribution pattern under windy condition is not uniform in sprinkler irrigation system

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 :

19088924401. 1

19088924402. 2

19088924403. 3

19088924404. 4

Question Number : 107 Question Id : 1908896128 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following components of hydrograph and arrange them in order from beginning of rainfall to end of rainfall in semi-arid regions

A. Point of inflection

B. No-flow

C. Rising limb

D. Peak

E. Falling limb

Choose the *correct* answer from the options given below

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

Options :

19088924405. 1

19088924406. 2

19088924407. 3

19088924408. 4

Question Number : 108 Question Id : 1908896129 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The hydraulic grade line in open channel flow is the water surface

Statement II: The hydraulic grade line in pipe flow, it connects the elevation to which water would rise in piezometer tube along the pipe

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924409. 1

19088924410. 2

19088924411. 3

19088924412. 4

Question Number : 109 Question Id : 1908896130 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The product of relief (H) and drainage density (D_d) is denoted as ruggedness number

Statement II: The value of ruggedness number becomes extremely high when H and D_d are large (when slope is steep and long)

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924413. 1

19088924414. 2

19088924415. 3

19088924416. 4

Question Number : 110 Question Id : 1908896131 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Laser controlled equipment is being used for land smoothening operations

Statement II: Land smoothening is done if the slope of the land is more than 10%

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924417. 1

19088924418. 2

19088924419. 3

19088924420. 4

Question Number : 111 Question Id : 1908896132 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: California/Puertorican is a type of bench terrace

Statement II: Construction of California/Puertorican terrace is by excavating the soil in little amount in each ploughing and pushing the soil down the hill

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

1. Both Statement I and Statement II are correct
2. Both Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect
4. Statement I is incorrect but Statement II is correct

Options :

19088924421. 1

19088924422. 2

19088924423. 3

19088924424. 4

Question Number : 112 Question Id : 1908896133 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Irrigation schemes with culturable command area of 10,000 ha or more are classified as major irrigation project

Statement II: All irrigation schemes having a culturable command area upto 2,000 ha individually are classified as minor irrigation projects

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 :

19088924425. 1

19088924426. 2

19088924427. 3

19088924428. 4

Question Number : 113 Question Id : 1908896134 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Watershed is one whose area is 50000 ha

Statement II: Micro-watershed is one whose area is between 1000-10000 ha

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

19088924429. 1

19088924430. 2

19088924431. 3

19088924432. 4

Question Number : 114 Question Id : 1908896135 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The various forms of soil water are as follows

A. Rain water

B. Hygroscopic water

C. Capillary water

D. Gravitational water

E. Runoff water

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

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

Options :

19088924433. 1

19088924434. 2

19088924435. 3

19088924436. 4

Question Number : 115 Question Id : 1908896136 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following statement/s about the hydrological aspects of rainfall

A. Cetyl alcohol is used as chemical for evaporation inhibitor

B. Isohyetal, Thiessen polygon and arithematic-mean methods are used to distribute point rainfall into entire catchment area

C. Falling raindrops are intercepted by vegetation called as throughfall

D. Return period is nothing but the probability of occurrence of an event of a random variable whose magnitude is equal or in excess of a specified magnitude

E. DAD curves are used to estimate the severe floods in the area

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

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

Options :

19088924437. 1

19088924438. 2

19088924439. 3

19088924440. 4

Question Number : 116 Question Id : 1908896137 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The method of laying right angles with chain or tape is

A. Three-four-five method

B. Chord method

C. Semi-circle method

D. Sine method

E. Offsets method

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

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

Options :

19088924441. 1

19088924442. 2

19088924443. 3

19088924444. 4

Question Number : 117 Question Id : 1908896138 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following statement/s about the farm ponds

A. Farm ponds are created for rainwater management, fish production, recreation, livestock and wildlife habitat

B. Majorly two types of farm ponds are found such as embankment and dugout type

C. Capacity of farm pond can be estimated by using trapezoidal and Simpson's formulae

D. Trapezoidal formula gives accurate estimate than the Simpson's formulae

E. To remove water from farm pond mechanical and emergency spillways are provided

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

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

Options :

19088924445. 1

19088924446. 2

19088924447. 3

19088924448. 4

Question Number : 118 Question Id : 1908896139 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following statement/s about the Erosion

A. Accelerated erosion is man made and it erodes soil faster than the geologic erosion

B. Attrition is mechanical breakdown of soil particles due to collision with each other

C. Saltation is the transportation of soil particles by rolling over the stream beds in the form of mud

D. Splash/Raindrop erosion is removal of thin layer of soil from soil surface

E. Rill erosion is the advance stage of gully erosion

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

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

Options :

19088924449. 1

19088924450. 2

19088924451. 3

19088924452. 4

Question Number : 119 Question Id : 1908896140 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. Φ-index	I. Short-term storage and lost by evaporation
B. Detention storage	II. Rating curve
C. Current meter	III. Infiltration index
D. Stage-discharge relationship	IV. velocity measurement

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

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

Options :

19088924453. 1

19088924454. 2

19088924455. 3

19088924456. 4

Question Number : 120 Question Id : 1908896141 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. Unit hydrograph	I. Snyder
B. Synthetic unit hydrograph	II. Evaporation
C. Tipping bucket	III. Recording type raingauge
D. Class-A pan	IV. Sherman

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

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

Options :

19088924457. 1

19088924458. 2

19088924459. 3

19088924460. 4