

# CII – iPATE 2.0 (2021)

Computer Based PAN India Examination

Category: GRADUATE ENGINEER (ENTRY LEVEL)

Engineering Discipline: AGRICULTURAL ENGINEERING

Questions & Answers

(Reviewed, Revised & Published dtd. 26.11.2021)

## Paper Structure

Question Nos.	Sections & Topics		Marks
1 to 20	Section I : Cognitive Abilities	<ul style="list-style-type: none"><li>Quantitative Aptitude</li><li>Analytical Reasoning</li><li>Data Interpretation</li><li>English Communication</li></ul>	20
21 to 40	Section II : Professional Abilities	<ul style="list-style-type: none"><li>Project Management</li><li>Health, Safety &amp; Risk Management</li><li>Environmental Laws</li><li>Social Responsibility &amp; Ethics</li><li>Finance &amp; Accounts</li><li>Legal, Contracts &amp; Arbitration</li></ul>	20
41 to 50	Section III (A) : Technical Abilities	Physics & Chemistry (10+2 level)	10
51 to 100	Section III (B) : Technical Abilities	Engineering Discipline	50
<b>TOTAL</b>			<b>100</b>

NOTE:

- Exam Duration: 3 Hours
- Total 100 no. of Questions of 1 Mark each with Negative Marking of ½ Mark for every wrong answer
- Questions (Section wise) and respective Answer Options shuffled at Candidates' terminal

Question No. 1	Discriminant of a second-degree polynomial with integer coefficients cannot be:			
Answer Options	A)	B)	C)	D)
	43	33	68	25
Right Answer	A			

Question No. 2	How many subsets A of {1, 2, 3, 4, 5, 6, 7, 8, 9, and 10} have the property that no two elements of A sum to 11?			
Answer Options	A)	B)	C)	D)
	1024	512	343	243
Right Answer	C			

Question No. 3	Viru and Aarti started a car journey from Chandigarh to Delhi, which are 288 km apart. Viru took 12 hours more than Aarti to complete the journey. Had Viru travelled at double his actual speed, he would have taken 4 hours less than Aarti to complete the journey. Find the respective speeds (in km/hr) at which Viru and Aarti travelled.			
Answer Options	A)	B)	C)	D)
	14.4 and 9	14.5 and 28.5	9 and 14.4	15 and 20
Right Answer	C			

Question No. 4	The height of a trapezoid whose diagonals are mutually perpendicular is equal to 4. Find the area of the trapezoid if it is known that the length of one of its diagonals is equal to 5.			
Answer Options	A)	B)	C)	D)
	50/3 square units	100/3 square units	16/6 square units	None of these
Right Answer	A			

Question No. 5	A polyhedron has faces that are all either triangles or squares. No two square-faces share an edge, and no two triangular-faces share an edge. What is the ratio of triangular-faces to the number of square-faces?			
Answer Options	A)	B)	C)	D)
	03:04	04:03	01:02	04:05
Right Answer	B			

Question No. 6	Your mind likes reading and it actually has a number of important health affects you can't get in any other way. Reading gives you a unique "pause button" for comprehension. Typically, when you read, you have more time to think. When you watch a film or listen to a tape, you don't press that pause button. Reading requires a great deal of concentration, which calls your intelligence to action. The author of this passage would agree that:			
Answer Options	A)	B)	C)	D)
	Reading is a good way to relax, since it doesn't require that much thinking.	Watching a movie has the same effect on the intelligence as reading.	Reading develops your intelligence.	Both A and C
Right Answer	C			

Question No. 7	Read the following information carefully and answer the question given below. P stands 5m west of R. T stands 5m south of Q. T stands 6m east of U. V stands 2m west of Q. A stands 2m south of U. V stands 3m north of R. If G stands 7m east of P, then in which direction does G stands with respect to T?			
Answer Options	A)	B)	C)	D)
	West	East	South	North
Right Answer	D			

Question No. 8	The French Revolution began in 1789 and ended in the late 1790s with the ascent of Napoleon Bonaparte. During this period, French citizens razed and redesigned their country's political landscape, uprooting centuries-old institutions such as absolute monarchy and the feudal system. Like the American Revolution before it, the French Revolution was influenced by Enlightenment ideals, particularly the concepts of popular sovereignty and inalienable rights. From this passage it can be concluded that:			
Answer Options	A)	B)	C)	D)
	The French revolution began before the Russian Revolution.	In the French Revolution their monarch was killed.	The American Revolution happened before the French Revolution.	Napoleon initiated the French Revolution.
Right Answer	C			

Question No. 9	A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting?			
Answer Options	A)	B)	C)	D)
	Between B and C	Between E and D	Between B and D	Between C and E
Right Answer	A			

Question No. 10	A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P?			
Answer Options	A)	B)	C)	D)
	X	Z	S	A
Right Answer	A			

Question No. 11	In the following question choose the word which is the exact OPPOSITE of the given word. STRINGENT			
Answer Options	A)	B)	C)	D)
	Magnanimous	Vehement	General	Lenient
Right Answer	D			

Question No. 12	Some proverbs/idioms are given below together with their meanings. Choose the correct meaning of proverb/idiom. To catch a tartar			
Answer Options	A)	B)	C)	D)
	To trap wanted criminal with great difficulty	To catch a dangerous person	To meet with disaster	To deal with a person who is more than one's match
Right Answer	D			

Question No. 13	Which of the phrases A), B), C) and D) given below each sentence should replace the word/phrase printed in bold in the sentence to make it grammatically correct? If the sentence is correct as it is given and no correction is required, mark (E) as the answer. <b>Since the girl did not want to be disturbed while studying, she left the phone off hooks.</b>			
Answer Options	A)	B)	C)	D)
	of hook	for the hook	off hooking	off the hook
Right Answer	D			

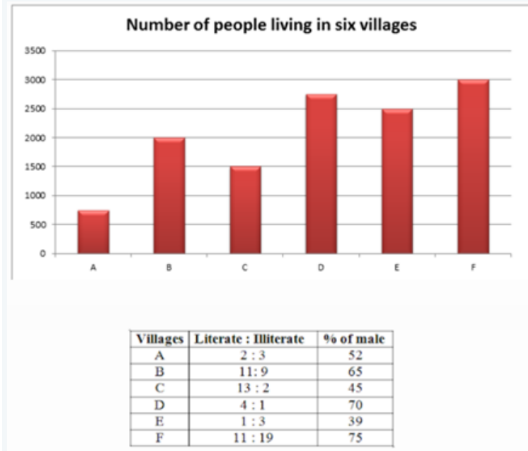
Question No. 14	In the following question choose the word which is the exact OPPOSITE of the given word. FICKLE			
Answer Options	A)	B)	C)	D)
	Courageous	Sincere	Steadfast	Humble
Right Answer	C			

Question No. 15	<p>In question below, the passage consists of six sentences. The first and sixth sentence are given in the correct places. The middle four sentences in each have been removed and jumbled up. These are labelled as P, Q, R and S. Find out the proper order for the four sentences.</p> <p><b>S1:</b> In the middle of one side of the square sits the Chairman of the committee, the most important person in the room.</p> <p><b>P:</b> For a committee is not just a mere collection of individuals.</p> <p><b>Q:</b> On him rests much of the responsibility for the success or failure of the committee.</p> <p><b>R:</b> While this is happening, we have an opportunity to get the 'feel' of this committee.</p> <p><b>S:</b> As the meeting opens, he runs briskly through a number of formalities.</p> <p><b>S6:</b> From the moment its members meet, it begins to have a sort nebulous life of its own.</p> <p>The Proper sequence should be:</p>			
Answer Options	A)	B)	C)	D)
	RSQP	QSRP	SQPR	PQRS
Right Answer	B			

Question  
No. 16

**Question nos. 16 to 20:**

Following bar chart represents the number of people in 6 different villages (A, B, C, D, E and F) and the tabular column depicts the ratio of literate to illiterate people and percentage of male living in those villages.



If 40% of the female from village B is literate, then what is the percentage of male, who is illiterate from village B?

Answer  
Options

A)	B)	C)	D)
38%	35%	37%	cannot be determined

Right  
Answer

C

Question  
No. 17

What is the percentage of literate people in all the six villages together?

Answer  
Options

A)	B)	C)	D)
55%	53%	51%	cannot be determined

Right  
Answer

B

Question  
No. 18

What is the ratio between numbers of illiterate people from villages B, C & D to number of females from villages A, E & F?

Answer  
Options

A)	B)	C)	D)
320:527	527:330	330:527	527:320

Right  
Answer

C

Question  
No. 19

If 3% of female from village D & 5% of female from village E are literate then what is the total number of literate males from D & F together?

Answer  
Options

A)	B)	C)	D)
1823	1723	1623	cannot be determined

Right  
Answer

D

Question  
No. 20

The number of females from villages A & C is how much percentage more or less than number of females from villages D & F?

Answer  
Options

A)	B)	C)	D)
25.72%	25.76%	24.76%	24.72%

Right  
Answer

C

Question No. 21	A project plan results in a project schedule seems to be too long. If the project network diagram cannot change but extra personnel resources is available, what is the best thing to do?			
Answer Options	A)	B)	C)	D)
	Fast track the project	Level the resources	Crash the project	Any other option
Right Answer	C			

Question No. 22	Which of the following is not Project Management's goal			
Answer Options	A)	B)	C)	D)
	Keeping overall cost within the budget	Delivering the project/goods to the client at agreed time	Maintaining a satisfactory and well-functioning development	Avoiding customer/client complaints
Right Answer	D			

Question No. 23	You have recently been named as Project Manager of a new project under a Contract. The Project Management Unit (PMU) gave you the contract signed by the Customer and a Statement of Work and asked you to go on with initiation. Which document should you develop next?			
Answer Options	A)	B)	C)	D)
	Project Manager Plan	Milestone Schedule	Project Charter	Scope Statement
Right Answer	C			

Question No. 24	The analysis tool for a quality problem that involves selecting the problem, identifying major categories of potential causes and associating likely specific causes is			
Answer Options	A)	B)	C)	D)
	Pareto chart	Fishbone diagram	Scatter diagram	Check list
Right Answer	B			

Question No. 25	The Occupational Safety & Health Administration requires employers to have Hearing Conservation Plans if the average 8-hour noise exposure is more than			
Answer Options	A)	B)	C)	D)
	1000 dB	500 dB	105 dB	85 dB
Right Answer	D			

Question No. 26	Ammonia becomes an immediate danger to your life and health when it is present at the following level or greater			
Answer Options	A)	B)	C)	D)
	10 ppm	30 ppm	300 ppm	1000 ppm
Right Answer	C			

Question No. 27	Exposure to high levels of noise can lead to which of the following:			
Answer Options	A)	B)	C)	D)
	High blood pressure	Gastrointestinal problems	Chronic fatigue	All of the above
Right Answer	D			

Question No. 28	Which type of fire extinguishing system is most commonly used to protect areas containing valuable equipment such as data processing rooms, telecommunications switches, and process control rooms?			
Answer Options	A)	B)	C)	D)
	Fixed extinguishing systems	Portable extinguishing systems	Hose extinguishing systems	It's up to the discretion the employer
Right Answer	A			

Question No. 29	If you need to wear glasses with your eye or face protection, which of the following options is acceptable			
Answer Options	A)	B)	C)	D)
	Wearing prescription spectacles with side shields and protective lenses that meet safety requirements and also correct your vision	Wearing goggles that fit comfortably over your glasses	Wearing goggles that have corrective lenses mounted behind the protective lenses	All of the above
Right Answer	D			

Question No. 30	Under which Section of Environment Pollution Act, the CPCB can issue the directions directly to industries			
Answer Options	A)	B)	C)	D)
	Section 16	Section 18	Section 11	Section 5
Right Answer	D			

Question No. 31	Which of these divisions of Pollution Control Implementation deals with Air Polluting Industries			
Answer Options	A)	B)	C)	D)
	PCI - I	PCI - II	PCI - III	SSI & Law
Right Answer	B			

Question No. 32	The Kyoto Protocol is an international treaty which extends the United Nations Framework Convention on Climate Change (UNFCCC). In which year the convention held?			
Answer Options	A)	B)	C)	D)
	1987	1995	1992	1997
Right Answer	C			

Question No. 33	What is the harm from manipulation of Earth's Ozone layer?			
Answer Options	A)	B)	C)	D)
	The average temperature of Earth's surface will increase gradually	The Oxygen content of the atmosphere will decrease	Increased amount of Ultraviolet radiation will reach earth's surface	Sea level will rise as the polar ice caps will gradually melt
Right Answer	C			

Question No. 34	Which of the following would not represent the cash outflows for the business?			
Answer Options	A)	B)	C)	D)
	Purchase of building for cash	The sale of land for cash	Retirement of long-term debt	The payment of cash for dividends
Right Answer	B			

Question No. 35	Which one of the following tangible fixed assets would not normally be depreciated?			
Answer Options	A)	B)	C)	D)
	Buildings	Machinery	Land	Equipment
Right Answer	C			

Question No. 36	A Profit is earned if?			
Answer Options	A)	B)	C)	D)
	Assets exceed Expenditure	Income exceeds Expenditure	Cash Inflow exceeds Cash Outflow	Income exceeds Liabilities
Right Answer	B			

Question No. 37	Which of the following budgets is normally prepared first?			
Answer Options	A)	B)	C)	D)
	Cash budget	Sales budget	Merchandise purchases budget	Selling expense budget
Right Answer	B			

Question No. 38	What is the correct sequence in the formation of a contract?			
Answer Options	A)	B)	C)	D)
	Offer, acceptance, agreement, consideration.	Agreement, consideration, offer, acceptance.	Offer, agreement, consideration, acceptance.	Offer, acceptance, consideration, agreement.
Right Answer	D			



Question No. 39	Which of the following answers is most accurate description of arbitration?			
Answer Options	A)	B)	C)	D)
	An informal meeting between the parties involving a discussion to sort out the dispute	An adjudicative process where the parties submit their disputes for a binding decision to an impartial tribunal	A meeting between the parties where an impartial third party gives decision	An impartial umpire selected to decide after hearing the dispute from parties
Right Answer	B			

Question No. 40	Which of the following answers is not type of alternative dispute resolution?			
Answer Options	A)	B)	C)	D)
	Arbitration	Court proceedings	Conciliation	Mediation
Right Answer	B			

Question No. 41	The equation of state for n moles of an ideal gas is $PV = nRT$ , where R is the universal gas constant and all other quantities have their usual meanings. What are the dimensions of R?			
Answer Options	A)	B)	C)	D)
	$M^0L^{-2}K^{-1}mol^{-1}$	$M^0L^2T^{-2}K^{-1}mol^{-1}$	$ML^2T^{-2}K^{-1}mol^{-1}$	$ML^{-2}T^{-2}K^{-1}mol^{-1}$
Right Answer	C			

Question No. 42	A cylindrical tube open at both ends has fundamental frequency n. If one of the ends is closed, the fundamental frequency will become			
Answer Options	A)	B)	C)	D)
	$n/2$	$2n$	$4n$	$n$
Right Answer	A			

Question No. 43	The speed of sound in a gas is V and the root mean square speed of the gas molecules is $V_{rms}$ . If the ratio of the specific heats of the gas is 1.5, then the ratio of V: $V_{rms}$ will be			
Answer Options	A)	B)	C)	D)
	1:2	1:3	$1:\sqrt{2}$	$1:\sqrt{3}$
Right Answer	C			

Question No. 44	Which of the following phenomena gives evidence of the molecular structure of the matter?			
Answer Options	A)	B)	C)	D)
	Brownian motion	Diffusion	Evaporation	All of these
Right Answer	D			

Question No. 45	Starting with the same initial conditions, an ideal gas expands from volume $V_1$ to $V_2$ in three different ways. The work done by the gas is $W_1$ if the process is purely isobaric, $W_2$ if the process is purely isochoric and $W_3$ if the process is purely adiabatic. Then			
Answer Options	A) $W_1 > W_2 > W_3$	B) $W_2 > W_1 > W_3$	C) $W_1 > W_3 > W_2$	D) $W_3 > W_1 > W_2$
Right Answer	C			

Question No. 46	A vessel contains a mixture of 1 mole of oxygen and two moles of nitrogen at 300K. The ratio of the rotational kinetic energy per $O_2$ molecule to that per $N_2$ molecule is			
Answer Options	A) 1:1	B) 1:2	C) 2:1	D) Depends on the moment of inertia of the two molecules
Right Answer	A			

Question No. 47	In a test experiment on a model aeroplane in a wind tunnel, the flow speeds on the lower and upper surfaces of the wing are $v$ and $\sqrt{2}v$ respectively. If the density of air is $\rho$ and the surface area of the wing is $A$ , the dynamic lift on the wing is given by			
Answer Options	A) $(\rho v^2 A)/\sqrt{2}$	B) $(\rho v^2 A)/2$	C) $2\rho v^2 A$	D) $\sqrt{2}\rho v^2 A$
Right Answer	B			

Question No. 48	A boy whirls a stone in a horizontal circle 2m above the ground by means of a string 1.25m long. The string breaks and the stone flies off horizontally, striking the ground 10m away. What is the magnitude of the centripetal acceleration during circular motion? (Take $g=10\text{m/s}^2$ )			
Answer Options	A) $400\text{m/s}^2$	B) $300\text{m/s}^2$	C) $200\text{m/s}^2$	D) $100\text{m/s}^2$
Right Answer	C			

Question No. 49	Radium (with Atomic no. = 87, Mass No. = 221) undergoes radioactive decay with a half-life of 4 days. The probability that a Ra nucleus will disintegrate in 8 days is			
Answer Options	A) 1/4	B) 3/4	C) 1/2	D) 1
Right Answer	B			

Question No. 50	A tunnel is dug along the diameter of the earth. An object is held in the tunnel at a distance $x$ from the centre of the earth. The magnitude of the gravitational force on the object is proportional to			
Answer Options	A) $1/x$	B) $1/x^2$	C) $x$	D) $x^2$
Right Answer	C			

Question No. 51	The brake thermal efficiency of modern diesel engine at full load and rated speed is about			
Answer Options	A)	B)	C)	D)
	40 %	60 %	75 %	90 %
Right Answer	A			

Question No. 52	Maximum engine torque in tractor engine is generated at			
Answer Options	A)	B)	C)	D)
	rated speed	about 60% rpm of rated speed	at about 90% rpm of rated speed	at about 2200 engine rpm
Right Answer	B			

Question No. 53	SAE 20W50 oil is recommended for tractor engines			
Answer Options	A)	B)	C)	D)
	in summer	in winter	in humid condition	throughout the year
Right Answer	D			

Question No. 54	Differential unit of the tractor transmit equal _____ to both the rear wheels of a two-wheel drive tractor.			
Answer Options	A)	B)	C)	D)
	power	torque	rotational speed	force
Right Answer	B			

Question No. 55	Maximum engine power of tractor engine is generated at			
Answer Options	A)	B)	C)	D)
	rated speed	about 400 rpm less than rated speed	about 400 rpm more than rated speed	about 1200 engine rpm
Right Answer	A			

Question No. 56	The maximum draw-bar power of 2-wheel drive tractor is achieved at the wheel slip of			
Answer Options	A)	B)	C)	D)
	0-10%	10-20%	20-30%	30-40%
Right Answer	B			

Question No. 57	Tractive performance of a tractor may be improved by			
Answer Options	A)	B)	C)	D)
	ballasting front wheels	ballasting rear wheels	reducing inflation pressure of traction wheels	All of the above
Right Answer	D			

Question No. 58	The distance of CG of a tractor from the rear axle is about			
Answer Options	A)	B)	C)	D)
	half of wheel base	two-third of wheel base	one-fourth of wheel base	one-third of wheel base
Right Answer	D			

Question No. 59	The longitudinal stability of the tractor can be improved by			
Answer Options	A)	B)	C)	D)
	putting dead weight on the front	putting dead weight on rear axle	decreasing air pressure of rear wheel	decreasing air pressure of front wheel
Right Answer	A			

Question No. 60	Cone penetration resistance (cone index) of soil decreases as			
Answer Options	A)	B)	C)	D)
	moisture content increases	moisture content decreases	ambient temperature increases	ambient temperature decreases
Right Answer	A			

Question No. 61	For normal tillage operation on dry soil, the tractive efficiency lies in the range of			
Answer Options	A)	B)	C)	D)
	40-50%	50-60%	60-70%	30-40%
Right Answer	D			

Question No. 62	A doubling of sound pressure occurs with each increase of			
Answer Options	A)	B)	C)	D)
	3 dB	6 dB	9 dB	12 dB
Right Answer	B			

Question No. 63	In indigenous plough, the depth of operation can be varied by changing			
Answer Options	A)	B)	C)	D)
	beam angle	share angle	load on the handle	all the three parameters
Right Answer	D			

Question No. 64	The tilt angle of disc plough varies in the range of _____ degree.			
Answer Options	A)	B)	C)	D)
	5-10	15-25	25-35	35-45
Right Answer	B			

Question No. 65	The depth of cut of sub-soiler normally lies in the range of			
Answer Options	A)	B)	C)	D)
	5-10 cm	10-20 cm	20-30 cm	30-60 cm
Right Answer	D			

Question No. 66	The drum seeder is used for sowing			
Answer Options	A)	B)	C)	D)
	rice	wheat	jute	mustard
Right Answer	A			

Question No. 67	In the case of Ultra Low Volume (ULV) sprayer, the application rate lies in the range of			
Answer Options	A)	B)	C)	D)
	0.5 – 9 l/ha	10-20 l/ha	20-30 l/ha	30-50 l/ha
Right Answer	A			

Question No. 68	If the disc angle of the disc plough is increased, then			
Answer Options	A)	B)	C)	D)
	the draft is increased	the draft is decreased	the depth of cut decreased	side draft decreased
Right Answer	A			

Question No. 69	The function of the share of mould board plough is to			
Answer Options	A)	B)	C)	D)
	cut the soil	turn the cut soil	pulverize the soil	lift the soil
Right Answer	A			

Question No. 70	Normally in low land area, paddy is sown by			
Answer Options	A)	B)	C)	D)
	dibbling	drilling	transplanting	broadcasting
Right Answer	C			

Question No. 71	In seed drill, metering of the seed is done to			
Answer Options	A)	B)	C)	D)
	maintain recommended seed rate	enhance plant growth	reduce the wastage of seed	maintain uniform sowing depth
Right Answer	A			

Question No. 72	In normal field sprayer, the application rate lies in the range of			
Answer Options	A)	B)	C)	D)
	10-50 l/ha	50-100 l/ha	100-200 l/ha	300-500 l/ha
Right Answer	D			

Question No. 73	Off-set type disc harrow is used for			
Answer Options	A)	B)	C)	D)
	primary tillage	secondary tillage	puddling operation	none of these
Right Answer	B			

Question No. 74	In mould board plough, vertical/down suction is provided for maintaining uniform			
Answer Options	A)	B)	C)	D)
	width of cut	depth of cut	draft	pulverization of soil
Right Answer	B			

Question No. 75	In disc plough, the depth of cut can be increased by			
Answer Options	A)	B)	C)	D)
	decreasing tilt angle	increasing operational speed	decreasing disc angle	increasing disc angle
Right Answer	D			

Question No. 76	The soil cutting tools are generally made of			
Answer Options	A)	B)	C)	D)
	high carbon steel	low carbon steel	cast iron	high speed steel
Right Answer	A			

Question No. 77	The disc diameter of disc plough lies in the range of			
Answer Options	A)	B)	C)	D)
	41-51 cm	51-61 cm	61-71 cm	71-81 cm
Right Answer	C			

Question No. 78	Ploughing with tractor mounted mould board plough is done at a speed of			
Answer Options	A)	B)	C)	D)
	1-3 km/h	4-6 km/h	8-10 km/h	10-12 km/h
Right Answer	B			

Question No. 79	If the tilt angle of the disc plough is increased, then			
Answer Options	A)	B)	C)	D)
	the draft is increased	the draft is decreased	the depth of cut increased	side draft increased
Right Answer	D			

Question No. 80	The pressure differential across a homogenizing valve is 250 bars. Density of milk is 1032 kg/m <sup>3</sup> . The velocity at which milk comes out from the homogenizer valve is _____ m/s.			
Answer Options	A)	B)	C)	D)
	80	120	180	220
Right Answer	D			

Question No. 81	If 4 kPa is the total pressure difference to be overcome by exhaust fan in the spray dryer, total air flow rate is 30,000 m <sup>3</sup> /h and exhaust fan efficiency is 70%, total electric power required for the exhaust fan is _____ kW.			
Answer Options	A)	B)	C)	D)
	47.6	56.8	60.3	67.6
Right Answer	A			

Question No. 82	Which equipment is not a component of freeze-drying process-?			
Answer Options	A)	B)	C)	D)
	Freezing chamber	Vacuum pump	Condenser	Centrifuge for ice separation
Right Answer	D			

Question No. 83	The steady-state refrigeration load in cold storage does not include which one of the following components-			
Answer Options	A)	B)	C)	D)
	Sensible heat load of the fresh produce	Heat generated inside the room	Heat incursion through the structure	Ventilation air heat load
Right Answer	A			

Question No. 84	Which statement is correct about reverse osmosis and ultra-filtration processes-			
Answer Options	A)	B)	C)	D)
	Reverse osmosis is a diffusion process while ultra-filtration is a fluid flow process	Reverse osmosis is a fluid flow process while ultra-filtration is a diffusion process	Both are diffusion processes	Both are fluid flow processes
Right Answer	A			

Question No. 85	The lowest temperature of air which could be attained by evaporative cooling process is-			
Answer Options	A)	B)	C)	D)
	Dew point temperature of air	Wet bulb temperature of air	Dry bulb temperature of air	Any temperature above 0°C
Right Answer	B			

Question No. 86	If P=Schmidt number, Q= Sherwood number and R= Reynolds number, then Stanton number can be expressed as			
Answer Options	A)	B)	C)	D)
	P/QR	R/PQ	Q/PR	None of the above
Right Answer	C			

Question No. 87	The solubility of hydrogen at 1 atm pressure is 0.052 m <sup>3</sup> (STP)/m <sup>3</sup> -atm and diffusivity of hydrogen through the rubber tube is 1.6 X 10 <sup>-8</sup> m <sup>2</sup> /s. Permeability of gas in rubber tube is			
Answer Options	A)	B)	C)	D)
	8.32 X 10 <sup>-10</sup> m <sup>3</sup> (STP)/m <sup>2</sup> -atm-s/m	7.63 X 10 <sup>-10</sup> m <sup>3</sup> (STP)/m <sup>2</sup> -atm-s/m	3.077 X 10 <sup>-8</sup> m <sup>3</sup> (STP)/m <sup>2</sup> -atm-s/m	2.803 X 10 <sup>-8</sup> m <sup>3</sup> (STP)/m <sup>2</sup> -atm-s/m
Right Answer	A			

Question No. 88	Specific speed of a centrifugal pump can be expressed as			
Answer Options	A)	B)	C)	D)
	$N_s = \frac{NQ^2}{H^{\frac{3}{4}}}$	$N_s = \frac{N\sqrt{Q}}{H^{\frac{3}{4}}}$	$N_s = \frac{Q\sqrt{N}}{H^{\frac{3}{4}}}$	$N_s = \frac{N\sqrt{Q}}{H^{\frac{4}{3}}}$
Right Answer	B			

Question No. 89	[(100 x per cent chloride)/per cent lactose] is known as			
Answer Options	A)	B)	C)	D)
	Chloride percentage	Lactose percentage	Chloride-lactose number	None of the above
Right Answer	C			



Question No. 90	Which gas produced in open dumps from the decomposition of biodegradable waste?			
Answer Options	A)	B)	C)	D)
	Ethane	Methane	Propene	Ethene
Right Answer	B			

Question No. 91	Preheating Temperature of Milk for efficient filtration/ clarification			
Answer Options	A)	B)	C)	D)
	35°C- 40°C	60°C - 65°C	75°C-80°C	20°C-30°C
Right Answer	A			

Question No. 92	Which of the following contains the highest level of Immunoglobulins (Ig) in bovine milk??			
Answer Options	A)	B)	C)	D)
	Early milk (colostrum)	Middle milk	Strippings	Pooled milk
Right Answer	A			

Question No. 93	All pathogenic organisms are _____ in nature			
Answer Options	A)	B)	C)	D)
	Psychrotrophic	Mesophilic	Thermophilic	Thermotolerant
Right Answer	B			

Question No. 94	Organisms capable of withstanding pasteurizing temperatures of 63°C/30 min			
Answer Options	A)	B)	C)	D)
	Psychrotrophic	Mesophilic	Thermophilic	Thermotolerant
Right Answer	D			

Question No. 95	Molds can grow over a pH range of _____			
Answer Options	A)	B)	C)	D)
	1.5 to 9.0	4.5 to 7.5	6.00 to 7.50	none of these
Right Answer	A			

Question No. 96	Which state is the largest milk producing state in India?			
Answer Options	A)	B)	C)	D)
	Gujarat	Rajasthan	Andhra Pradesh	Uttar Pradesh
Right Answer	D			

Question No. 97	How many electrons are required for reduction of one molecule of Nitrogen to $\text{NH}_4^+$ ?			
Answer Options	A)	B)	C)	D)
	2	4	8	16
Right Answer	C			

Question No. 98	Which of the following poses the greatest risk?			
Answer Options	A)	B)	C)	D)
	Hydroelectric plants	Biogas plants	Thermal power plants	Nuclear plants
Right Answer	B			

Question No. 99	To make artificial seed which of the following is used?			
Answer Options	A)	B)	C)	D)
	Gelrite	Sodium alginate	Perlite	Cocopeat
Right Answer	B			

Question No. 100	Anther culture yields which of the following?			
Answer Options	A)	B)	C)	D)
	Disomic plant	Haploid plant	Trisomic plant	Polyploid plant
Right Answer	B			