

ICAR AIEEA PG

QUESTION PAPER

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PREVIEW QUESTION BANK

Module Name : AGRICULTURAL ENGINEERING AND TECHNOLOGY-ENG
Exam Date : 29-Jun-2024 Batch : 10:00-12:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	100001	<p>Consider the following statistical measures. Which of the given below are measures of central tendency?</p> <p>(A). Arithmetic Mean</p> <p>(B). Median</p> <p>(C). Standard Deviation</p> <p>(D). Quartile Deviation</p> <p>(E). Variance</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A) and (C) only.</p> <p>2. (A) and (B) only.</p> <p>3. (C), (D) and (E) only.</p> <p>4. (B) and (D) only.</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
Objective Question				
2	100002	<p>Consider the following probability distributions. Which of the following are continuous probability distributions?</p> <p>(A). Normal distribution</p> <p>(B). Binomial distribution</p> <p>(C). Poisson distribution</p> <p>(D). Chi-square distribution</p> <p>(E). F-distribution</p> <p>Choose the correct answer from the options given below:</p> <p>1. (B) and (C) only.</p> <p>2. (A), (B) and (C) only.</p> <p>3. (A), (D) and (E) only.</p> <p>4. (D) and (E) only.</p> <p>A1 : 1</p>	4.0	1.00



A2 : 2

A3 : 3

A4 : 4

Objective Question

3	10003	<p>The angle between vectors $A=2i-j+2k$ and $B= 6i-3j+6k$ is</p> <ol style="list-style-type: none"> 1. Zero 2. 30° 3. 45° 4. 60° <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

4	10004	<p>For two mutually exclusive events</p> <ol style="list-style-type: none"> 1. $P(A \cup B) = P(A) + P(B)$ 2. $P(A \cup B) = P(A) \times P(B)$ 3. $P(A \cup B) = \frac{P(A)+P(B)}{P(A \cap B)}$ 4. $P(A \cup B) = P(A) - P(B)$ <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

5	10005	<p>The median of numbers 11, 10, 12, 13, 9 is</p> <ol style="list-style-type: none"> 1. 12.5 2. 12 3. 10.5 4. 11 <p>A1 : 1</p> <p>A2 : 2</p>	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

6	100006	<p>Which of the following numerical methods are used for finding roots of an equation?</p> <p>(A). Bisection method</p> <p>(B). Newton-Raphson method</p> <p>(C). Gaussian elimination method</p> <p>(D). Regular falsi method</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A), (B) and (C) only.</p> <p>2. (B), (C) and (D) only.</p> <p>3. (A), (C) and (D).</p> <p>4. (A), (B) and (D) only.</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		



Objective Question

7	100007	<p>The value of $\frac{d(\log \cos x)}{dx}$ will be</p> <p>1. $\tan(x)$</p> <p>2. $-\tan(x)$</p> <p>3. $1/\cos x$</p> <p>4. $-1/\cos x$</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

8	100008		4.0	1.00
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The value of $\int_1^3 x^3 dx$ will be

1. 80
2. 20
3. 27
4. 104

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9	100009	Which of the following languages does computer understand?	4.0	1.00
		<ol style="list-style-type: none"> 1. Machine language 2. C language 3. Assembly language 4. BASIC language 		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		



Objective Question

10	100010	Voltage of three phase motor is generally kept at	4.0	1.00
		<ol style="list-style-type: none"> 1. 110 V 2. 220 V 3. 415 V 4. 660 V 		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

11	100011		4.0	1.00
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The linear variable differential transformer (LVDT) is an accurate and reliable transducer for measurement of

1. Voltage
2. Displacement
3. Current
4. Temperature

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

12	100012	<p>In India the primary transmission of electric power is carried through</p> <ol style="list-style-type: none"> 1. 3-phase, 1 wire 2. 1-phase, 3 wire 3. 1-phase, 1 wire 4. 3-phase, 3 wire <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

13	100013	<p>Synchronous Speed of an AC induction motor depends on:</p> <p>(A). Frequency of the supply voltage (f)</p> <p>(B). Number of poles (n)</p> <p>(C). Current (I)</p> <p>(D). Voltage (V)</p> <p>(E). Resitance (R)</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (A) and (B) only. 2. (B) and (C) only. 3. (C) and (D) only. 4. (A), (B), (C), (D) and (E). <p>A1 : 1</p>	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

14	100014	<p>Which of the following types of electric motors is commonly used in applications requiring precise speed control?</p> <ol style="list-style-type: none"> 1. Induction motor 2. Brushless DC motor 3. Universal motor 4. Synchronous motor 	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

15	100015	<p>Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).</p> <p>Assertion (A) : The copper losses of a single-phase induction motor are high compared to three phase induction motor</p> <p>Reason (R) : In a three-phase induction motor, the load current is distributed among multiple windings.</p> <p>In light of the above statements, choose the correct answer from the options given below.</p> <ol style="list-style-type: none"> 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. 	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		



Objective Question

16	100016		4.0	1.00
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Given below are two statements:

Statement (I): Internal energy and enthalpy are functions of temperature alone.

Statement (II): Specific heat can vary strongly with temperature and pressure of a substance.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17	100017	<p>The efficiency of a Carnot heat engine operating between two reservoirs at temperatures T_H (Hot source) and T_C (Cold sink) is given by:</p> <ol style="list-style-type: none"> 1. $\frac{T_C}{T_H}$ 2. $\frac{T_H}{T_C}$ 3. $1 - \frac{T_C}{T_H}$ 4. $1 - \frac{T_H}{T_C}$ <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

18	100018	<p>Cold air at 10°C is forced to flow over a flat plate maintained at 40°C. The mean heat transfer coefficient is $30\text{ W}/(\text{m}^2\cdot^\circ\text{C})$. What will be the heat flow rate from the plate to the air through a plate area of 2 m^2?</p> <ol style="list-style-type: none"> 1. 0.9 kW 2. 1.8 kW 3. 1.5 kW 4. 90 kW <p>A1 : 1</p>	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

19 100019

4.0 1.00

A counter flow, shell and tube type heat exchanger is to be used to cool water from $T_{h, in} = 22\text{ }^{\circ}\text{C}$ to $T_{h, out} = 6\text{ }^{\circ}\text{C}$, using brine entering at $T_{c, in} = -2\text{ }^{\circ}\text{C}$ and leaving at $T_{c, out} = 3\text{ }^{\circ}\text{C}$. The logarithmic mean temperature difference (ΔT_m) for such system will be

1. $\frac{19-8}{\ln\left(\frac{19}{8}\right)}$
2. $\frac{16-5}{\ln\left(\frac{16}{5}\right)}$
3. $\frac{22-6}{\ln\left(\frac{2}{-2}\right)}$
4. $\frac{24-9}{\ln\left(\frac{24}{9}\right)}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question

20 100020

4.0 1.00

Match List-I with List-II

List-I	List-II
Fluid type	Characteristics
(A). Ideal fluid	(I). Incompressible and having no viscosity
(B). Newtonian fluid	(II). Shear stress is directly proportional to the rate of shear strain
(C). Real fluid	(III). Shear stress is not proportional to the rate of shear strain
(D). Non-Newtonian fluid	(IV). A fluid which possesses viscosity
(E). Ideal plastic fluid	(V). Shear stress is more than the yield value and shear stress is proportional to the rate of shear

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

21 100021

An error of 1 % in measuring head (H) will produce

1. Same error in discharge over a rectangular weir and triangular weir
2. More error in discharge over triangular weir compared to rectangular weir
3. More error in discharge over rectangular weir compared to triangular weir
4. No error in discharge over a rectangular weir and triangular weir

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

22 100022

Given below are two statements:

Statement (I): A rectangular channel will be most economical when width is same as depth of flow.

Statement (II): In case of compressible flow, density of the fluid remains constant during flow.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00



Objective Question

23 100023

4.0 1.00

		<p>A ball and socket forms a</p> <ol style="list-style-type: none"> 1. Turning pair 2. Rolling pair 3. Screw pair 4. Spherical pair <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>		
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Objective Question

24	100024	<p>A couple consists of</p> <ol style="list-style-type: none"> 1. Two like parallel forces of same magnitude 2. Two like parallel forces of different magnitudes 3. Two unlike parallel forces of same magnitude 4. Two unlike parallel forces of different magnitudes <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

25	100025	<p>The coefficient of uniformity in soil gradation is the ratio of</p> <ol style="list-style-type: none"> 1. D_{50} to D_{15} 2. D_{10} to D_{60} 3. D_{50} to D_{15} 4. D_{10} to D_{50} <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

26	100026		4.0	1.00
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		<p>Atterberg limits of a soil represent which of the following property at critical stages of soil behaviour?</p> <ol style="list-style-type: none"> 1. Soil moisture 2. Soil texture 3. Soil structure 4. Soil cohesion <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>		
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Objective Question

27	100027	<p>Fatigue failure occurs due to</p> <ol style="list-style-type: none"> 1. Sudden application of stress 2. Gradual application of stress 3. Repeated application of stress 4. Constant application of stress <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

28	100028	<p>The compaction of soil reduces</p> <ol style="list-style-type: none"> 1. Soil strength 2. Soil stability 3. Void ratio 4. Dry density <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

29	100029		4.0	1.00
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The resultant of two forces P & Q (such that $P > Q$) acting along the same straight line but in opposite direction, is given by

1. $P + Q$
2. $P - Q$
3. $P \times Q$
4. $\frac{(P - Q)}{2}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

30	100030	<p>A cantilever beam is subjected to a uniformly distributed load. At what point along the beam's length does the maximum deflection occur?</p> <ol style="list-style-type: none"> 1. At the fixed end 2. At the midpoint of the beam 3. At a quarter span from the free end 4. At the free end <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

31	100031	<p>Dropping of seeds in furrow in a continuous flow is known as</p> <ol style="list-style-type: none"> 1. Dibbling 2. Drilling 3. Hill dropping 4. Broadcasting <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

32	100032		4.0	1.00
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Which of the following is true for proper knife registration?

1. Mid-point of the stroke is centered between adjacent guards
2. Outer end of cutter bar is ahead of inner end
3. The knife is in line with pitman
4. Both the ends of cutter bar are at same level

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

33 100033

Which of the following results in increased seed damage during mechanical threshing?

- (A). Decreased concave clearance
- (B). Decreased seed moisture content
- (C). Reduced threshing cylinder diameter
- (D). Increased feed rate

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00



Objective Question

34 100034

Reid vapour pressure test is conducted to check

1. Corrosiveness of fuel
2. Volatility of fuel
3. Sulphur content of fuel
4. Knocking characteristics of fuel

A1 : 1

A2 : 2

4.0 1.00

A3 : 3

A4 : 4

Objective Question

35	100035	<p>Which of the following is true for self-ignition temperature of CI engine and SI engine fuel?</p> <p>(A). A good CI engine fuel requires high self-ignition temperature</p> <p>(B). A good SI engine requires low self-ignition temperature</p> <p>(C). A good CI engine fuel requires low self-ignition temperature</p> <p>(D). A good SI engine requires high self-ignition temperature</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A) and (B) only.</p> <p>2. (B) and (C) only.</p> <p>3. (A) and (D) only.</p> <p>4. (C) and (D) only.</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

36	100036	<p>Pensky Martens closed tester is used for determination of which of the following property of fuel?</p> <p>1. Viscosity</p> <p>2. Carbon residue</p> <p>3. Flash point</p> <p>4. Ash content</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

37	100037		4.0	1.00
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Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : The materials used are frequently different for inlet and exhaust valves.

Reason (R) : Inlet valves run cooler than exhaust valves.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

38	100038	<p>In four stroke cycle engines</p> <ol style="list-style-type: none"> 1. The cam-shaft rotates at one-half the crankshaft speed 2. The crankshaft rotates at one-half the cam-shaft speed 3. The crankshaft rotates at same speed as that of cam-shaft 4. The crankshaft and cam-shaft speeds are independent of each other <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

39	100039	<p>Given below are two statements:</p> <p>Statement (I): The piston attains its maximum velocity at top dead centre.</p> <p>Statement (II): The piston attains its maximum acceleration at top and bottom dead centre.</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below.</p> <ol style="list-style-type: none"> 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. <p>A1 : 1</p>	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

40	100040	<p>Which of the following is true incase of turbocharger?</p> <p>(A). Turbocharger is driven by exhaust gas turbine</p> <p>(B). Turbocharging increases the density of air delivered to engine cylinders</p> <p>(C). A turbo-charged engine operates with low cylinder temperatures</p> <p>(D). A Turbo-charged engine has increased fuel consumption for the power produced</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A), (B) and (C) only.</p> <p>2. (B), (C) and (D) only.</p> <p>3. (A) and (D) only.</p> <p>4. (A), (B), (C) and (D)</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		



Objective Question

41	100041	<p>If transmission and engine system of a tractor produce a noise of 80 dB each, then the overall noise level will be</p> <p>1. 80 dB</p> <p>2. 160 dB</p> <p>3. 83 dB</p> <p>4. 113 dB</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

42	100042		4.0	1.00
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Which of the following is an indicator of efficiency with which the traction device transforms the torque acting on axle into linear drawbar pull ?

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43	100043	<p>Given below are two statements:</p> <p>Statement (I): A closed-central valve has land width greater than the port width when the spool is in centre</p> <p>Statement (II): An accumulator in hydraulic systems is used to supply energy when the demand of motors and cylinders is greater than the capacity of pump</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below.</p> <ol style="list-style-type: none"> 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. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

44	100044	<p>A per BIS, for safe use of threshers</p> <ol style="list-style-type: none"> 1. The minimum length of feeding chute should be 90 cm and covered up to a minimum of 45 cm 2. The maximum length of feeding chute should be 90 cm and covered up to a minimum of 45 cm 3. The maximum length of feeding chute should be 90 cm and covered up to a maximum of 45 cm 4. The minimum length of feeding chute should be 90 cm and covered up to a maximum of 45 cm <p>A1 : 1</p> <p>A2 : 2</p>	4.0	1.00
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		A3 : 3		
		A4 : 4		

Objective Question

45	100045	<p>Picker is the harvesting system related to</p> <ol style="list-style-type: none"> 1. Potato 2. Maize 3. Cotton 4. Forage crops <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

46	100046	<p>Knife register and cutterbar alignment are important for proper functioning of which of the following harvesting equipment ?</p> <ol style="list-style-type: none"> 1. Vertical conveyor reaper 2. Mower 3. Combine harvester 4. Sugarcane harvester <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

47	100047	<p>Which of the following is primary function of seed broadcaster?</p> <ol style="list-style-type: none"> 1. Open the seed furrow to proper depth 2. Meter and distribute seed over a given width of land 3. Deposit the seed in the furrow in acceptable pattern 4. Cover the seed and compact soil around it <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p>	4.0	1.00
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A4 : 4

Objective Question

48 100048

4.0 1.00

If the diameter (d) of horizontal axis rotor is doubled and wind speed (V) is halved, the available wind power (P_a) will

1. Remain same
2. Increase by two times
3. Reduced to half
4. Increase by four times

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49 100049

4.0 1.00

Match List-I with List-II

List-I	List-II
Product	Conversion process
(A). Briquettes	(I). Thermo-chemical conversion
(B). Bio-diesel	(II). Transesterification
(C). Biogas	(III). Physical conversion
(D). Producer gas	(IV). Bio-chemical conversion

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question

50	100050	<p>An engine has a swept volume of 275 cm^3, clearance volume of 25 cm^3. Its volumetric efficiency is 0.80 and mechanical efficiency is 0.90. The volume of mixture taken in per stroke is</p> <ol style="list-style-type: none"> 1. 200 cm^3 2. 275 cm^3 3. 220 cm^3 4. 180 cm^3 <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

51	100051	<p>A spark ignition engine is idling at 500 rpm. If the average flame speed is 10 m.s^{-1} and the flame front must travel 50 mm from the spark plug to consume 85% of the fuel-air mixture, how much spark advance is needed if 85% of the fuel is to be consumed before the crankshaft reaches 10° after HDC?</p> <ol style="list-style-type: none"> 1. 16.5° 2. 15° 3. 6.5° 4. 5° <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

52	100052	<p>A pair of straight teeth spur gears is transmitting power at 600 rpm and the pinion has 21 standard full depth involute teeth of module 7 mm. The pitch line velocity of the pinion is</p> <ol style="list-style-type: none"> 1. 0.09 m.s^{-1} 2. 0.22 m.s^{-1} 3. 2.32 m.s^{-1} 4. 4.62 m.s^{-1} <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p>	4.0	1.00
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A4 : 4

Objective Question

53	100053	<p>A load of "W" kN is acting on a tyre having 160 mm nominal width. The effective friction coefficient of tyre and ground interaction is "μ" and the kingpin offset is 10 mm. Assuming the tyre impression on ground as circle with diameter equal to nominal tyre width, the kingpin torque of the tyre in N.m will be</p> <ol style="list-style-type: none"> 1. $W\mu\sqrt{3210}$ 2. $\frac{W\mu\sqrt{3210}}{1000}$ 3. $W\mu\sqrt{3300}$ 4. $\frac{W\mu\sqrt{3300}}{1000}$ <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

54	100054	<p>A 2WD tractor with a total weight of 20 kN has a static weight distribution of 25% and 75% at the front and rear axles, respectively. When the tractor is operated on a level ground, the maximum tractive force developed is 10 kN. If external weight of 5 kN is added to the rear axle, neglecting weight transfer, the change in maximum tractive force in kN is</p> <ol style="list-style-type: none"> 1. 3.33 2. 5.33 3. 7.33 4. 10.33 <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

55	100055		4.0	1.00
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The bulk temperature reached by the heat absorbing elements of a clutch after and before engagement are 200°C and 50°C respectively. The total mass of the heat absorbing elements is 10 kg. If 'Q' joules of heat is generated in the clutch, required specific heat of heat-absorbing elements (in $\text{J kg}^{-1} \text{ }^{\circ}\text{C}^{-1}$) will be

1. $\frac{10Q}{150}$
2. $\frac{Q}{1500}$
3. $\frac{10Q}{250}$
4. $\frac{Q}{2500}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

56	100056	<p>The resultant soil thrust and radial force acting on each gang of a single acting disc harrow are 1200 N, and 600 N respectively. The resultant downward force acting on each gang is 2400 N. The perpendicular distance of the soil thrust from the gang axis is 20 cm. What is the distance between line of action of downward force and centre of the gang to get a uniform depth of cut?</p> <ol style="list-style-type: none"> 1. 5 cm 2. 10 cm 3. 15 cm 4. 40 cm <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

57	100057	<p>An inclined blade tillage tool of 25 cm wide and 10 cm long is operating at 25 cm depth in cohesionless soil with density equal to 1.25 g cm^{-3}, and angle of internal friction of 39°. The normal load on the tool and coefficient of soil-metal friction are 1000 N and 0.3, respectively. The soil cutting resistance per unit length of cutting edge is 25 N mm^{-1}. If the tool lift angle is 30°, the specific draft will be [Given: $\cos 30^{\circ} = 0.866$]</p> <ol style="list-style-type: none"> 1. 1385 N 2. 885 N 3. 760 N 4. 260 N <p>A1 : 1</p>	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

58	100058	<p>During testing of a thresher, 100 N m is recorded at 600 rpm at the main shaft of threshing cylinder. The diameter of threshing cylinder is 140 mm. The cylinder is operated by a V-pulley and unit mass of v-belt is 1.0 kg m^{-1}. What will be the maximum tension in the v-belt at the condition of maximum power transmission?</p> <p>1. 1429 N 2. 714 N 3. 58 N 4. 19 N</p> <p>A1 : 1 A2 : 2 A3 : 3 A4 : 4</p>	4.0	1.00
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Objective Question

59	100059	<p>The output capacity and cleaning efficiency of a wheat thresher at an optimal operating condition are 600 kg h^{-1} and 99%, respectively. The grain-straw ratio of the crop is 2.1. If the grain recovery at main grain outlet is 100%, the throughput capacity will be</p> <p>1. 909 kg h^{-1} 2. 900 kg h^{-1} 3. 891 kg h^{-1} 4. 882 kg h^{-1}</p> <p>A1 : 1 A2 : 2 A3 : 3 A4 : 4</p>	4.0	1.00
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Objective Question

60	100060		4.0	1.00
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The soil forces acting upon a mould board plough bottom resulting from the operations of cutting, pulverising, lifting, and inverting the furrow slice are 2.2 kN, 1.0 kN, and 0.8 kN along longitudinal, transverse, and vertical directions, respectively. The coefficient of soil-metal friction in the friction phase is 0.3. What will be the estimated draft, neglecting the effects of weight of the implement and the vertical reaction?

1. 1480 N
2. 1680 N
3. 2440 N
4. 2500 N

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

61	100061	<p>Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).</p> <p>Assertion (A) : Angle of repose of material increases with the increase of moisture content of material.</p> <p>Reason (R) : Increasing moisture content of the material softens the tissue.</p> <p>In light of the above statements, choose the correct answer from the options given below.</p> <ol style="list-style-type: none"> 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. 	4.0	1.00
		<p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>		

Objective Question

62	100062		4.0	1.00



Thermal diffusivity of the material depends upon -

- (A). Thermal conductivity
- (B). Mass density
- (C). Specific heat
- (D). Moisture content

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

63	100063	<p>Drum dryer is suitable for drying of</p> <ul style="list-style-type: none"> (A). Pulses (B). Fruit puree (C). Concentrated milk (D). Leafy vegetables <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (B), (C) and (D) only. 2. (A), (B), (C) and (D). 3. (A) and (C) only. 4. (B) and (C) only. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

64	100064		4.0	1.00
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Match List-I with List-II

List-I	List-II
(A). Pasteurization	(I). Freeze drying
(B). Triple point	(II). Cyclone
(C). Centrifugal force	(III). Idlers
(D). Belt conveyor	(IV). HTST

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

- (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
- (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
- (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question

65 100065

4.0 1.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Dahi produced by wet milling method will take more time to cook as compared to dry milling method.

Reason (R) : Steeping time of pulses affects cooking quality; more steeping time leads to dhal taking more time to cook.

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

- Both (A) and (R) are true and (R) is the correct explanation of (A).
- Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
- (A) is true but (R) is false.
- (A) is false but (R) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

66	100066	<p>Cover and plinth (CAP) is related to</p> <ol style="list-style-type: none"> 1. Condensation 2. Storage 3. Drying 4. Blanching <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

67	100067	<p>Given below are two statements:</p> <p>Statement (I): Cage houses for poultry are generally built in cold regions where birds need protection from cold winds.</p> <p>Statement (II): Usually cages are made of welded steel with slopy floor.</p> <p>In light of the above statements,choose the <i>most appropriate</i> answer from the options given below.</p> <ol style="list-style-type: none"> 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. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

68	100068	<p>Air is to be moved up through a grain bed at the rate of $2 \text{ m}^3/\text{s}$ against a pressure of 375 Pa. Determine the input power required. Assume 75% efficiency.</p> <ol style="list-style-type: none"> 1. 500 W 2. 1000 W 3. 750 W 4. 75 W <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p>	4.0	1.00
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		A4 : 4		
Objective Question				
69	100069	<p>During the process of freeze drying, ice crystals from the food are removed by the process known as :</p> <ol style="list-style-type: none"> 1. Sublimation 2. Vaporization 3. Re-crystallization 4. Reverse osmosis <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
Objective Question				
70	100070	<p>Pen barns are used for the purpose of -</p> <ol style="list-style-type: none"> (A). Milking (B). Calf rearing (C). Calving (D). Housing sick animals <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (A) and (B) only. 2. (B), (C) and (D) only. 3. (A), (B) and (C) only. 4. (A), (B), (C) and (D). <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
Objective Question				
71	100071		4.0	1.00



Given below are two statements:

Statement (I): Primary function of compressor in a vapour compression refrigeration system is to raise temperature and pressure of the refrigerant vapour.

Statement (II): Condenser converts the refrigerant vapour to its liquid form.

In light of the above statements, choose the *most appropriate* 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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 100072

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Sensible heating of air increases the humidity of air.

Reason (R) : Process of sensible heating is represented on the psychrometric chart by a straight horizontal line.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00



Objective Question

73 100073

A cold storage system used to store potatoes is observed to remove 2500 calories of heat every second. What will be the capacity of refrigeration system installed in the cold store in terms of ton of refrigeration ?

1. 2.5
2. 3
3. 1
4. 4

4.0 1.00

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

74	100074	<p>Factors to be considered while designing an air screen cleaner include:</p> <p>(A). Particle size and shape</p> <p>(B). Distribution of various fraction sizes</p> <p>(C). Stickiness and abrasiveness of the particles to be handled</p> <p>(D). Flow characteristics of the material</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A), (B) and (D) only.</p> <p>2. (C) and (D) only.</p> <p>3. (A), (C) and (D) only.</p> <p>4. (A), (B), (C) and (D).</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		



Objective Question

75	100075	<p>Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).</p> <p>Assertion (A) : At a given moisture content, grain angle of repose is equal to the angle of internal friction</p> <p>Reason (R) : The angle of internal friction is equal to the tangent of coefficient of friction for the material.</p> <p>In light of the above statements, choose the correct answer from the options given below</p> <p>1. Both (A) and (R) are true and (R) is the correct explanation of (A).</p> <p>2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).</p> <p>3. (A) is true but (R) is false.</p> <p>4. (A) is false but (R) is true.</p>	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

76	100076	<p>Sterilization of food in containers can be done by</p> <p>(A). Indirect heating by a saturated steam</p> <p>(B). Forced convection hot air</p> <p>(C). Exposing to blue light</p> <p>(D). By direct flame contact</p> <p>Choose the correct answer from the options given below:</p> <p>1. (A), (B) and (D) only.</p> <p>2. (A), (B) and (C) only.</p> <p>3. (A) and (D) only.</p> <p>4. (A), (B), (C) and (D).</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

77	100077	<p>Given below are two statements:</p> <p>Statement (I): Parboiling process is a mandatory operation in rice milling.</p> <p>Statement (II): Parboiling maximises recovery of head rice by minimizing breakage during milling.</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below</p> <p>1. Both Statement (I) and Statement (II) are correct.</p> <p>2. Both Statement (I) and Statement (II) are incorrect.</p> <p>3. Statement (I) is correct but Statement (II) is incorrect.</p> <p>4. Statement (I) is incorrect but Statement (II) is correct.</p> <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

78	100078		4.0	1.00
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Process of application of chemicals to seeds for protection against fungal or insect pests in the soil after planting is known as

1. Seed priming
2. Seed conditioning
3. Seed seasoning
4. Seed dressing

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

79 100079

4.0 1.00

Psychrometric chart can be used to find out

- (A). Dew point temperature
- (B). Triple point
- (C). Humid volume
- (D). Humidity

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

80 100080

4.0 1.00



Equipment that separates the material based on length include(s)

- (A). Indented cylinder separator
- (B). Inclined draper
- (C). Disk separator
- (D). Rotary screen cleaner

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81 100081

4.0 1.00

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

List-I	List-II
(A). Milking parlour	(I). Open air
(B). Milk colony	(II). Pen barn
(C). Sick animal	(III). Loose housing
(D). Lofing barn	(IV). Community barn

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question

82	100082	<p>What is the amount of dry matter in 100 kg rice having 100% moisture content on d.b.</p> <ol style="list-style-type: none"> 1. 90 kg 2. 50 kg 3. 70 kg 4. 85 kg <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

83	100083	<p>Which type of idler is used in belt conveyor for transporting granular materials having an angle of repose of not less than 35°?</p> <ol style="list-style-type: none"> 1. Troughing idlers with 35° trough 2. Troughing idlers with 45° trough 3. Troughing idlers with 20° trough 4. Flat belt idlers <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

84	100084	<p>Given below are two statements:</p> <p>Statement (I): The fineness modulus indicates the uniformity of grind in the resultant product of a feed grinder.</p> <p>Statement (II): The uniformity index indicate distribution of fines and coarses in the resultant product.</p> <p>In light of the above statements, choose the <i>most</i> appropriate answer from the options given below.</p> <ol style="list-style-type: none"> 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. <p>A1 : 1</p> <p>A2 : 2</p>	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

85	100085	<p>In which of the following dryer, layers of inverted V ports are arranged in an offset pattern?</p> <ol style="list-style-type: none"> 1. PHTC dryer 2. Rotary dryer 3. Baffle dryer 4. LSU dryer <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

86	100086	<p>Unit operations those are performed for refining of crude vegetable oils includes</p> <ol style="list-style-type: none"> (A). Pasteurization (B). Winterization (C). Bleaching (D). Neutralizing <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (B) and (D) only. 2. (A), (B) and (D) only. 3. (B), (C) and (D) only. 4. (C) and (D) only. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

87	100087		4.0	1.00
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An evaporator concentrating liquid food is producing 100 g of steam every minute. If the steam consumption of evaporator is 10 kg/h, what will be the the steam economy of the evaporator?

1. 0.1
2. 1.0
3. 1.8
4. 0.6

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88	100088	<p>Which among the following law is used for calculating energy requirement during size reduction?</p> <p>(A). Bond's law</p> <p>(B). Kick's law</p> <p>(C). Henderson law</p> <p>(D). Rittinger's law</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (A), (B) and (D) only. 2. (A), (B), (C) and (D) 3. (B), (C) and (D) only. 4. (A) and (B) only. 	4.0	1.00
		<p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>		

Objective Question

89	100089	<p>Furfural is an economic product that can be produced from which of the following by-product?</p> <ol style="list-style-type: none"> 1. Cattle waste 2. Bagasse 3. Cow dung 4. Sewage 	4.0	1.00
		<p>A1 : 1</p> <p>A2 : 2</p>		



A3 : 3

A4 : 4

Objective Question

90	100090	<p>Given below are two statements:</p> <p>Statement (I): CFTRI method of pulse milling eliminates use of edible oil for conditioning.</p> <p>Statement (II): Dhal produced using dry milling technique is reported to be of better taste than wet milled dhal.</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below</p> <ol style="list-style-type: none"> Both Statement (I) and Statement (II) are correct. Both Statement (I) and Statement (II) are incorrect. Statement (I) is correct but Statement (II) is incorrect. Statement (I) is incorrect but Statement (II) is correct. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

91	100091	<p>Hydrology is the science of water which deals with</p> <p>(A). Occurance</p> <p>(B). Distribution</p> <p>(C). Circulation</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> (A) only. (A) and (B) only. (B) and (C) only. (A), (B) and (C). <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

92	100092		4.0	1.00
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Given below are two statements:

Statement (I): Areas under rainfed agriculture are particularly affected by water erosion.

Statement (II): Areas under rainfed agriculture are particularly affected by wind erosion.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93	100093	<p>The percentage of earth covered by oceans is about</p> <ol style="list-style-type: none"> 1. 51 % 2. 61 % 3. 71 % 4. 81 % <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

94	100094	<p>Given below are two statements:</p> <p>Statement (I): In geodetic surveying, the curvature of the earth is taken into account, since large areas are covered.</p> <p>Statement (II): In plane surveying, the curvature of the earth is not taken into account.</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below.</p> <ol style="list-style-type: none"> 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. <p>A1 : 1</p>	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

95	100095	<p>Each link in a Gunter's chain is :</p> <ol style="list-style-type: none"> 1. 0.33 ft 2. 1 ft 3. 0.66 ft 4. 0.5 ft <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

96	100096	<p>Intensity of drizzle is</p> <ol style="list-style-type: none"> 1. Greater than 3 mm/h 2. Between 1 mm/h to 2 mm/h 3. Less than 1 mm/h 4. Between 2 mm/h to 3 mm/h <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

97	100097	<p>Given below are two statements:</p> <p>Statement (I): Land grading is beneficial in unirrigated areas to conserve moisture.</p> <p>Statement (II): Land smoothing is the final operation in land levelling.</p> <p>In light of the above statements, choose the most appropriate answer from the options given below.</p> <ol style="list-style-type: none"> 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. 	4.0	1.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98 100098

4.0 1.00

Safe limits of land slope (%) for efficient irrigation in medium (loamy) soils is :

- 1. 0.05 to 0.20
- 2. 0.20 to 0.40
- 3. 0.25 to 0.65
- 4. 0.70 to 0.90

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

99 100099

4.0 1.00

Match List-I with List-II

List-I	List-II
(A). Irrigation	(I). Terrace
(B). Drainage	(II). Surge
(C). Water Pumping	(III). Foot valve
(D). Soil Conservation	(IV). Land reclamation
(E). Water Resources	(V). Dam

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

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

A1 : 1



		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

100	100100	<p>Given below are two statements:</p> <p>Statement (I): Record from the tipping bucket gives data on the rainfall intensity.</p> <p>Statement (II): Natural siphon-type recording raingauge gives a plot of the mass curve of rainfall.</p> <p>In light of the above statements, choose the <i>most appropriate</i> answer from the options given below.</p> <ol style="list-style-type: none"> Both Statement (I) and Statement (II) are correct. Both Statement (I) and Statement (II) are incorrect. Statement (I) is correct but Statement (II) is incorrect. Statement (I) is incorrect but Statement (II) is correct. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

101	100101	<p>The most appropriate wooden equipment for land smoothing operation is:</p> <ol style="list-style-type: none"> Leveller board Buck scraper Float U-leveller <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

102	100102		4.0	1.00
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Given below are two statements:

Statement (I): Soil profile is a vertical section of the soil from the surface through all its horizons.

Statement (II): Soil texture is the arrangement of individual soil particles with respect to each other into a pattern.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

103	100103	<p>Consider the statement(s) given below :</p> <p>(A). The porosity of a material is dependent upon the arrangement of the particles, shape of grains and degree of assortment.</p> <p>(B). The rhombohedral arrangement gives the maximum porosity.</p> <p>(C). Transmissivity is expressed as sq. metres per day.</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (B) and (C) only. 2. (A) and (C) only. 3. (A) and (B) only. 4. (C) only. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

104	100104		4.0	1.00
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1 cm of rainfall over a catchment area of 1 km² represents a volume of water equal to:

1. 10⁴ m³
2. 10⁴ m²
3. 10⁴ m⁴
4. 10³ m³

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

105 100105

4.0 1.00

Match List-I with List-II

List-I	List-II
(A). Evaporation	(I). Plant leaves
(B). Infiltration	(II). Humid day
(C). Low evaporation	(III). Rate of entry of rain water in to soil
(D). Evapotranspiration	(IV). Dalton's law
(E). Transpiration	(V). Blaney-Cridde

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

106 100106

4.0 1.00



Which of the following statements regarding hydrologic soil groups are correct?

- (A). Group-A soils having high runoff potential.
- (B). Group-A soils having high infiltration rates.
- (C). Group-C soils having low infiltration rates.
- (D). Group-B soils having very low infiltration rates.
- (E). Group-D soils having moderately low runoff potential.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

107 100107

4.0 1.00



Which of the following statements regarding construction and installation of weirs are true?

- (A). The velocity of approach of water to the weir should not be considered.
- (B). Weir crest should be placed closer than 2H from the bottom of the channel.
- (C). The head over the weir should be measured on the upstream side at a distance of at least 4 times the head of flow from the weir.
- (D). The falling water surface from the weir should not have free flow.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

108 100108

4.0 1.00

Match List-I with List-II

List-I	List-II
(A). Engineering soil conservation measures	(I). Rainfall more than 750 mm/year
(B). Agricultural practices	(II). 10 to 30 %
(C). Contour bunding	(III). 2 to 6 %
(D). Graded bunding	(IV). Slope greater than 2 %
(E). Terracing	(V). Slope less than 2 %

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109	100109	<p>Compute the head loss due to friction in a pipe 7.5 cm in diameter and 120 m long when the water is flowing at a velocity of 1.8 m/s. The value of f may be assumed to be 0.005:</p> <ol style="list-style-type: none"> 1. 4 m 2. 4.32 m 3. 5.28 m 4. 6 m <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

110	100110		4.0	1.00
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Given below are two statements:

Statement (I): The direct measurement of relative humidity is done using hygrometer.

Statement (II): The most common method of measuring relative humidity is using dry and wet bulb thermometers.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

111	100111	<p>Which of the following statements regarding basic equation for flow through the weir are correct?</p> <p>(A). $Q = 0.0186LH^{2/3}$</p> <p>(B). $Q = 0.0184LH^{7/2}$</p> <p>(C). $Q = CLH^m$</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (B) and (C) only. 2. (A) and (C) only. 3. (A) and (B) only. 4. (C) only. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

112	100112		4.0	1.00
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Given below are two statements:

Statement (I): Check basin method is suitable for irrigated crops which are sensitive to wet soil conditions around the stems of plants.

Statement (II): Check basin irrigation is the most common method of irrigation in India and in many other countries.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

113	100113	<p>Lands under Class II</p> <p>(A). Require moderate conservation practices.</p> <p>(B). Have gentle slope.</p> <p>(C). Severe salinity</p> <p>(D). Slight to moderate salinity</p> <p>(E). Permanent Forest</p> <p>Choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> 1. (A), (B) and (D) only. 2. (A), (B) and (C) only. 3. (B), (D) and (E) only. 4. (C), (D) and (E) only. <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

114	100114		4.0	1.00
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Because of the shrinkage, the cut fill ratio should be greater than

- 1. 2
- 2. 3
- 3. 1
- 4. 5

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

115 100115

Alkali soils/sodic soil have

- (A). Very high permeability
- (B). Salts dominated by bicarbonates, carbonates and silicate of sodium.
- (C). pH greater than 8.5
- (D). Electrical conductivity greater than 4 dS/m.
- (E). Exchangeable Sodium Percentage is greater than or equals to 15.

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 (E) only.
- 4. (C), (D) and (E) only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00



Objective Question

116 100116

4.0 1.00

Match List-I with List-II

List-I	List-II
(A). Rainfall intensity vs time	(I). Hydrograph
(B). Cumulative discharge vs time in chronological order	(II). Hyetograph
(C). Accumulated precipitation vs time in chronological	(III). Flow duration curve
(D). Stream flow vs time in chronological order	(IV). Mass curve of rainfall
(E). Stream discharge vs percent time the flow is equaled or exceeded	(V). Flow mass curve

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question

117	100117	<p>A Persian wheel with an average discharge of 230 litres/minute irrigates 1 ha of wheat crop in 50 hrs. What is the average depth of irrigation?</p> <ol style="list-style-type: none"> 1. 3.6 cm 2. 4 cm 3. 5 cm 4. 6.9 cm <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00
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Objective Question

118	100118		4.0	1.00
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Which of the following statements regarding Hooghoudt's equation are correct?

- (A). Gives the relation between the spacing of drains and the height of the water table.
- (B). Darcy's law is valid for the flow.
- (C). The soil is heterogenous.

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

1. (B) and (C) only.
2. (A) and (C) only.
3. (A) and (B) only.
4. (C) only.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

119 | 100119

4.0 | 1.00

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

List-I	List-II
(A). Erosivity	(i). Tubewell
(B). Erodibility	(ii). Tubewell spacing
(C). Application efficiency	(iii). Rainfall
(D). Radial flow	(iv). Soil
(E). Cone of depression	(v). Irrigation

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

1. (A) - (iii), (B) - (iv), (C) - (v), (D) - (i), (E) - (ii)
2. (A) - (iii), (B) - (iv), (C) - (v), (D) - (ii), (E) - (i)
3. (A) - (i), (B) - (ii), (C) - (iii), (D) - (iv), (E) - (v)
4. (A) - (iv), (B) - (i), (C) - (v), (D) - (iii), (E) - (ii)

A1 : 1

A2 : 2

A3 : 3

A4 : 4



Objective Question				
120	100120	<p>A lateral has 12 sprinklers spaced 14 metres apart. The laterals are spaced 20 metres on the main line. Determine the amount of fertilizer to be applied at each setting when the recommended fertilizer dose is 80 kg/ha.</p> <ol style="list-style-type: none">1. 22 kg2. 20 kg3. 27 kg4. 30 kg <p>A1 : 1</p> <p>A2 : 2</p> <p>A3 : 3</p> <p>A4 : 4</p>	4.0	1.00



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