Test Booklet No. _____

This booklet consists of 100 questions and __ printed pages.

RGUCET/2025/38

Series A

RGUCET 2025
Common Entrance Test, 2025
MASTER OF TECHNOLOGY IN AGRICULTURAL ENGINEERING

Full Marks: 100 **Time: 2 Hours**

Roll No. | | | | | | | | |

Day and Date of Examination: _____

Signature of Invigilator(s) _____

Signature of Candidate _____

General Instructions:

PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 100 Multiple Choice Questions (MCQs) from the concerned subject. Each question carries 1 mark. There shall be negative marking of 0.25 against each wrong attempt.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall after the commencement of the entrance test or leave the examination hall before completion of Examination.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidates are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy

<table>
<tr><td>1</td><td colspan="4">Change the direct speech to indirect:
He said to me, “Where is Neha?”</td><td>Answer option (a,b,c, or d)</td></tr>
<tr><td></td><td>a) He asked me where is Neha.</td><td>b) He asked me where Neha was.</td><td>c) He asked me where Neha is.</td><td>d) He said where was Neha.</td><td>b</td></tr>
<tr><td>2</td><td colspan="4">Assertion (A): Water expands when it freezes.

Justification (B): The hydrogen bonds in ice form a hexagonal structure that occupies more space.

In the light of above statements, choose the correct answer form the options given below:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) True, but hydrogen bonds compress water molecules.</td><td>b) True, and the justification is scientifically accurate.</td><td>c) False, water contracts when frozen.</td><td>d) False, and the bonds are irrelevant.</td><td>b</td></tr>
<tr><td>3</td><td colspan="4">Match the following pairs:

<table><tr><td>A Kerala</td><td>i Kathak</td></tr><tr><td>B Punjab</td><td>ii Bhangra</td></tr><tr><td>C Uttar Pradesh</td><td>iii Bharatanatyam</td></tr><tr><td>D Tamil Nadu</td><td>iv Kathakali</td></tr></table></td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) A-iii, B-ii, C-iv, D-i</td><td>b) A-iii, B-ii, C-i, D-iv</td><td>c) A-i, B-ii, C-iii, D-iv</td><td>d) A-i, B-ii, C-iv, D-iii</td><td>b</td></tr>
<tr><td>4</td><td colspan="4">Which of the following sentences is grammatically correct?</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) She don’t like ice cream.</td><td>b) He go to school every day.</td><td>c) They is playing football.</td><td>d) She doesn’t like ice cream.</td><td>d</td></tr>
<tr><td>5</td><td colspan="4">Choose the antonym of ANCIENT:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Old</td><td>b) Historic</td><td>c) Modern</td><td>d)Traditional</td><td>c</td></tr>
<tr><td>6</td><td colspan="4">Match the country with its capital:

<table><tr><td>A. Italy</td><td>i. Berlin</td></tr><tr><td>B. Canada</td><td>ii. Rome</td></tr><tr><td>C. Germany</td><td>iii. Madrid</td></tr><tr><td>D. Spain</td><td>iv. Ottawa</td></tr></table></td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) A-ii, B-iv, C-i, D-iii</td><td>b)A-i, B-ii, C-iv, D-iii</td><td>c) A-iii, B-ii, C-iv, D-i</td><td>d) A-i, B-iii, C-ii, D-iv</td><td>a</td></tr>
<tr><td>7</td><td colspan="4">Choose the antonym of VICTORY:</td><td>Answer option (a,b,c or</td></tr>
</table>

					d)
	a) Achievement	b) Defeat	c) Celebration	d) Triumph	b
8	Which planet is the largest in the Solar System?				Answer option (a,b,c or d)
	a) Earth	b) Saturn	c) Jupiter	d) Saturn	c
9	Which organization publishes the "Trends in World Military Expenditure" report?				Answer option (a,b,c or d)
	a) World Bank	b) International Monetary Fund	c) United Nations	d)Stockholm International Peace Research Institute (SIPRI)	d
10	Which state of North East India is known as the "Land of the Dawn-Lit Mountains"?				Answer option (a,b,c or d)
	a) Manipur	b) Nagaland	c) Mizoram	d) Arunachal Pradesh	d
11	Which state launched the "Indiramma Atmiya Bharosa" scheme in 2025?				Answer option (a,b,c or d)
	a)Andhra Pradesh	b) Telangana	c) Karnataka	d)Tamil Nadu	b
12	In which year, Arunachal Pradesh became a full-fledged state of India				Answer option (a,b,c or d)
	a) 1987	b) 1986	c) 1985	d) 1984	a
13	Which organization conducted the ground test of the Scramjet Engine in India?				Answer option (a,b,c or d)
	a) Indian Space Research Organisation (ISRO)	b) Defence Research and Development Organisation (DRDO)	c) Hindustan Aeronautics Limited (HAL)	d) Indian Army Research Centre (IARC)	b
14	Who can remove the Vice-President from his office?				Answer option (a,b,c or d)
	a) President	b) Prime Minister	c) Parliament	d) Legislative assemblies of the state	c
15	Which organization developed the Central Suspect Registry in India?				Answer option (a,b,c or d)

	a) Reserve Bank of India (RBI)	b) Central Bureau of Investigation (CBI)	c) National Investigation Agency (NIA)	d) Indian Cyber Crime Coordination Centre (I4C)	d
16	Who was awarded the 2024 Nobel Peace Prize for their efforts in promoting human rights?				Answer option (a,b,c or d)
	a) Malala Yousafzai	b) Greta Thunberg	c) Narges Mohammadi	d) Kailash Satyarthi	c
17	Recently, which country launched first Angara-A5 space rocket				Answer option (a,b,c or d)
	a) Russia	b) India	c) Malaysia	d) Indonesia	a
18	What is the remainder when 7^{100} is divided by 100?				Answer option (a,b,c or d)
	a) 1	b) 49	c) 0	d) 7	a
19	The sum of the first 'n' natural numbers is 300. What is the value of n?				Answer option (a,b,c or d)
	a) 24	b) 25	c) 43	d) 1	a
20	A tangent intersects the circle at:				Answer option (a,b,c or d)
	a) One point	b) Two distinct point	c) At the circle	d) Infinite	a
21	The mould board plough absorbs side forces mainly through the:				Answer option (a,b,c or d)
	a) Share	b) Mould board	c) Land side	d) Frog	c
22	The disc of a disc plough is typically made of:				Answer option (a,b,c or d)
	a) Wood	b) Mild steel	c) Carbon steel	d) None	c
23	What is the term used for the condition when the knife section stops at the center of the guard on each stroke?				Answer option (a,b,c or d)
	a) Alignment	b) Adjustment	c) Registration	d) Transmission	c
24	What is the main purpose of puddling in agriculture?				Answer option (a,b,c or d)

	a) Reduce percolation of water	b) Kill weeds	c) Pulverize soil	d) Level the field	a
25	Which type of bearing is commonly used to support the disc on a standard disc plough?				Answer option (a,b,c or d)
	a) Ball bearing	b) Tapper roller bearing	c) Plain roller bearing	d) Plain roller bearing	b
26	The size of a disc harrow is usually determined by:				Answer option (a,b,c or d)
	a) Number of disks	b) Maximum width of cut	c) Maximum depth of cut	d) Number of gangs	b
27	What is the equipment called that is used to place seedlings in the soil?				Answer option (a,b,c or d)
	a) Seed drill	b) Planter	c) Seed cum fertiliser drill	d) Transplanter	d
28	Which machine is designed to cut herbage crops or grasses at a uniform height?				Answer option (a,b,c or d)
	a) Mower	b) Cultivator	c) Sprayer	d) Disc harrow	a
29	A coulter attachment is typically used with which of the following implements?				Answer option (a,b,c or d)
	a) Disc harrow	b) Seed drill	c) MB plough	d) Subsoiler	c
30	What is the device used to spray liquids, such as pesticides or fertilizers, in agriculture called?				Answer option (a,b,c or d)
	a) Sprayer	b) Duster	c) Pump	d) Crusher	a
31	What is a reaper primarily used for?				Answer option (a,b,c or d)
	a) Cutting the crop	b) Cutting and windrowing	c) Cutting and threshing	d) None of these	b
32	The maximum noise level from a tractor near the operator's ear should not exceed:				Answer option (a,b,c or d)
	a) 85 dB	b) 90 dB	c) 95 dB	d) 100 dB	b
33	The Otto cycle consist of:				Answer

<table>
<tr><td></td><td colspan="4"></td><td>option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Two constant-pressure and two isentropic processes</td><td>b) Two constant-pressure and two constant-volume processes</td><td>c) Two isothermal and two isentropic processes</td><td>d) Two isochoric and two isentropic processes</td><td>a</td></tr>
<tr><td>34</td><td colspan="4">Match the following pairs:

<table><tr><td>A. Cetane number</td><td>i. Spark ignition</td></tr><tr><td>B. Octane number</td><td>ii. Compression ignition</td></tr><tr><td>C. Diesel engine</td><td>iii. Diesel fuel ignition quality measure</td></tr><tr><td>D. Gasoline engine</td><td>iv. Resistance to knocking in petrol engines</td></tr></table></td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) A-iii, B-iv, C-ii, D-i</td><td>b) A-i, B-ii, C-iv, D-iii</td><td>c) A-iii, B-ii, C-iv, D-i</td><td>d) A-i, B-ii, C-iii, D-iv</td><td>a</td></tr>
<tr><td>35</td><td colspan="4">Mechanical efficiency of an IC engine can be defined as:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) $\frac{BHP}{IHP}\times 100$</td><td>b) $\frac{IHP}{BHP}\times 100$</td><td>c) $\frac{IHP-BHP}{BHP}\times 100$</td><td>d) $\frac{IHP-BHP}{IHP}\times 100$</td><td>a</td></tr>
<tr><td>36</td><td colspan="4">The angle between the centre line of the front tyre and the vertical is known as:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Caster angle</td><td>b) Camber angle</td><td>c) Toe-in</td><td>d) King pin inclination</td><td>b</td></tr>
<tr><td>37</td><td colspan="4">Assertion (A): The tractor having an endless chain or track in place of pneumatic wheels is known as a crawler tractor.

Reason (R): Crawler tractors have better traction and stability on soft, muddy, or uneven terrains compared to wheeled tractors.

In the light of above statements, choose the correct answer form the options given below:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Both A and R are true, and R is the correct explanation of A.</td><td>b) Both A and R are true, but R is not the correct explanation of A.</td><td>c) A is true, but R is false.</td><td>d) A is false, but R is true.</td><td>a</td></tr>
<tr><td>38</td><td colspan="4">What is the term for the lowest temperature at which fuel ceases to flow?</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Flash point</td><td>b) Pour point</td><td>c) Cloud point</td><td>d)Viscosity number</td><td>b</td></tr>
<tr><td>39</td><td colspan="4">The name of the instrument for measuring the valve clearance of an engine is:</td><td>Answer option</td></tr>
</table>

					(a,b,c or d)
	a) Micrometer	b) Torque wrench	c) Feeler gauge	d) Bore gauge	c
40	**Assertion (A):** A differential in a tractor is provided to allow the rear wheels to rotate at different speeds during turning. **Reason (R):** During a turn, the inner and outer rear wheels of a tractor cover different distances and need to rotate at different speeds to prevent slippage. In the light of above statements, choose the correct answer form the options given below:				Answer option (a,b,c or d)
	a) Both A and R are true, and R is the correct explanation of A.	b) Both A and R are true, but R is not the correct explanation of A.	c) A is true, but R is false.	d) A is false, but R is true.	a
41	A mechanical device used on a tractor or stationary engine for maintaining nearly constant engine speed under varying load is known as:				Answer option (a,b,c or d)
	a) Governor	b) Nozzle	c) Fuel supply system	d) Cooling system	a
42	**Consider the following statements about ploughs. Which of them is/are true?** i) Mouldboard plough is used for primary tillage operations. ii) Disc plough is better suited for hard and dry soils. iii) Ploughing helps in improving soil aeration. iv) Ploughs are used after seed drilling.				Answer option (a,b,c or d)
	a) i, ii, and iii only	b) i and iv only	c) ii, iii, and iv only	d) All of the above	a
43	While taking a turn, which one is correct for the tractor rear wheels?				Answer option (a,b,c or d)
	a) The resistance offered to both wheels is equal	b) The resistance offered to the outer wheel is more	c) The resistance offered to the inner wheel is more	d) None of these	c
44	The most common type of clutch used in Indian tractors is:				Answer option (a,b,c or d)
	a) Plate type	b) Dog clutch	c) Cone clutch	d) Wet clutch	a
45	For the most efficient hydraulic section of a rectangular channel, the bottom width is:				Answer option (a,b,c or d)
	a) Equal to the depth	b) Equal to half the depth	c) Equal to 150% of depth	d) Equal to 200% of depth	d

46	If an earthen dam fails because of "Sloughing of Downstream Side of Dam', it comes under:				Answer option (a,b,c or d)
	a) Hydraulic failure	b) Hydrologic failure	c) Seepage failure	d) Structural failure	c
47	Match the following pairs: A. Hydraulic efficient channel — i. Width = 2 × depth B. Most efficient rectangular section — ii. Minimum wetted perimeter for a given cross-sectional area C. Most efficient trapezoidal section — iii. Theoretically,the most efficient shape, difficult to construct D. Semi-circular channel — iv. Side slope = 1: √3				Answer option (a,b,c or d)
	a) A-ii, B-i, C-iv, D-iii	b) A-i, B-ii, C-iii, D-iv	c) A-iv, B-iii, C-ii, D-i	d) A-i, B-iv, C-iii, D-ii	a
48	In the course of time, vegetative waterways take an irregular shape, nearing:				Answer option (a,b,c or d)
	a)Trapezoidal shape	b) Parabolic shape	c) Triangular shape	d) Rectangular shape	b
49	**Which of the following statements regarding the rate of evaporation from a water surface are true?** i) The rate of evaporation increases when the difference in vapour pressure between the water surface and the surrounding air increases. ii) The rate of evaporation increases when wind velocity decreases. iii) The rate of evaporation increases when the concentration of soluble solids in water decreases.				Answer option (a,b,c or d)
	a) i and iii	b) i and ii	c) ii and iii	d) i, ii and iii	a
50	The most important form of soil water for plant growth is:				Answer option (a,b,c or d)
	a) Groundwater	b) Hygroscopic water	c) Held water	d) Capillary water	d
51	A hydrograph is a graphical representation of:				Answer option (a,b,c or d)
	a) Discharge of water	b) Water	c) Rainfall	d) Surface runoff	a
52	The time required for runoff to travel from the hydraulically most distant point in the watershed to the outlet:				Answer option (a,b,c or d)
	a) Time of	b) Time of	c) Duration of the	d) Time of	d

	overland flow	overland flow	rainfall	concentration	
53	For cereal crops, the most commonly adopted method of irrigation is:				Answer option (a,b,c or d)
	a) Free-flowing method	b) Check basin method	c) Furrow method	d) Sprinkler method	b
54	The largest crop area covered by drip irrigation in India is under:				Answer option (a,b,c or d)
	a) Plantation crop	b) Vegetable crops	c) Orchards	d) Fibre crops	c
55	If the radius of the raindrop is doubled, then its kinetic energy will be increased by				Answer option (a,b,c or d)
	a) 4 times	b) 5 times	c) 8 times	d) 16 times	d
56	What kind of runoff in a watershed is generally the portion of rainfall that flows over the land surface into streams immediately after a rain event?				Answer option (a,b,c or d)
	a) Direct	b) Indirect	c) Forced	d) Natural	a
57	In chute spillways, flow is usually:				Answer option (a,b,c or d)
	a) Uniform	b) Super critical	c) Sub critical	d) Critical	b
58	Match the following pairs: A. Outward sloping bench terrace — i. Suitable for high rainfall areas B. Inward sloping bench terrace — ii. Also called an irrigation bench terrace C. Level bench terrace — iii. Helps in water conservation D. Reverse sloped bench terrace — iv. Also known as a drainage bench terrace				Answer option (a,b,c or d)
	a) A-i, B-iii, C-ii, D-iv	b) A-i, B-ii, C-iii, D-iv	c) A-iv, B-iii, C-ii, D-i	d) A-i, B-ii, C-iv, D-i	a
59	In land capability classification, if land which is made up of soils for which the susceptibility to erosion is the dominant problem, then it belongs to:				Answer option (a,b,c or d)
	a) Subclass w	b) Subclass s	c) Subclass e	d) Subclass c	d
60	The surface run-off is the quantity of water				Answer option (a,b,c or d)
	a) Absorbed by soil	b) Required to fill surface depressions	c) Intercepted by buildings and vegetative cover	d) That reaches the stream channels	d

61	Sheet erosion is caused by:				Answer option (a,b,c or d)
	a) Fast-running rivers	b) Wind	c) Heavy rains	d) Glaciers	c
62	Which of the following is not a method for water conservation?				Answer option (a,b,c or d)
	a) Rainwater harvesting	b) Groundwater extraction	c) Improving irrigation efficiency	d) Avoiding water wastage	b
63	The first stage of the erosion process is:				Answer option (a,b,c or d)
	a) Gully erosion	b) Splash erosion	c) Rill erosion	d) Sheet erosion	b
64	Wind erosion is common in:				Answer option (a,b,c or d)
	a) Humid zones	b) Arid zones	c) Arid and semi-arid zones	d) Arid and Humid zones	c
65	A lysimeter is used to measure:				Answer option (a,b,c or d)
	a) Infiltration	b) Evaporation	c) Evapotranspiration	d) Vapour pressure	c
66	**Assertion (A):** The continuity equation is used in hydrological flood routing. **Reason (R):** Hydrological flood routing involves tracking changes in velocity head and pressure energy along the flow path. In the light of above statements, choose the correct answer form the options given below:				Answer option (a,b,c or d)
	a) Both A and R are true, and R is the correct explanation of A.	b) Both A and R are true, but R is not the correct explanation of A.	c) A is true, but R is false.	d) A is true, but R is false.	c
67	The minimum velocity required to initiate the movement of a soil particle is known as:				Answer option (a,b,c or d)
	a) Critical velocity	b) Intrinsic velocity	c) Dynamic threshold velocity	d) Threshold velocity	d

<table>
<tr><td>68</td><td colspan="4">Assertion (A): Thermal vapour compression is used in a multiple-effect evaporator. system.
Reason (R):
In thermal vapour compression, the vapour from one effect is compressed and reused to supply heat to another effect, improving thermal efficiency.
In the light of above statements, choose the correct answer form the options given below:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Both A and R are true, and R is the correct explanation of A.</td><td>b) Both A and R are true, but R is not the correct explanation of A.</td><td>c) A is true, but R is false.</td><td>d) A is false, but R is true.</td><td>a</td></tr>
<tr><td>69</td><td colspan="4">Match the following pairs:
<table><tr><td>A. Steady-state heat flow through solid metal plate</td><td>i. Fourier’s law of heat conduction</td></tr><tr><td>B. Two metal plates with a negligible air gap</td><td>ii. Greater heat flow due to lower resistance</td></tr><tr><td>C. High thermal conductivity material</td><td>iii. Thermal resistance of the air gap (conduction + radiation)</td></tr><tr><td>D. Low thermal conductivity material</td><td>iv. Lower heat flow due to higher resistance</td></tr></table></td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) A-i, B-iii, C-ii, D-iv</td><td>b) A-i, B-ii, C-iii, D-iv</td><td>c) A-iii, B-ii, C-i, D-iv</td><td>d) None</td><td>a</td></tr>
<tr><td>70</td><td colspan="4">Type of moisture that can be removed by common drying techniques is:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Equilibrium moisture</td><td>b) Total moisture</td><td>c) Free moisture</td><td>d) Bound moisture</td><td>c</td></tr>
<tr><td>71</td><td colspan="4">Energy required to grind a material from one size to another is expressed by:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Fick's law</td><td>b) Newton's law</td><td>c) Kick's law</td><td>d) Stoke's law</td><td>c</td></tr>
<tr><td>72</td><td colspan="4">The efficiency of a cyclone separator increases by:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Increasing the air inlet velocity</td><td>b) Decreasing the size of the particles</td><td>c) Reducing the size of the separator</td><td>d) All of these methods</td><td>a</td></tr>
<tr><td>73</td><td colspan="4">In a rubber roll paddy sheller, the direction of rotation and peripheral speeds of the rollers are respectively:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Same and equal</td><td>b) Same and different</td><td>c) Opposite and equal</td><td>d) Opposite and different</td><td>d</td></tr>
<tr><td>74</td><td colspan="4">Assertion (A): Sun drying is not considered a capital investment.</td><td>Answer</td></tr>
</table>

<table>
<tr><td></td><td colspan="4">Reason (R): It does not require significant expenditure on machinery or infrastructure.

In the light of above statements, choose the correct answer form the options given below:</td><td>option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Both A and R are true, and R is the correct explanation of A.</td><td>b) Both A and R are true, but R is not the correct explanation of A.</td><td>c) A is true, but R is false.</td><td>d) A is false, but R is true.</td><td>a</td></tr>
<tr><td>75</td><td colspan="4">Match the following pairs:

<table><tr><td>A. Sun drying</td><td>i. Fruit juice</td></tr><tr><td>B. Spray drying</td><td>ii. Grapes</td></tr><tr><td>C. Freeze drying</td><td>iii. Coffee and biological products</td></tr><tr><td>D. Tray drying</td><td>iv. Vegetables</td></tr></table></td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) A-i, B-ii, C-iii, D-iv</td><td>b) A-iv, B-iii, C-ii, D-i</td><td>c) A-ii, B-i, C-iii, D-iv</td><td>d) None</td><td>c</td></tr>
<tr><td>76</td><td colspan="4">The problem of “back logging” occur in:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Belt conveyer</td><td>b) Screw conveyer</td><td>c) Bucket elevator</td><td>d) Pneumatic conveyer</td><td>c</td></tr>
<tr><td>77</td><td colspan="4">Assertion (A): The term “Tons of Refrigeration” is used in a cold storage unit to measure the cooling capacity.

Reason (R): One ton of refrigeration is the heat required to melt one ton of ice in 24 hours.

In the light of above statements, choose the correct answer form the options given below:</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Both A and R are true, and R is the correct explanation of A.</td><td>b) Both A and R are true, but R is not the correct explanation of A.</td><td>c) A is true, but R is false.</td><td>d) A is false, but R is true.</td><td>a</td></tr>
<tr><td>78</td><td colspan="4">The difference between a pasteurizer and a sterilizer for between of heat treatment is because of which parameter(s)?</td><td>Answer option (a,b,c or d)</td></tr>
<tr><td></td><td>a) Temperature</td><td>b) Duration of heat treatment</td><td>c) Temperature and Heat treatment</td><td>d) Pressure</td><td>c</td></tr>
<tr><td>79</td><td colspan="4">Sterilization of milk is carried out to the extent of destroying:</td><td>Answer option (a,b,c or</td></tr>
</table>

					d)
	a) Only pathogenic organisms	b) Only spoilage organisms	c) All types of organisms	d) Only heat-resistant organisms	c
80	The specific gravity of skim milk is:				Answer option (a,b,c or d)
	a)Lower than whole milk	b)Same as whole milk	c)Higher than whole milk	d)Same as water	c
81	Pasteurization of milk is necessary for:				Answer option (a,b,c or d)
	a) Long shelf life at room temperature	b) Destruction of all microorganism	c) Long shelf life under refrigeration	d) Destruction of only pathogenic microorganism	d
82	The quantity of heat required to raise the temperature of a substance by 1^{o}C is:				Answer option (a,b,c or d)
	a) Thermal conductivity	b) Specific heat	c) Heat capacity	d) Sensible heat	c
83	Which process removes husk and bran of the paddy in one operation?				Answer option (a,b,c or d)
	a) Hulling	b) Shelling	c) Milling	d) Polishing	a
84	Which of the following takes place in the drying process?				Answer option (a,b,c or d)
	a) Energy conservation	b) Mass transfer	c) Heat transfer	d) Heat and mass transfer	d
85	Sharpness of solid substance is determined by:				Answer option (a,b,c or d)
	a) Roundness	b) Spherisity	c) Terminal velocity	d) Drag coefficient	a
86	The high value of the angle of internal friction indicates that the material is:				Answer option (a,b,c or d)
	a) Easy flowing	b) Normal flowing	c) Cohesive	d) Adhesive	c
87	The most commonly used solvent for the extraction of oil in India is:				Answer option (a,b,c or d)

	a) Ether	b) n-hexane	c) n-butane	d) alpha-methyl naphthalene	b
88	Which has very high energy content?				Answer option (a,b,c or d)
	a) Carbohydrates	b) Fibers	c) Proteins	d) Fats	d
89	Reduction of moisture content in the wheat during milling refers to:				Answer option (a,b,c or d)
	a) Cleaning	b) Flour formation	c) Separation of endosperms	d) Wheat Conditioning	d
90	The order of a differential equation is determined by what parameter present in the equation.				Answer option (a,b,c or d)
	a) Highest derivative	b) Lowest derivative	c) Highest coefficient	d) Lowest coefficient	a
91	A matrix is singular if its determinant is:				Answer option (a,b,c or d)
	a) 0	b) 1	c) -1	d) infinity	a) 0
92	Find the value of p for which, the rank of the given matrix is 1. $\begin{bmatrix} 3 & p & p \\ p & 3 & p \\ p & p & 3 \end{bmatrix}$				Answer option (a,b,c or d)
	a) 4	b) 2	c) 3	d) 1	c
93	Which of the following is also known as the Newton Raphson method?				Answer option (a,b,c or d)
	a) Chord method	b) Tangent method	c) Diameter method	d) Secant method	b
94	What is the value of the determinant of the following matrix? $\begin{vmatrix} 3 & 5 & 2 \\ 7 & 4 & 5 \\ 1 & 2 & 3 \end{vmatrix}$				Answer option (a,b,c or d)
	a) – 56	b) – 58	c) – 54	d) – 66	c
95	If a matrix is given by A = $\begin{vmatrix} 1 & 2 & 3 \\ 0 & 4 & 5 \\ 0 & 0 & 1 \end{vmatrix}$, the determinant of A^{-1} is:				Answer option (a,b,c or d)
	a) 3	b) $\frac{1}{3}$	c) $\frac{1}{4}$	d) None of the above	c
96	**Assertion:** The steam engine played a crucial role in the Industrial Revolution. **Reason:** The steam engine allowed for the mechanization of various industries,				Answer option (a,b,c or

	leading to increased productivity and economic growth. In the light of above statements, choose the correct answer form the options given below:				d)
	a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.	b) Assertion is true, but the reason is false.	c) Assertion is false, but the reason is true.	d) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.	a
97	The Laplace transform of a constant value function is:				Answer option (a,b,c or d)
	a) s	b) $\frac{1}{s}$	c) s^2	d) $\frac{1}{s^2}$	b
98	The displacement vector of the particle when it has travelled from point P(2,3,5) to Q(3,4,5) will be:				Answer option (a,b,c or d)
	a) i+j+10k	b) i+j+5k	c) i+j	d) 2i+4j+6k	c
99	5 apples and 6 oranges are kept in a box. If three fruits are chosen at random, then the probability that 2 apples and one orange are picked is				Answer option (a,b,c or d)
	a) $\frac{4}{11}$	b) $\frac{4}{13}$	c) $\frac{5}{11}$	d) None of the above	a
100	An event in the probability that will never happen is called as:				Answer option (a,b,c or d)
	a) Unsure event	b) Sure event	c) Possible event	d) Impossible event	d