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1. इनमें से व्यंजन सन्धि आधारित शब्द है— [UPPSC AE 2020 Paper I]  
(a) अन्वेषण  
(b) उद्धार  
(c) लघूर्मि  
(d) पुरोहित
2. "चौराहा" शब्द में समास है— [UPPSC AE 2020 Paper I]  
(a) तत्पुरुष  
(b) बहुव्रीही  
(c) अव्ययीभाव  
(d) द्विगु
3. "निवृत्ति" शब्द का विलोम है— [UPPSC AE 2020 Paper I]  
(a) सद्वृत्ति  
(b) सुवृत्ति  
(c) प्रवृत्ति  
(d) कृवृत्ति
4. निम्नलिखित में से 'षारदा' का पर्यायवाची शब्द है— [UPPSC AE 2020 Paper I]  
(a) कमला  
(b) कीमुदी  
(c) वारुणी  
(d) गिरा
5. 'चीनांशुक' शब्द का अर्थ है— [UPPSC AE 2020 Paper I]  
(a) तंतु  
(b) रेणु  
(c) रेशम

(d) चीनी मिट्टी

6. 'मृत्यु के इच्छुक' – इस वाक्यांश के लिए एक शब्द है—[UPPSC AE 2020 Paper I]

(a) मुमुक्षा

**(b) मुमूर्षु**

(c) मुमूर्षा

(d) मुमुक्षु

7. 'अंदर—अंदर कड़ाही में गुड़ पगना' – इस मुहावरे का सही अर्थ है—

(a) ज्ञान होना

[UPPSC AE 2020 Paper I]

**(b) गुप्त मंत्रणा होना**

(c) स्वसीमित होना

(d) किसी काम न आना

8. निम्नलिखित में तद्भव शब्द है—

[UPPSC AE 2020 Paper I]

(a) वानर

**(b) तेल**

(c) पीत

(d) घोटक

9. अनेकार्थक शब्द 'सारंग' का निम्नलिखित में से एक अर्थ नहीं है—

(a) भौरा

[UPPSC AE 2020 Paper I]

(b) कामदेव

**(c) तलवार**

(d) ज्योतिषी

10. निम्नलिखित में से शुद्ध वर्तनी का शब्द है—

[UPPSC AE 2020 Paper I]

(a) अनाधिकार

(b) रचइता

(c) सहस्त्र

(d) संग्रहीत

11. समास—योजना की दृष्टि से इनमें से एक अषुद्ध युग्म है—

(a) सतसई — द्विगु समास [UPPSC AE 2020 Paper I]

(b) तुलसीकृत — तत्पुरुष समास

(c) तलवार — बहुव्रीहि समास

(d) ज्योतिषी — अव्ययीभाव समास

12. अलग होने के अर्थ में 'से' कारक—चिन्ह का प्रयोग होता है—

(a) अपादान कारक में [UPPSC AE 2020 Paper I]

(b) करण कारक में

(c) करण कारक तथा अपादान कारक दोनों में

(d) सम्बन्ध कारक में

13. निम्नलिखित में से एक शब्द में उपसर्ग का प्रयोग नहीं हुआ है, वह शब्द है—

(a) सहज [UPPSC AE 2020 Paper I]

(b) अनुभव

(c) संचार

(d) नयन

14. इनमें से शुद्ध वर्तनी का रूप है—

[UPPSC AE 2020 Paper I]

(a) निरझरणी

(b) निरझरिणी

(c) निर्झरिणी

(d) निर्झरणी

15. 'पवन' शब्द का सन्धि—विच्छेद है—

[UPPSC AE 2020 Paper I]

- (a) पौ + वन  
**(b) पो + अन**  
(c) प + अवन  
(d) प + वन

16. इनमें से 'अनघ' का विलोम शब्द है—

[UPPSC AE 2020 Paper I]

- (a) निरघ  
**(b) अघी**  
(c) कृती  
(d) सनघ

17. इनमें से 'पक्षी' शब्द का पर्यायवाची नहीं है—

[UPPSC AE 2020 Paper I]

- (a) पिशुन**  
(b) विहंग  
(c) शकुनि  
(d) द्विज

18. निम्नलिखित में से 'महीसुर' शब्द का अर्थ है—

[UPPSC AE 2020 Paper I]

- (a) पृथ्वी का रक्षक  
(b) महिषासुर  
(c) राक्षस  
**(d) ब्राह्मण**

19. नीचे दिये गये वाक्यांश और उसके लिए प्रयुक्त होने वाले एक शब्द का एक युग्म गलत है, वह है—

[UPPSC AE 2020 Paper I]

- (a) उत्तराधिकार में प्राप्त सम्पत्ति—धरोहर**  
(b) जिसे प्रमाण पत्र द्वारा सिद्ध न किया जा सके  
(c) सीमा का अनुचित रूप से किया गया उल्लंघन

(d) पूरब और उत्तर (दिषा) के बीच का कोना – ईषान

20. निम्नलिखित में से तत्सम शब्द है—

[UPPSC AE 2020 Paper I]

(a) विवाह

(b) ईख

(c) खीरा

(d) गिद्ध

21. 'ने + अल' = 'नयन' में सन्धि है—

[UPPSC AE 2020 Paper I]

(a) यण सन्धि

(b) गुण सन्धि

(c) अयादि सन्धि

(d) वृद्धि सन्धि

22. निम्नलिखित में से शुद्ध वर्तनी का शब्द है—

[UPPSC AE 2020 Paper I]

(a) उज्जवल

(b) उज्ज्वल

(c) उजवल

(d) उज्वल

23. 'बुद्धिहीन' शब्द व्याकरण की दृष्टि से इनमें से किस में है—

(a) संज्ञा

[UPPSC AE 2020 Paper I]

(b) सर्वनाम

(c) विशेषण

(d) क्रिया

24. इनमें से एक वाक्य शुद्ध है, वह है—

[UPPSC AE 2020 Paper I]

(a) मेरा प्राण संकट में है।

(b) सोमवार को रेलवे के कई कर्मचारी गिरफ्तार हुए

(c) अपराधी को मृत्युदंड की सजा दी गयी है।

(d) महादेवी वर्मा छायावाद की प्रसिद्ध कवयित्री

25. इनमें से दन्त्य ध्वनियाँ हैं—

[UPPSC AE 2020 Paper I]

(a) च, छ, ज, झ

(b) प, फ, ब, भ

(c) त, थ, द, ध

(d) ट, ठ, ड, ढ

26- The thermal efficiency of a diesel engine varies from-

[UPPSC AE 2020 Paper I]

(a) 24 to 30%

(b) **32 to 38%**

(c) 42 to 48%

(d) 25 to 32%

**Explanation: Petrol- 25-32 %**

**Diesel- 32-38 %**

27- Thermostat of diesel tractor cooling system opens fully-

[UPPSC AE 2020 Paper I]

(a) Between 68 to 70<sup>0</sup>C temperature

(b) Between 78 to 80<sup>0</sup>C temperature

(c) **Between 88 to 90<sup>0</sup>C temperature**

(d) None of the above

**Explanation: Start- 70-75<sup>0</sup>C, Petro- 82-88<sup>0</sup>C & Diesel- 88-90<sup>0</sup>C**

28- Recommended inflation pressure for field work of a tractor rear tyre is-

[UPPSC AE 2020 Paper I]

(a) 130 KPa

(b) 140 KPa



- (c) 90 KPa
- (d) 120 KPa

**Explanation:** Recommended inflation pressure = 0.8 – 1.2 Kg/cm<sup>2</sup>

Recommended inflation pressure = 78.4-117.6 KPa

29- The battery should be recharged when its electrolyte specific gravity falls below- [UPPSC AE 2020 Paper I]

- (a) 1.250
- (b) 1.225
- (c) 1.155
- (d) 1.280

**Explanation:** Required Charging at 1.225

Fully Charged = 1.280

Completely discharged < 1.150 or less

30- In IC engine, the turbocharger is driven by- [UPPSC AE 2020 Paper I]

- (a) Intake air
- (b) Exhaust gas
- (c) Fly-wheel of engine
- (d) Gasolene

**Explanation:Turbocharger: Exhaust Gases**

**Supercharger: Engine blower through Belt**

31- The oil pressure in the pump varies from- [UPPSC AE 2020 Paper I]

- (a) 100 – 150 kg/cm<sup>2</sup>
- (b) 150 – 200 kg/cm<sup>2</sup>
- (c) 200 – 250 kg/cm<sup>2</sup>

(d)  $50 - 100 \text{ kg/cm}^2$

32- Which of the following pump is used in hydraulic system-

[UPPSC AE 2020 Paper I]

- (a) Gear pump
- (b) Vane pump
- (c) Radial pump
- (d) All of them**

**Explanation:** Gear pump (Spur Gear), Vane pump and sometimes radial pump is used in hydraulic system

33- Air fuel ratio by weight in the combustion of methane gas-

[UPPSC AE 2020 Paper I]

- (a) 18.3
- (b) 17.3**
- (c) 16.3
- (d) 15.3

**Explanation:** A-F ratio by weight is  $32/(16*0.23) = 17.39:1$

O<sub>2</sub> by weight = 23 %

O<sub>2</sub> by Volume = 21%

34- The factor affecting the draft of a plough-

[UPPSC AE 2020 Paper I]

- (a) Size of plough
- (b) Depth of ploughing
- (c) Condition of soil
- (d) All the above**

**Explanation:** Draft depends on

1. Size of plough 2. Depth of ploughing 3. Condition of soil

#### 4. Speed 5. Implement type 6. Sharpness of edge 7. Attachments

35- Depth of ploughing can be adjusted by- [UPPSC AE 2020 Paper I]

- (a) **Vertical suction**
- (b) Horizontal suction
- (c) Coulters
- (d) Number of handle

**Explanation: Vertical suction helps in penetration while horizontal suction helps in width control**

36- Draft of a plough can be reduced by- [UPPSC AE 2020 Paper I]

- (a) **Reducing the cross-section of the furrow**
- (b) Increasing the cross-section of the furrow
- (c) Increasing the depth of furrow
- (d) Increasing the speed of operation

37- Most suitable dryer for cereal grain- [UPPSC AE 2020 Paper I]

- (a) Tray dryer
- (b) **Rotary dryer**
- (c) Drum dryer
- (d) Tunner dryer

38- Reverse osmosis is the process of increasing- [UPPSC AE 2020 Paper I]

- (a) Dilution
- (b) Flavour
- (c) **Concentration**
- (d) Taste

39- Amount of water removed in kg in drying 5 quintal of paddy at 22% moisture content (wet basis) to 16.28% moisture content (dry basis) for milling- [UPPSC AE 2020 Paper I]

- (a) 63.49
- (b) 46.51**
- (c) 110
- (d) 390

40- Desirable temperature for grape storage- [UPPSC AE 2020 Paper I]

- (a) – 1 to 0°C**
- (b) – 10 to - 5°C
- (c) – 20 to -10°C
- (d) 5 to 6°C

Grapes	Temp	RH
	– 1 to 0°C	90-95 %

41- In modified atmosphere storage configuration of intrinsic air is altered by- [UPPSC AE 2020 Paper I]

- (a) Lowering oxygen
- (b) Adding nitrogen
- (c) Increasing CO<sub>2</sub>
- (d) All of the above**

Modified atmosphere storage is used to increase the shelf life of the apples and other fruits. In modified atmosphere storage configuration can be done by reducing microbial growth. In modified atmosphere storage configuration of intrinsic air is altered by Lowering oxygen and Increasing CO<sub>2</sub>/ CO



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42- Grain dryer developed at Louisiana State University is type of-  
[UPPSC AE 2020 Paper I]

- (a) Batch
- (b) Continuous**
- (c) Reciprocating
- (d) Fluidized

Louisiana State University is continuous mixing type dryer

43- Grains moisture at the time of procurement is measured by-  
[UPPSC AE 2020 Paper I]

- (a) Oven method
- (b) Vacuum Oven method
- (c) Infrared method
- (d) Dielectric method**

44- The threshed paddy is sundried on floor at moisture content up to-  
[UPPSC AE 2020 Paper I]

- (a) 10 – 12%
- (b) 13 – 14%**
- (c) 15 – 16%
- (d) 16 – 18%

45- Max. moisture content (wet basis) for safe storage of wheat is-  
[UPPSC AE 2020 Paper I]

- (a) 7%
- (b) 10%
- (c) 20%
- (d) 13%**

	Max. moisture content (wet basis)
<b>9 Month</b>	<b>14 % (wb)</b>

**Higher than 9 month**

**13 % (wb)**

46- A cyclone separator is used for separating-

[UPPSC AE 2020 Paper I]

- (a) Liquid particles from gases
- (b) Fine particles from solids**
- (c) Solid particles from liquids
- (d) All of the above

Cyclone Separator	Particles	Principle
	<b>Fine particles from solids</b>	Inertia Force( Centrifugal force)

47- Butter is largely packed in laminated aluminium foil-

[UPPSC AE 2020 Paper I]

- (a) 2  $\mu\text{m}$
- (b) 9  $\mu\text{m}$**
- (c) 19  $\mu\text{m}$
- (d) None of the above

**7-9  $\mu\text{m}$**

48- Let L be the breadth and h be the depth of storage structure,  $\phi$  angle of repose of material;  $\left(\frac{90+\phi}{2}\right)$ rupture with horizontal, Identify shallow structure-

[UPPSC AE 2020 Paper I]

- (a)  $h < L \tan\left(\frac{90+\phi}{2}\right)$**
- (b)  $h > L \tan\left(\frac{90+\phi}{2}\right)$
- (c)  $h = L \tan\left(\frac{90+\phi}{2}\right)$
- (d) None of the above

Shallow  $h < L \tan \left( \frac{90+\phi}{2} \right) \& Hd < 4R$

Deep  $h > L \tan \left( \frac{90+\phi}{2} \right) \& Hd \geq 4R$

49- Angle of repose of wheat grain falls in the range of-

[UPPSC AE 2020 Paper I]

- (a) 15 - 19
- (b) 20 - 24
- (c) **24 - 26**
- (d) 30 – 32

Crop	Angle of repose
Millet	20-25
Wheat	23-28
Paddy	30- 5

50- Desirable temperature for onion storage is-

[UPPSC AE 2020 Paper I]

- (a) – 20°C
- (b) – 10°C
- (c) **0°C**
- (d) 10°C

51- Hypobaric storage is also known as-

[UPPSC AE 2020 Paper I]

- (a) CA storage
- (b) MA storage
- (c) **Low pressure storage**
- (d) Cold storage

Hypobaric storage is sub-atmospheric pressure **storage** is used low pressure for increasing the shelf life of the product

52- Ice melts into water at a constant temperature of 273 K, the volume-

[UPPSC AE 2020 Paper I]

- (a) Increases
- (b) Decreases**
- (c) Remains constant
- (d) None of the above

Ice melts	Temp increases	Internal energy(water) > Internal energy(ice)	Internal energy of whole system increases and the volume decreases
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53- Kinetic theory of gases assumes that the collision of the molecules is-

[UPPSC AE 2020 Paper I]

- (a) Perfectly elastic**
- (b) Perfectly inelastic
- (c) Partially elastic
- (d) Partially inelastic

**Kinetic theory of gases assumes that the collision of the molecules is Perfectly elastic**

54- Adiabatic steady flow occurs in-

[UPPSC AE 2020 Paper I]

- (a) Turbine
- (b) Condenser**
- (c) Radiators
- (d) Boiler



55- Total heat of a substance is also known as- [UPPSC AE 2020 Paper I]

- (a) Internal energy
- (b) Entropy
- (c) Thermal capacity
- (d) Enthalpy**

56- Otto cycle refers to- [UPPSC AE 2020 Paper I]

- (a) Constant volume cycle**
- (b) Constant pressure cycle
- (c) Both (a) and (b)
- (d) None of the above

Otto Cycle	Constant Volume Cycle
Diesel cycle	Constant Pressure Cycle

57- The air standard efficiency ( $\eta$ ) of otto cycle is expressed as- [Doubt]

[UPPSC AE 2020 Paper I]

- (a)  $\eta = \frac{T_1 - T_2}{T_1}$
- (b)  $\eta = 1 - \frac{1}{\gamma^v}$
- (c)  $\eta = 1 - \frac{1}{\gamma^{v-1}}$**
- (d)  $\eta = 1 + \frac{1}{\gamma^{v-1}}$

Answer :  $\eta = 1 - \frac{1}{r^{\gamma-1}}$

**$\eta = 1 - \frac{T_4 - T_1}{T_3 - T_2} = \frac{T_2 - T_1}{T_2}$**

58- In two stroke engine-

[UPPSC AE 2020 Paper I]

- (a) **Compression ratio is less**
- (b) Compression ratio is more
- (c) Compression ratio is equal
- (d) None of the above

59- In two stroke cycle engine-

[UPPSC AE 2020 Paper I]

- (a) Cam shaft is required
- (b) **Cam shaft is not required**
- (c) Cam shaft is sometime required
- (d) None of the above

60- The horse power delivered by the engine and received at the end of crank shaft is known as-

[UPPSC AE 2020 Paper I]

- (a) Indicated horse power
- (b) Frictional horse power
- (c) **Brake horse power**
- (d) Drawbar horse power

Piston	Indicated horse power
Crank Shast	<b>Brake horse power</b>

61- Piston used in tractor engine are made of-

[UPPSC AE 2020 Paper I]

- (a) Mild steel
- (b) Mild iron
- (c) **Aluminium alloy**
- (d) High carbon steel

<b>Piston</b>	<b>Aluminium and its alloy</b>
	Sometimes Steel and Cast Iron

62- Most popular type of clutch used in tractor is- [UPPSC AE 2020 Paper I]

- (a) Hydraulic plate type
- (b) Multiple disc type
- (c) **Single plate type**
- (d) Oil plate type

63- Octane number is associated with- [UPPSC AE 2020 Paper I]

- (a) **Ignition quality of petrol fuel**
- (b) Fuel consumption
- (c) Fuel supply system
- (d) Ignition quality of diesel

Octane Number	Petrol
Cetane Number	Diesel

64- The maximum power developed by a average man is about-

[UPPSC AE 2020 Paper I]

- (a) 1.0 hp
- (b) 0.5 hp
- (c) 0.3 hp
- (d) **0.1 hp**

Man	0.1 hp
Bullock (Pairs)	1 hp

65- Compression ratio of diesel engine is-

[UPPSC AE 2020 Paper I]

- (a) 4 : 1
- (b) 6 : 1
- (c) **22 : 1**
- (d) 24 : 1

<b>Engine</b>	<b>Diesel</b>	<b>Petrol</b>
<b>Compression ratio</b>	<b>14:1 -22:1</b>	<b>4:1 – 8:1</b>

66- Firing order of a four cylinder four stroke cycle engine-

[UPPSC AE 2020 Paper I]

- (a) 1 – 4 – 2 – 3
- (b) 1 – 3 – 2 – 4
- (c) **1 – 3 – 4 – 2**
- (d) 1 – 2 – 3 – 4

**Firing order- 1 – 3 – 4 – 2 and 1-3-4-3**

67- Ballasts are used in rear tyre of a tractor to-

[UPPSC AE 2020 Paper I]

- (a) **Increase traction**
- (b) Increase stability
- (c) Decrease front wheel slippage
- (d) Decrease tractor vibration

	<b>Front Tyre</b>	<b>Stability</b>
	<b>Rear Tyre</b>	<b>Traction</b>

68- Draft of a plough is measured with the help of-

[UPPSC AE 2020 Paper I]

- (a) Voltmeter
- (b) **Dynamometer**



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- (c) Ammeter
- (d) Lactometer

Voltmeter	Electric potential difference
Dynamometer	Torque, Power -----Draft
Ammeter	current
Lactometer	density of milk

69- Best time for seed drill calibration- [UPPSC AE 2020 Paper I]

- (a) Before sowing**
- (b) After sowing
- (c) During sowing
- (d) During interculture

70- Dufee's formula is used for calculating- [UPPSC AE 2020 Paper I]

- (a) Capacity of chaff cutter**
- (b) Cleaning capacity straw wanner
- (c) Threshing efficiency of thresher
- (d) None of the above

71- Threshing cylinder of a combine harvester is 56 cm in diameter running at

800 rpm, its peripheral speed will be- [UPPSC AE 2020 Paper I]

- (a) 35.20 m/sec
- (b) 45.45 m/sec
- (c) 18.14 m/sec
- (d) 23.46 m/sec**

$$V = \pi * D * N / 60 = 23.457 \text{ m/sec}$$

72- The angle at which mower cutter bar is set to the direction of motion -  
[UPPSC AE 2020 Paper I]

- (a)  $92^{\circ}$
- (b)  $90^{\circ}$
- (c)  **$88^{\circ}$**
- (d)  $86^{\circ}$

Alignment of Mower	$2^{\circ}$ Lead	$88^{\circ}$ to the direction of motion
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73- A coulter attachment is used with- [UPPSC AE 2020 Paper I]

- (a) Disc harrow
- (b) Seed drill
- (c) **M.B.plough**
- (d) Sub soiler

Coulter is used in MB plough to cut the furrow slice vertically

74- The tilt angle of good standard disc plough varies from-

[UPPSC AE 2020 Paper I]

- (a)  $10 - 20^{\circ}$
- (b)  **$15 - 25^{\circ}$**
- (c)  $20 - 30^{\circ}$
- (d)  $25 - 35^{\circ}$

Tilt Angle	15-25
Disc Angle	42-45

75- Range of depth of soil broken and loosen by primary tillage equipment-

[UPPSC AE 2020 Paper I]

- (a) 1.2 to 14.4 cm

- (b) 15.2 to 91.4 cm  
(c) 102.2 to 154.4 cm  
(d) None of the above

76- Heat transfer in liquid and gases takes place by- [UPPSC AE 2020 Paper I]

- (a) Conduction  
(b) Convection  
(c) Radiation  
(d) Conduction and convection

77- Metals are good conductor of heat because- [UPPSC AE 2020 Paper I]

- (a) Their atoms colloid frequently  
(b) Their atoms are relatively far apart  
(c) They contain free electrons  
(d) They have high density

78- Heat required to convert 1 gm of ice at 0°C into steam at 100°C is-

[UPPSC AE 2020 Paper I]

- (a) 636 cal  
(b) 108 cal  
(c) 980 cal  
(d) 720 cal

$$Q = 1 \times 80 + 1 \times 100 + 536 = 716 \text{ Calorie}$$

$$\text{Fusion} = 80 \text{ cal/gm}$$

$$\text{Water specific heat} = 1 \text{ cal/gm/}^\circ\text{C}$$

$$\text{Vaporization} = 536 \text{ cal/gm}$$

79-In a combine harvester reel index is in the range of -

[UPPSC AE 2020 Paper I]

- (a) 2.00 – 2.50
- (b) 1.75 – 1.95
- (c) 2.50 – 2.75
- (d) 1.25 – 1.50**

<b>Reel Index</b>	<b>1.25 – 1.50</b>	<b>Reel speed/ Forward speed</b>	<b>Reel index &gt; 1.5 , shatter loss will increase</b>
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80-Gunnel is a part of-

[UPPSC AE 2020 Paper I]

- (a) Mould board plough**
- (b) Indigenous plough
- (c) Cultivator
- (d) None of the above

**Gunnel is used to control the side thrust**

81-Working element of paddy thresher is-

[UPPSC AE 2020 Paper I]

- (a) Rasp bar
- (b) Spike tooth
- (c) Wire loop**
- (d) Angle iron bar

Paddy Thresher	Loop wire type
Angle bar	Clearance = 13 to 19 mm

82-The purpose of registration in a mower is-

[UPPSC AE 2020 Paper I]

- (a) To consume less power**



**(b) To perform even job of cutting**

(c) To protect the mower from wear and tear

(d) To reduce the occurrence of overload

83-The size of seed drill is determined by the- [UPPSC AE 2020 Paper I]

(a) Working capacity

(b) No. of furrow opener

(c) Spacing between furrow opener

**(d) No. of furrow opener and spacing between them**

84-In seed drill, the function of drag chain is to- [UPPSC AE 2020 Paper I]

(a) Level of land

**(b) Cover the seed**

(c) Make a line for making furrow

(d) None of the above

Covering of seed is done by chains, drags and rollers

85-Which has maximum value of thermal conductivity-

[UPPSC AE 2020 Paper I]

(a) Aluminium

(b) Steel

**(c) Copper**

(d) Brass

86-Heat transfer takes place as per-

[UPPSC AE 2020 Paper I]

(a) Zeroth law of thermodynamics

(b) First law of thermodynamics

**(c) Second law of thermodynamics**

(d) Stefan's law

87-Mode of heat transfer in solids is-

[UPPSC AE 2020 Paper I]

- (a) Radiation
- (b) Convection
- (c) Conduction**
- (d) All of the above

88-The device used to transfer heat from fluid to another is-

[UPPSC AE 2020 Paper I]

- (a) Anemometer
- (b) Pyrometer
- (c) Heat Exchanger**
- (d) All of the above

89-Instrument used for measurement of specific gravity-

[UPPSC AE 2020 Paper I]

- (a) Pycnometer**
- (b) Lactometer
- (c) Refractometer
- (d) Colorimeter

90-In rubber roll sheller, both the roller run at speed- [UPPSC AE 2020 Paper I]

- (a) Differential**
- (b) Same
- (c) Constant
- (d) Variable

91-Moisture content on dry basis is \_\_\_\_\_ than wet basis.

[UPPSC AE 2020 Paper I]

- (a) Lessor
- (b) Higher**

- (c) Equal
- (d) Less than or equal

92-The modern method of rice parboiling is- [UPPSC AE 2020 Paper I]

- (a) CFTRI method
- (b) Jadavpur University method
- (c) Malek method
- (d) All of the above**

93-In thin layer drying, depth of grain bed should not exceed-

[UPPSC AE 2020 Paper I]

- (a) 10 cm
- (b) 25 cm
- (c) 20 cm**
- (d) 30 cm

94-In a pressure parboiling method, the paddy is soaked for nearly 40 minutes at a temperature of- [UPPSC AE 2020 Paper I]

- (a) 85 - 90<sup>0</sup>C
- (b) 35 - 40<sup>0</sup>C
- (c) 60 - 75<sup>0</sup>C**
- (d) 100 - 105<sup>0</sup>C

95-Which of the following is NOT a part of a hammer mill?

[UPPSC AE 2020 Paper I]

- (a) Hammer
- (b) Screen
- (c) Cast iron plates**
- (d) Rotor

96-One ton refrigeration is equivalent to heat removal of-

[UPPSC AE 2020 Paper I]

- (a) 111 kJ/min.
- (b) 211 kJ/min.**
- (c) 311 kJ/min.
- (d) 411 kJ/min.

97-The process of hotter fluid moving and transferring heat to the colder surroundings is called-

[UPPSC AE 2020 Paper I]

- (a) Conduction
- (b) Convection**
- (c) Radiation
- (d) None of the above

98-Rubber roll sheller is used for removing-

[UPPSC AE 2020 Paper I]

- (a) Paddy husk**
- (b) Pigeonpea husk
- (c) Moong husk
- (d) None of the above

99-To reduce FFA formation of rice bran it must be stored at low-

[UPPSC AE 2020 Paper I]

- (a) Temperature
- (b) Humidity
- (c) Moisture
- (d) All(a), (b) and (c) as above**

100-Pulses are main source of nutrient in Indian vegetarian diet-

[UPPSC AE 2020 Paper I]

(a) **Protein**

(b) Carbohydrate

(c) Fat

(d) Fibres

101-Equipment used for vertical lifting of grain-

[UPPSC AE 2020 Paper I]

(a) Horizontal screw conveyor

(b) Belt conveyor

(c) **Bucket elevator**

(d) Pneumatic conveyor

102-In a HTST pasteurizer, milk is heated to temperature of-

[UPPSC AE 2020 Paper I]

(a) 51<sup>0</sup>C

(b) 91<sup>0</sup>C

(c) 81<sup>0</sup>C

(d) **71<sup>0</sup>C**

103-The Janssen formula is used to determine the pressure in a -

[UPPSC AE 2020 Paper I]

(a) Dam

(b) **Deep bin**

(c) Shallow bin

(d) Any type of bin

104-The recommended relative humidity (%) for safe storage of potato is-

[UPPSC AE 2020 Paper I]

(a) 50 - 60

(b) 40 - 50

(c) 60 - 80

(d) 85 – 90

105-The ideal relative humidity (%) for onion storage is-

[UPPSC AE 2020 Paper I]

(a) 80 - 85

(b) 70 - 75

(c) 90 - 95

(d) 60 – 65

106-Boiling point of  $\text{NH}_3$  refrigerant-

[UPPSC AE 2020 Paper I]

(a) –  $5^\circ\text{C}$

(b) –  $11^\circ\text{C}$

(c) –  $22^\circ\text{C}$

(d) –  $33.3^\circ\text{C}$

107-Destoner works on the difference in

[UPPSC AE 2020 Paper I]

(a) Size

(b) Shape

(c) **Specific gravity**

(d) Surface roughness

108-After pasteurization of milk, it is rapidly cooled to-

[UPPSC AE 2020 Paper I]

(a)  $30^\circ\text{C}$

(b)  $25^\circ\text{C}$

(c)  $15^\circ\text{C}$  or above

(d)  **$10^\circ\text{C}$  or below**

109-Deep bed drying is characterized by-

[UPPSC AE 2020 Paper I]

(a) Uniform drying rate

(b) Ambient temperature drying

- (c) Significant moisture and temperature gradient in different layer  
(d) Rate of air flow per unit mass is high

110-Best time of harvesting of fruits and vegetables during the day-

[UPPSC AE 2020 Paper I]

- (a) Morning  
(b) Noon  
(c) Evening  
(d) None of these

111-Most suitable method of vegetable blanching is- [UPPSC AE 2020 Paper I]

- (a) Hot water  
(b) Hot air  
(c) Steam  
(d) Microwave

112-In an air tight grain storage insects are killed when the O<sub>2</sub> level falls to about-

[UPPSC AE 2020 Paper I]

- (a) 5%  
(b) 2%  
(c) 10%  
(d) 12%

113-In which region of the country Kothar type structures are used-

[UPPSC AE 2020 Paper I]

- (a) Northern  
(b) Western  
(c) Southern  
(d) Eastern

114-The relationship between EMC and RH for biological materials has been given by- [UPPSC AE 2020 Paper I]

- (a) **Henderson**
- (b) Rankine
- (c) Janssen
- (d) Perry

115-\_\_\_\_\_ is done to remove grain heat during storage- [UPPSC AE 2020 Paper I]

- (a) Fumigation
- (b) Condensation
- (c) **Aeration**
- (d) Plantation

116-Which of the following is used for handling milk powder? [UPPSC AE 2020 Paper I]

- (a) **Belt conveyer**
- (b) Screw conveyer
- (c) Chain conveyer
- (d) None of the above

117-Desirable temperature for apple storage over one year period is- [UPPSC AE 2020 Paper I]

- (a) – 20 to – 10<sup>0</sup>C
- (b) – 9 to – 2<sup>0</sup>C
- (c) – **1 to 4<sup>0</sup>C**
- (d) 5 to 6<sup>0</sup>C

118-One hundred kilos of clean bold paddy would yield \_\_\_\_\_ kg bran. [UPPSC AE 2020 Paper I]

- (a) 10



- (b) 8
- (c) 6
- (d) 4

119-Cold process is also known as- [UPPSC AE 2020 Paper I]

- (a) Precooling
- (b) Freezing**
- (c) Cold storage
- (d) Ultrafiltration

120-Thermodynamics properties are- [UPPSC AE 2020 Paper I]

- (a) Path function
- (b) Point function**
- (c) Both (a) and (b)
- (d) None of the above

**Exp.: All thermodynamics property is to be the point function.**

121-Zeroth law of thermodynamics names- [UPPSC AE 2020 Paper I]

- (a) Deals with convection, mass and energy
- (b) Deals with reversibility and irreversibility of process
- (c) States if two systems both are in equilibrium with a third system, they are in thermal equilibrium with each other.**
- (d) Deals with heat engine

122-First law of thermodynamics furnishes the relationship- [UPPSC AE 2020 Paper I]

- (a) Heat and work
- (b) Heat, work and properties of the system**
- (c) Various properties of the system
- (d) Various thermodynamics process



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123-“Heat and work are mutually convertible” This statement is called  
[UPPSC AE 2020 Paper I]

- (a) Second law of thermodynamics
- (b) First law of thermodynamics**
- (c) Joule’s law
- (d) Both (a) and (b)

124-In diesel engine- [UPPSC AE 2020 Paper I]

- (a) Carburetor is available
- (b) Injector is available**
- (c) Both are available
- (d) None of the above

125- One horse power is equal to- [UPPSC AE 2020 Paper I]

- (a) 500 watt
- (b) 1000 watt
- (c) 746 watt**
- (d) None of the above

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