

### DU MCA

Sr.No	Question Id	Question Description	Question Body	Options
1	13859	DU_J19_MCA_Q01	<p>The system of linear equations</p> $\begin{pmatrix} 1 & 2 & 4 \\ 2 & 1 & 2 \\ 1 & 2 & \lambda-4 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 6 \\ 4 \\ \lambda \end{pmatrix}$ <p>has</p>	<p>25433:Unique solution if <math>\lambda \neq 6</math>,</p> <p>25434:no solution if <math>\lambda=8</math>,</p> <p>25435:Infinitely many solutions if <math>\lambda=6</math>,</p> <p>25436:infinitely many solutions if <math>\lambda \neq 8</math>,</p>
2	13860	DU_J19_MCA_Q02	<p>Let <math>z = x+iy</math> and <math>z^{1/3} = p-iq</math>. If <math>\frac{x}{p} - \frac{y}{q} = \lambda(p^2 - q^2)</math>, then <math>\lambda</math> is equal to</p>	<p>25437:2,</p> <p>25438:4,</p> <p>25439:-4,</p>

				25440: -2,
3	13861	DU_J19_MC A_Q03	Let $z = \cos\left(\frac{2\pi}{7}\right) + i \sin\left(\frac{2\pi}{7}\right)$ . Then the principal argument of $\overline{(1-z^2)}$ is equal to	$\frac{3\pi}{14}$ ∴, $\frac{4\pi}{7}$ ∴, $\frac{11\pi}{14}$ ∴, $\frac{5\pi}{7}$ ∴,
4	13862	DU_J19_MC A_Q04	The set of all $\lambda \in \mathbb{R}$ such that the sequence $\{a_n\}$ , where $a_n = \sqrt{\lambda^2 n^2 + n + 1} - n$ , $n \in \mathbb{N}$ , is convergent	25445: is an empty set, 25446: is a singleton, 25447: contains exactly two elements - 1 and 1, 25448: is equal to $\mathbb{R}$ ,

5	13863	DU_J19_MC A_Q05	<p>Let <math>T: \mathbb{R}^3 \rightarrow \mathbb{R}^3</math> be a linear transformation defined by <math>T(x) = Mx</math>, where <math>M = \begin{pmatrix} 1 &amp; 1 \\ 2 &amp; 1 \\ -1 &amp; -3 \end{pmatrix}</math>.</p> <p>Then which one of the following vectors can <b>NOT</b> be in the range of <math>T</math>?</p>	$\begin{pmatrix} 2 \\ 3 \\ -4 \end{pmatrix}$  $\begin{pmatrix} 0 \\ -1 \\ 2 \end{pmatrix}$  $\begin{pmatrix} -1 \\ 0 \\ 5 \end{pmatrix}$  $\begin{pmatrix} 1 \\ 2 \\ -1 \end{pmatrix}$	<p>25449: ,</p> <p>25450: ,</p> <p>25451: ,</p> <p>25452: ,</p>
6	13864	DU_J19_MC A_Q06	<p>Let <math>\alpha \neq 0, \alpha \in \mathbb{R}</math>. Then the matrix <math>M = \begin{pmatrix} \alpha &amp; \alpha &amp; \alpha \\ \alpha &amp; \alpha &amp; \alpha \\ \alpha &amp; \alpha &amp; \alpha \end{pmatrix}</math></p>	<p>25453: is not diagonalizable,</p> <p>25454: is an idempotent,</p> <p>25455: is nilpotent,</p> <p>25456: has different minimal and characteristic polynomials ,</p>	
7	13865	DU_J19_MC A_Q07	<p>The complex number <math>\frac{2-i\sqrt{3}}{r}</math> is the root of the quadratic equation with real coefficients</p>	<p>25457: , <math>4x^2 + 2x + 7 = 0</math></p>	

			$1+i\sqrt{3}$ described by	25458:, $2x^2 + 2x + 7 = 0$ 25459:, $4x^2 + 2x + 9 = 0$ 25460:, $2x^2 + 2x + 9 = 0$
8	13866	DU_J19_MC A_Q08	The locus of the point $(\alpha, \beta)$ such that the line $y = \alpha x + \beta$ becomes a tangent to the hyperbola $9x^2 - 4y^2 = 36$ , is	25461:, a hyperbola with eccentricity $\frac{\sqrt{5}}{2}$ 25462:, a hyperbola with eccentricity $\sqrt{5}$ 25463:, an ellipse with length of semi-major axis 3 25464:, an ellipse with eccentricity $\frac{\sqrt{3}}{2}$
9	13867	DU_J19_MC A_Q09	Using the 2-point Gauss quadrature $\int_0^2 \cos^2 x \, dx$ is equal to	25465:, $\cos^2\left(-\frac{1}{\sqrt{3}}+1\right) + \sin^2\left(\frac{1}{\sqrt{3}}+1\right)$ 25466:, $\cos^2\left(\frac{1}{\sqrt{3}}+1\right) - \cos^2\left(\frac{1}{\sqrt{3}}-1\right)$

				25467: ,	$\sin^2\left(-\frac{1}{\sqrt{3}}+1\right)-\cos^2\left(\frac{1}{\sqrt{3}}+1\right)$
				25468: ,	$\cos^2\left(-\frac{1}{\sqrt{3}}+1\right)+\cos^2\left(\frac{1}{\sqrt{3}}+1\right)$
10	13868	DU_J19_MC A_Q10	<p>If the non-zero solution <math>y(x)</math> of the differential equation <math>\frac{dy}{dx} = \frac{y^3}{e^{2x} + y^2}</math> passes through the points <math>(0, 1)</math> and <math>\left(\alpha, \frac{1}{\sqrt{e}}\right)</math>, then <math>\alpha</math> is equal to</p>	25469: ,	$\ln(\sqrt{2e})$
				25470: ,	$-\ln(2e)$
				25471: ,	$-\ln(\sqrt{2e})$
				25472: ,	$\ln(2e)$
11	13869	DU_J19_MC A_Q11	<p>. Let <math>\lambda \in \mathbb{R}</math>, and <math>f: \mathbb{R}^3 \rightarrow \mathbb{R}</math> be a function defined by <math>f(x, y, z) = x^3y + y^3z + z^3x - \lambda(xyz)</math>. if the directional derivative of <math>f</math> at the point <math>P(1, -1, 1)</math> in the direction of the unit vector <math>\hat{u} = \frac{2}{3}\hat{i} - \frac{2}{3}\hat{j} + \frac{1}{3}\hat{k}</math> is <math>-10</math>, then the gradient of <math>f</math> at <math>P</math> is equal to</p>	25473: ,	$2\hat{i} + 6\hat{k}$
				25474: ,	$-10\hat{i} + 12\hat{j} - 6\hat{k}$
				25475: ,	$6\hat{i} - 4\hat{j} + 10\hat{k}$

				25476: , $-6\hat{i} + 8\hat{j} - 2\hat{k}$
12	13870	DU_J19_MC A_Q12	Let the function $f(x,y)$ possesses continuous first order partial derivatives and $\nabla f(20, -100) = \begin{pmatrix} 5 \\ -2 \end{pmatrix}$ . If $g(x,y) = f(xy^2, 2x^2y)$ , then $\nabla g(5, -2)$ is equal to	25477: , $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$ 25478: , $\begin{pmatrix} 100 \\ -200 \end{pmatrix}$ 25479: , $\begin{pmatrix} -60 \\ -100 \end{pmatrix}$ 25480: , $\begin{pmatrix} -100 \\ 200 \end{pmatrix}$
13	13871	DU_J19_MC A_Q13	If $f(x) = e^{x^2}$ and $g(x) = \int_0^x \frac{t^2}{\sqrt{1+t^2}}$ then the value of the derivative $f'(2)$ is equal to	25481: , $\frac{1}{2\sqrt{5}}$ 25482: , $\frac{2}{\sqrt{5}}$ 25483: , $\frac{1}{\sqrt{5}}$ 25484: , $\frac{1}{\sqrt{65}}$

14	13872	DU_J19_MC A_Q14	<p>If <math>y(x)=xe^{-2x}</math> is a solution of the differential equation <math>\frac{d^2y}{dx^2} + p\frac{dy}{dx} + (q+1)y=0</math> then the ordered pair <math>(p, q)</math> is equal to</p>	<p>25485:(3, 4) ,</p> <p>25486:(4, 3) ,</p> <p>25487:(2, -1) ,</p> <p>25488:(-4, 5) ,</p>
15	13873	DU_J19_MC A_Q15	<p>Let <math>f : \mathbb{R}^2 \rightarrow \mathbb{R}</math> be defined by</p> $f(x, y) = \begin{cases} \frac{x^2 - x\sqrt{y}}{x^2 + y} & x \in \mathbb{R}, y \geq 0, (x, y) \neq (0, 0) \\ 0 & \text{otherwise} \end{cases}$ <p>Then, which one of the following is <b>NOT</b> correct?</p>	<p>25489:, <math>f</math> is not continuous at <math>(0,0)</math></p> <p>25490:, <math>f_x(0,0)</math> does not exist</p> <p>25491:, <math>f_y(0,0) = 0</math></p> <p>25492:, <math>f_x(0,0) + f_y(0,0) = 1</math></p>
16	13874	DU_J19_MC A_Q16	Which one of the following is NOT a correct statement?	25493:A non-cyclic group can have all of its proper subgroups cyclic,

			<p>25494:Every finite cyclic group has even number of generators ,</p> <p>25495:Infinite cyclic group has exactly two generators,</p> <p>25496:Every non-trivial group has at least two distinct subgroups,</p>
17	13875	DU_J19_MC A_Q17	<p>Let <math>T:R^3 \rightarrow R^3</math> be a linear transformation defined by <math>T(x, y, z)=(x - y, y - z, z - x)</math>. If <math>\text{rank}(T) = \rho</math> and <math>\text{nullity}(T) = \tau</math>, then the ordered pair <math>(\rho, \tau)</math> is equal to</p> <p>25497:(0, 3) ,</p> <p>25498:(1, 2) ,</p> <p>25499:(2, 1) ,</p> <p>25500:(3, 0),</p>
18	13876	DU_J19_MC A_Q18	<p>If <math>\int \sin^2 x \cos 3x dx = \frac{\sin x}{a} + \frac{\sin 3x}{b} - \frac{\sin 5x}{c}</math>, then <math>a + b + c</math> is equal to</p> <p>25502:22,</p>



				25503:26,  25504:30,
19	13890	DU_J19_MC A_Q19	$\lim_{x \rightarrow 0} \frac{(e^x - 1 - x)^2 \cos x}{x(\sin x - x)}$ is equal to	25557: 2/3,  25558: -3/2,  25559: 3/2,  25560:-3,
20	13878	DU_J19_MC A_Q20	If Taylor's theorem applied on the function $f(x) = \int_0^x \frac{\sin t}{t} dt$ then the value of the derivative $f^{(2)}(0)$ is equal to	25509:1/21 ,  25510:-1/12 ,  25511:1/(21)21! ,

				25512: -1/21! ,
21	13879	DU_J19_MC A_Q21	<p>The area (in square units) of the quadrilateral formed by the tangent lines drawn to the ellipse <math>\frac{x^2}{25} + \frac{y^2}{9} = 1</math> at the ends of its two latus rectums is</p>	<p>25513: , <math>\frac{125}{2}</math></p> <p>25514: , <math>\frac{125}{4}</math></p> <p>25515: , <math>\frac{75}{2}</math></p> <p>25516: , 75</p>
22	13880	DU_J19_MC A_Q22	<p>Let <math>V = M_2(\mathbb{R})</math> denotes the vector space of <math>2 \times 2</math> matrices with real entries over the real field.</p> <p>Let <math>T: V \rightarrow V</math> be defined by <math>T(P) = P^t</math> for any <math>P \in V</math>, where <math>P^t</math> is the transpose of <math>P</math>. If <math>E</math> is the matrix representation of <math>T</math> with respect to the standard basis of <math>V</math> then <math>\det(E)</math> is equal to</p>	<p>25517: 1,</p> <p>25518: 2,</p> <p>25519: -2,</p> <p>25520: -1,</p>

23	13881	DU_J19_MC A_Q23	<p>The equation <math>2x^2 + y^2 - 12x - 4y + 16 = 0</math> represents</p>	<p>25521:, an ellipse with center (2, 3)</p> <p>25522:, a hyperbola with eccentricity <math>\sqrt{2}</math></p> <p>25523:, an ellipse with eccentricity <math>\frac{1}{\sqrt{2}}</math></p> <p>25524:, a hyperbola with center (3, 2)</p>
24	13882	DU_J19_MC A_Q24	<p>If <math>f(x) = ax^3 + bx^2 + x + 1</math> has a local maxima value 3 at the point of local maxima <math>x = -2</math>, then <math>f(2)</math> is equal to</p>	<p>25525:19,</p> <p>25526:20,</p> <p>25527:24,</p> <p>25528:25,</p>
25	13883	DU_J19_MC A_Q25	<p>If the Newton-Raphson method is applied to find a real root of <math>f(x) = 2x^2 + x - 2 = 0</math> with initial approximation <math>x_0 = 1</math>. Then the second approximation <math>x_2</math> is</p>	<p>25529:, <math>\frac{56}{105}</math></p>

				25530: , $\frac{82}{105}$
				25531: , $\frac{84}{105}$
				25532: , $\frac{24}{105}$
26	13884	DU_J19_MC A_Q26	The equation of common tangent to the curve $y^2 = 8x$ and $xy = -1$ is	25533: $3y = 9x + 2$ ,  25534: $y = 2x + 1$ ,  25535: $2y = x + 8$ ,  25536: $y = x + 2$ ,
27	13885	DU_J19_MC A_Q27	The greatest value of the function $y = \sin(x) \cdot \sin(2x)$ on $(-\infty, \infty)$ is	25537: , $\frac{4}{3\sqrt{3}}$  25538: , $\frac{3}{3\sqrt{3}}$

				25539: , $\frac{2}{3\sqrt{3}}$
				25540: , 1
28	13886	DU_J19_MC A_Q28	let $f(x) = \sin^8(x) + \cos^8(x)$ . The function f increases in the interval	25541: , $(\pi/4 , \pi/2)$
				25542: , $(5\pi/4 , 3\pi/4)$
				25543: , $(\pi/2 , 5\pi/8)$
				25544: , $(0 , \pi/4)$
29	13887	DU_J19_MC A_Q29	The area of the plane region bounded by the curves $x+2y^2=0$ and $x+3y^2=1$ above x- axis is equal to	25545: 5/3,
				25546: 1//3,
				25547: 2/3,

				25548: $4/3$ ,
30	13888	DU_J19_MC A_Q30	The perimeter of the loop of the curve $9y^2 = (x-2)(x-5)^2$ is:	$4\sqrt{3}$ ;, $2\sqrt{3}$ );, 4 551;, $3\sqrt{3}$ !; ,
31	13892	DU_J19_MC A_Q31	Read the following passage and answer the subsequent questions : I'd been working with plastic bags, which I cut up and sew back together as my primary material for my artwork for the last 20 years. I turn them into two and three-dimensional pieces and sculptures and installations. After about the first eight years, some of my work started to fissure and break down into smaller little bits of plastic. It's a bad thing that plastic breaks down into smaller little bits, because it's always still plastic. And a lot of it is in the marine environment. I learned about the Pacific garbage patch. I wanted to go out there, pick up the plastic, and cold mold it into bricks to be used as building materials in underdeveloped communities. But soon I realized that I needed to look at the bigger picture first: we need to attack the source of this waste that is entering the	25565:Plastic had been the primary material for his artwork for the last 20 years,  25566:His work started to fissure and break down into smaller little bits of plastic,

			<p>marine environment every day on a global scale. Rather than the marine plastic pile what I should focus on, is the pile of plastic in the supermarket. I'd go to the supermarket and all of my food is packaged in plastic. I'm concerned about the plastic and the toxins that leach from plastic into us and into our bodies. <i>How did the writer come to be concerned about plastic waste?</i></p>	<p>25567:He realized that the bits of plastic his work broke into ultimately polluted the marine environment ,</p> <p>25568:Plastic breaks down into smaller little bits, but it turns into plastic waste,</p>
32	13893	DU_J19_MC A_Q32	<p>Read the following passage and answer the subsequent questions : I'd been working with plastic bags, which I cut up and sew back together as my primary material for my artwork for the last 20 years. I turn them into two and three-dimensional pieces and sculptures and installations. After about the first eight years, some of my work started to fissure and break down into smaller little bits of plastic. It's a bad thing that plastic breaks down into smaller little bits, because it's always still plastic. And a lot of it is in the marine environment. I learned about the Pacific garbage patch. I wanted to go out there, pick up the plastic, and cold mold it into bricks to be used as building materials in underdeveloped communities. But soon I realized that I needed to look at the bigger picture first: we need to attack the source of this waste that is entering the marine environment every day on a global scale. Rather than the marine plastic pile what I should focus on, is the pile of plastic in the supermarket. I'd go to the supermarket and all of my food is packaged in plastic. I'm concerned about the plastic and the toxins that leach from plastic into us and into our bodies. <i>What does he mean by "the bigger picture"?</i></p>	<p>25569:Plastic waste that is entering the marine environment regularly,</p> <p>25570:The massive use of plastic packaging for consumer items ,</p> <p>25571:Toxins leaching from plastic into us and into our bodies,</p> <p>25572:Plastic waste cold-molded into bricks to be used as building materials,</p>

33	13894	DU_J19_MC A_Q33	<p>Read the following passage and answer the subsequent questions : I'd been working with plastic bags, which I cut up and sew back together as my primary material for my artwork for the last 20 years. I turn them into two and three-dimensional pieces and sculptures and installations. After about the first eight years, some of my work started to fissure and break down into smaller little bits of plastic. It's a bad thing that plastic breaks down into smaller little bits, because it's always still plastic. And a lot of it is in the marine environment. I learned about the Pacific garbage patch. I wanted to go out there, pick up the plastic, and cold mold it into bricks to be used as building materials in underdeveloped communities. But soon I realized that I needed to look at the bigger picture first: we need to attack the source of this waste that is entering the marine environment every day on a global scale. Rather than the marine plastic pile what I should focus on, is the pile of plastic in the supermarket. I'd go to the supermarket and all of my food is packaged in plastic. I'm concerned about the plastic and the toxins that leach from plastic into us and into our bodies. Why does author want to go to the Pacific?</p>	<p>25573:To pick up the plastic and cold mold it into bricks. ,</p> <p>25574:To see the plastic garbage there,</p> <p>25575:To throw more plastic there.,</p> <p>25576:For sight seeing,</p>
34	13895	DU_J19_MC A_Q34	<p>Read the following passage and answer the subsequent questions : I'd been working with plastic bags, which I cut up and sew back together as my primary material for my artwork for the last 20 years. I turn them into two and three-dimensional pieces and sculptures and installations. After about the first eight years, some of my work started to fissure and break down into smaller little bits of plastic. It's a bad thing that plastic breaks</p>	<p>25577:All the items are packed in paper.,</p>



			<p>little bits of plastic. It's a bad thing that plastic breaks down into smaller little bits, because it's always still plastic. And a lot of it is in the marine environment. I learned about the Pacific garbage patch. I wanted to go out there, pick up the plastic, and cold mold it into bricks to be used as building materials in underdeveloped communities. But soon I realized that I needed to look at the bigger picture first: we need to attack the source of this waste that is entering the marine environment every day on a global scale. Rather than the marine plastic pile what I should focus on, is the pile of plastic in the supermarket. I'd go to the supermarket and all of my food is packaged in plastic. I'm concerned about the plastic and the toxins that leach from plastic into us and into our bodies. What does the author find in supermarket?</p>	<p>25578:Bricks made of plastic,</p> <p>25579:All of his food is packaged in plastic,</p> <p>25580:Plastic does not create any problem,</p>
35	13897	DU_J19_MC A_Q35	<p>Read the following passage and answer the subsequent questions : Recycling – everybody kind of ends their books about being sustainable and greening with the idea of recycling. You put something in a bin and you don't have to think about it again. What is the reality of that? In the United States, less than seven percent of the plastics are recycled, or incinerated, or shipped to China. It is down-cycled and turned into lesser things -- a plastic bottle can never be a plastic bottle again. We, a group of people concerned about plastic pollution, have added a fourth R onto the front of the "Reduce, Reuse, Recycle," and that is refuse. Whenever possible, refuse single-use and disposable plastics. Alternatives exist: I myself am now collecting these cool Pyrex</p>	<p>25585:We simply throw our plastic waste into trash bin.,</p> <p>25586:We only write about the need to recycle,</p> <p>25587:Not much of plastic waste is really recycled,</p>

			containers and using those instead of plastic containers to store food in. And I know that I am doing a service to myself and my family. It is a problem that we've created as consumers and we have to solve it –We can solve this by raising awareness of the issue and teaching people to choose alternatives. <i>Why does the author think recycling is not the right solution?</i>	25588:Plastic waste is only down-cycled which again turns into waste in course of time ,
36	13898	DU_J19_MC A_Q36	Read the following passage and answer the subsequent questions : Recycling – everybody kind of ends their books about being sustainable and greening with the idea of recycling. You put something in a bin and you don't have to think about it again. What is the reality of that? In the United States, less than seven percent of the plastics are recycled, or incinerated, or shipped to China. It is down-cycled and turned into lesser things -- a plastic bottle can never be a plastic bottle again. We, a group of people concerned about plastic pollution, have added a fourth R onto the front of the "Reduce, Reuse, Recycle," and that is refuse. Whenever possible, refuse single-use and disposable plastics. Alternatives exist; I myself am now collecting these cool Pyrex containers and using those instead of plastic containers to store food in. And I know that I am doing a service to myself and my family. It is a problem that we've created as consumers and we have to solve it –We can solve this by raising awareness of the issue and teaching people to choose alternatives. <i>Mark the statement that is NOT true:</i>	25589:In USA seven percent plastic waste is recycled ,  25590:Down-cycling only converts used plastic into another inferior plastic product,  25591:The writer suggests we should refuse to use, as far as possible, single-use and disposable plastics,  25592:People should prefer to use alternatives wherever possible,
37	13899	DU_J19_MC A_Q37	Read the following passage and answer the subsequent questions : Recycling – everybody kind of ends their books about being sustainable and greening with the idea of recycling. You put something in a bin and you don't have to think about it again. What is the reality of	25593:Refuse single-use and disposable plastics.,

			<p>don't have to think about it again. What is the reality of that? In the United States, less than seven percent of the plastics are recycled, or incinerated, or shipped to China. It is down-cycled and turned into lesser things -- a plastic bottle can never be a plastic bottle again. We, a group of people concerned about plastic pollution, have added a fourth R onto the front of the "Reduce, Reuse, Recycle," and that is refuse. Whenever possible, refuse single-use and disposable plastics. Alternatives exist; I myself am now collecting these cool Pyrex containers and using those instead of plastic containers to store food in. And I know that I am doing a service to myself and my family. It is a problem that we've created as consumers and we have to solve it -- We can solve this by raising awareness of the issue and teaching people to choose alternatives. What service is writer doing to his family?</p>	<p>25594:Using Pyrex containers to store food.,</p> <p>25595:Using only those food items which are packaged in Pyrex.,</p> <p>25596:None of these,</p>
38	13901	DU_J19_MC A_Q38	<p>Read the following passage and answer the subsequent questions : Milk contains a type of sugar called lactose. When we are babies, our bodies make a special enzyme called lactase that allows us to digest the lactose in our mother's milk. But after we are weaned in early childhood, for many people this stops. Without lactase, we cannot properly digest the lactose in milk. But then evolution kicked in: some people began to keep their lactase enzymes active into adulthood. This "lactase persistence" allowed them to drink milk without side effects. It is the result of mutations in a section of DNA that controls the activity of the lactase gene. But in many populations, such as those in Africa, in Asia and South America, the trait is uncommon. Even people who are lactase-non-persistent exploit the option of processing milk into butter, yoghurt, cream or cheese -- all of which have reduced amount of lactose. There is clearly a pattern behind which populations evolved high</p>	<p>25601:All babies can drink and digest milk but some grownups cannot digest any milk,</p> <p>25602:An enzyme called lactase allows us to digest mother's milk in our infancy, but in case of some people their bodies stop producing it as they</p> <p>25603:Some grownups cannot digest milk as a result of mutations in a section of their DNA that controls the activity of the lactase gene,</p>

			<p>levels of lactase persistence and which didn't, says a genetics professor Dallas Swallow of University College London. Those with the trait are pastoralists: people who raise livestock. Hunter-gatherers, who do not keep animals, did not acquire the mutations. Neither did "forest gardeners" who cultivated plants. But milk consumption is going down, says a study. Statistics tell a different story. While milk consumption has fallen in the US, in Asia demand is growing, where most people are non-lactase-persistent. Whatever advantages the people there see in milk, they outweigh the potential digestive issues or the need to process the milk. <i>Why is it that some grownups can drink and digest milk while others cannot digest it?</i></p>	<p>25604: The presence of an enzyme called lactose in milk hinders digestion of milk in some people,</p>
39	13902	DU_J19_MC A_Q39	<p>Read the following passage and answer the subsequent questions : Milk contains a type of sugar called lactose. When we are babies, our bodies make a special enzyme called lactase that allows us to digest the lactose in our mother's milk. But after we are weaned in early childhood, for many people this stops. Without lactase, we cannot properly digest the lactose in milk. But then evolution kicked in: some people began to keep their lactase enzymes active into adulthood. This "lactase persistence" allowed them to drink milk without side effects. It is the result of mutations in a section of DNA that controls the activity of the lactase gene. But in many populations, such as those in Africa, in Asia and South America, the trait is uncommon. Even people who are lactase-non-persistent exploit the option of processing milk into butter, yoghurt, cream or cheese – all of which have reduced amount of lactose. There is clearly a pattern behind which populations evolved high levels of lactase persistence and which didn't, says a genetics professor Dallas Swallow of University College London. Those with the trait are pastoralists: people</p>	<p>25605: Evolution worked in different ways with people in different areas,</p> <p>25606: The need to drink milk to avoid starvation led to evolution of lactase-persistence in people earlier deficient in this enzyme.</p> <p>25607: People whose lives centred around livestock came to retain it.,</p>

			<p>who raise livestock. Hunter-gatherers, who do not keep animals, did not acquire the mutations. Neither did "forest gardeners" who cultivated plants. But milk consumption is going down, says a study. Statistics tell a different story. While milk consumption has fallen in the US, in Asia demand is growing, where most people are non-lactase-persistent. Whatever advantages the people there see in milk, they outweigh the potential digestive issues or the need to process the milk. <i>How did some populations come to retain lactase-persistence while very many others did not as they grew up?</i></p>	<p>25608:It is a genetic characteristic; in many populations, such as those in Africa, in Asia and South America, this trait is uncommon,</p>
40	13903	DU_J19_MC A_Q40	<p>Read the following passage and answer the subsequent questions : Milk contains a type of sugar called lactose. When we are babies, our bodies make a special enzyme called lactase that allows us to digest the lactose in our mother's milk. But after we are weaned in early childhood, for many people this stops. Without lactase, we cannot properly digest the lactose in milk. But then evolution kicked in: some people began to keep their lactase enzymes active into adulthood. This "lactase persistence" allowed them to drink milk without side effects. It is the result of mutations in a section of DNA that controls the activity of the lactase gene. But in many populations, such as those in Africa, in Asia and South America, the trait is uncommon. Even people who are lactase-non-persistent exploit the option of processing milk into butter, yoghurt, cream or cheese – all of which have reduced amount of lactose. There is clearly a pattern behind which populations evolved high levels of lactase persistence and which didn't, says a genetics professor Dallas Swallow of University College London. Those with the trait are pastoralists: people who raise livestock. Hunter-gatherers, who do not keep animals, did not acquire the mutations. Neither did "forest gardeners" who cultivated plants. But milk</p>	<p>25609:The enzyme lactase helps us digest milk in our infancy,</p> <p>25610:People who are non-lactase-persistent can use milk products like cheese as they are lactose-deficient,</p> <p>25611:Lactase-deficient or not, because of its health benefits, people everywhere drink milk ,</p>

			<p>consumption is going down, says a study. Statistics tell a different story. While milk consumption has fallen in the US, in Asia demand is growing, where most people are non-lactase-persistent. Whatever advantages the people there see in milk, they outweigh the potential digestive issues or the need to process the milk. <i>Mark the statement that is NOT true:</i></p>	<p>25612:It is interesting to note that milk consumption is going up in non-lactase persistent populations of Asia,</p>
41	13905	DU_J19_MC A_Q41	<p>Which of the following operands have equal precedence, in C programming language?</p> <p>I     []  II     &amp;  III    &lt;=  IV     ()</p>	<p>25617:I and II,</p> <p>25618:II and III ,</p> <p>25619:I and IV ,</p> <p>25620:II and IV ,</p>
42	13906	DU_J19_MC A_Q42	<p>The operator <code>a &lt;&lt; b</code> shifts binary representation of integer 'a' by 'b' bit _____, in C programming language.</p>	<p>25621:Circularly left ,</p> <p>25622:Circularly right ,</p>

				25623:Left ,  25624:Right ,
43	13907	DU_J19_MC A_Q43	Two's complement of 00000000 is	25625:11111111 ,  25626:00000000 ,  25627:10101010 ,  25628:01010101 ,
44	13908	DU_J19_MC A_Q44	Study the following C code  <pre>main() { int i = 4 ;   int j = 10 ;   Statements   of the program   if(j &gt; 0)   { int i = 44 ;     Statements     of the program</pre>	25629:Only I is true,  25630:Only II is true,





				25638:6,  25639:7,  25640:8,
47	13911	DU_J19_MC A_Q47	Average of ten numbers in a list is 25.If one of the numbers in the list is exchanged with another number the average of the new list increases by 5. What is the new number included in the list , if the original number was 15?	25641:50,  25642:60,  25643:65,  25644:70,
48	13912	DU_J19_MC A_Q48	How much of acid is in the 10 liter of a 60% solution, of acid and water solution?	25645:18 ,  25646:12 ,

				25647:10 ,  25648:6 ,
49	13913	DU_J19_MC A_Q49	What is the next term in the series? 2, 7, 14, 23, 34, _____	25649:45,  25650:47,  25651:51,  25652:53,
50	13914	DU_J19_MC A_Q50	The code of DOG is ITL , what is the code of ITL?	25653:NYQ ,  25654:MXP,  25655:DOG,

					25656:JUM,
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