Test Booklet No. _____

This booklet consists of 100 questions and 12 printed pages.

RGUCET/____/___

Series NIL

RGUCET 2023

M.Sc. in MATHEMATICS

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). 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 15 minutes after the commencement of the entrance test or leave the examination hall before 30 minutes of end 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 candidate(s) is/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, RGU shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

1	Which among the following countries was the earliest to give women the right to vote?				c)	New Zealand
	a)Iceland	b)India	c) New Zealand	d) U.S.A		
2	What is the apparent weight of the person when the elevator is accelerating downwards?					
	a)Equal to actual weight	b)Greater than actual weight	c)Less than actual weigh	d) 0	c	Less than actual weight
3	India's first water metro was recently inaugurated in which state/UT?					
	a) Kerala	b) Goa	c) West Bengal	d) Maharashtra	a	Kerala
4	Which operation has been launched by the government to evacuate Indians from trouble-torn Sudan?					
	a)Operation Polo	b)Operation Shakti	c)Operation Kaveri	d)Operation Durga	c	Operation Kaveri
5	Who launched the world's largest and most powerful rocket "Starship' which resulted in massive failure?					
	a) ISRO	b) European Space Agency	c) NASA	d) SpaceX	d	SpaceX
6	What is the name of the first cruise ship ever built in India?					MV Ganga Vilas
	a)MV Jamuna Vilas	b) MV Ganga Vilas	c) MV Godavari Vilas	d)MV Brahmaputra Vilas	b)	
7	Asia's largest helicopter manufacturing facility recently inaugurated in					
	a)Tamil Nadu	b) Punjab	c) Maharashtra	d)Karnataka	d)	Karnataka
8	Which of the following is not the function of skin?					
	a)Calcium production	b)Protection	c)Excretion of waste	d)Temperature regulation	a	Calcium production
9	Which of the following is not an award for Mathematics?					
	a) Noble Prize	b) Field Medal	c) Abel Prize	d)SASTRA Ramanujan	a	Noble Prize

				Prize		
10	A computer stores its data in memory in					
	a) Decimal form	b) Hexadecimal form	c) Binary form	d) Octal form	c	Binary form
11	Select the related words. If **Energy: Joule**, then					
	a)Axe: Grind	b)Resistance: Ohm	c)Power: Ampere	d) Current: Ammeter	b	Resistance: Ohm
12	India's P V Sindhu won which medal/position in the Asian Championships 2022?				c	Bronze
	Gold	b) Silver	c) Bronze	d) Fourth Place		
13	Which king ruled Magadha after the Mauryan dynasty?					
	a) Haryanka dynasty	b) Nanda Dynasty	c) Shishunag dynasty	d) Shunga Dynasty	d	Shunga Dynasty
14	Identify the error. He / has married / her / last month.					
	a) He	b) has married	c) her	d) last month	b	has married
15	Which of the following is a statement?					
	a) Open the door.	b) Do your homework.	c) Switch on the fan.	d) Two plus two is four.	d	Two plus two is four.
16	A person who pretends to be what he is not is called					
	a)Imposter	b) Fraud	c)Imitator	d) Imbiber	a	Imposter
17	Were you a bird, you _____ in the sky.					
	a) would fly	b) shall fly	c) should fly	d) shall have flown	a	would fly
18	Pick out the most effective word from the given words to fill in the blanks: I saw a _____ of cows in the field					
	a) group	b) herd	c)) swarm	d)flock	b	herd
19	Jawaharlal spent his childhood _____ Anand Bhawan.					

	a)at	b)in	c)on	d)across	a	at
20	Word or phrase which is most nearly to the word **Precarious** is					
	a) Huge	b) uncertain	c) Dangerous	d) valuable	c	Dangerous
21	Opposite of foremost is					
	a) Premature	b) Disposed	c) Unimportant	d) Mature	c	Unimportant
22	In a coding system, 'SHEEP' is written as 'GAXXR' and 'BLEAT' as 'HPXTN'. How can 'SLATE' be written in that same coding system?					
	a) GPTXN	b)PTGXN	c) GPXNT	d)GPTNX	d	GPTNX
23	If 8th February, 2005 was a Tuesday, what was the day on 8th February 2004?					
	a) Sunday	b)Monday	c)Tuesday	d)Wednesday	a	Sunday
24	If IMHO=JNIP; IDK=JEL and SO=TP, then IDC=					
	a) JDE	b)JCD	c)JED	d)JDC	c	JED
25	If DELHI is coded as 73541 and CALCUTTA as 82589662, then CALICUT will be coded as					
	a) 5279431	b) 8543691	c) 5978013	d) 8251896	d	8251896
26	Let $G = \{2^r : r = 0, \pm 1, \pm 2, \cdots\}$ and $' * '$ be the usual multiplication operation. Then					
	a) $(G,*)$ is not a group.	b) $(G,*)$ is a group but not abelian.	c) $(G,*)$ is abelian but does not form a group	d) $(G,*)$ is an abelian group.	d	$(G,*)$ is an abelian group
27	Let $U = \{1, 3, 7, 9, \ 11, \ 13, 17, 19\}$ be the group under the multiplication modulo 20. Which of the following is not a subgroup of U?					
	a) $H = \{1, 11\}$	b) $K = \{1, 9, 13, 17\}$	c) $L = \{1, 7, 13, 19\}$	d) $M = \{1, 3, 7, 9\}$	c	$L = \{1, 7, 13,$
28	Let $(\mathbb{Z}, +)$ be a group of integers under addition operation, and $H_1 = \{2n : n \in \mathbb{Z}\}$ and $H_2 = \{3n : n \in \mathbb{Z}\}$. Which of the following a true?					

	a) $H_1 \cap H_2$ is a subgroup of $(\mathbb{Z}, +)$.	b) $H_1 \cup H_2$ is a subgroup of $(\mathbb{Z}, +)$.	c) H_1 is a subgroup of $(\mathbb{Z}, +)$ but H_2 is not.	d) Neither H_1 nor H_2 are subgroups of $(\mathbb{Z}, +)$.	a	$H_1 \cap H_2$ is a subgroup of $(\mathbb{Z}, +)$.
29	The number of even permutations of in a permutations of N symbols is always					
	a) $\frac{1}{2}N$	b) $\frac{1}{2}(N-1)!$	c) $\frac{1}{2}N!$	d) $\frac{1}{2}(N+1)$	c	$\frac{1}{2}N!$
30	Let $M = \left\{ \begin{bmatrix} x & x \\ x & x \end{bmatrix} : x \neq 0 \text{ is a real number} \right\}$ be a group under the operation of matrix multiplication. Then the identity element in M is					
	a) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	b) $\begin{bmatrix} 1 & 0 \\ 1/2 & 1/2 \end{bmatrix}$	c) $\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$	d) $\begin{bmatrix} 1/2 & 1/2 \\ 1/2 & 1/2 \end{bmatrix}$	d	$\begin{bmatrix} 1/2 & 1/2 \\ 1/2 & 1/2 \end{bmatrix}$
31	Let G be a finite group of order p and H is a non-empty subset of G of order q such that q divides p. Then H is a subgroup of G if					
	a) G is an abelian.	b) G is a cyclic.	c) Identity elements in G and H are different.	d) H is a cyclic but G is not.	b	G is a cyclic
32	Let G is a finite cyclic group of order p, where p is a prime. Then the number of generators of G is					
	a) $p/2$	b) $(p-1)/2$	c) $p-1$	d) $(p+1)/2$	c	$p-1$
33	A group $(G,*)$ Is abelian if for all $x, y \in G$,					
	a) $x * y = y * x$	b) $x * y = x + y$	c) $x * y = (y + x)$	d) $x * y = (y * x) + 1$	a	$x * y = y * x$
34	A subgroup H of a group is a normal subgroup of G if for all $g \in G$ and $h \in H$,					
	a) $h^{-1}gh \in H$	b) $g^{-1}hg \in H$	c) $h^{-1}gh \in G$	d) $g^{-1}hg \in G$	b	$g^{-1}hg \in H$
35	A ring $(R, +, \cdot)$ is commutative if, for all $x, y \in R$,					
	a) $x + y = y + x$	b) $x \cdot y = y + x$	c) $x \cdot y = y \cdot x$	d) $x \cdot y + x = y \cdot x + y$	c	$x \cdot y = y \cdot x$
36	Which of the following is not an integral domain? ($\mathbb{N}, \mathbb{R}, \mathbb{C}, \mathbb{Q}$ *denote the sets of natural numbers, real numbers, complex numbers and*					

	rational numbers, respectively.)					
	a) $(\mathbb{N}, +, \cdot)$	b) $(\mathbb{R}, +, \cdot)$	c) $(\mathbb{C}, +, \cdot)$	d) $(\mathbb{Q}, +, \cdot)$	a	$(\mathbb{N}, +, \cdot)$
37	Which of the following is not true about a field?					
	a) Every field is an integral domain.	b) Every integral domain is a field.	c) Every non-zero element in a field has a multiplicative inverse.	d) Every field is a commutative ring.	b	Every integral domain is a field.
38	If for integer a and m, $\gcd(a, m) = 1$ and $a^{m-1} \equiv 1(mod\ m)$, then					
	a) m is always a prime	b) m is never prime	c) m is a multiple of a always	d) m may or may not be a prime.	d	m may or may not be a prime.
39	Which of the following set is a reduced residue system modulo 4?					
	a) $\{0, 4, 8, 1$	b)) $\{5, 7\}$	c)) $\{4, 5, 7, 10\}$	d)) $\{1, 2, 6, 9\}$	b	$\{5, 7\}$
40	The number of incongruent solutions of the linear congruence $18x \equiv 30(mod\ 42)$ is					
	a) 1	b) 7	c) 6	d) 12	c	6
41	The value of x such that $2^{50} \equiv x(mod\ 7)$ is					
	a) 2	b) 4	c) 6	d) 8	b	4
42	If p is an odd prime, then					
	a) $(p - 1) \equiv 1(mod\ p)$	b) $(p-1)! + 1 \equiv 0(mod\ p)$	c) $(p-1)! \equiv 1(mod\ p)$	d) $(p+1)! \equiv 1(mod\ p)$	c	$(p-1)! \equiv 1(mod\ p)$
43	Necessary condition to apply the Chinese Remainder Theorem to solve the simultaneous congruences $x \equiv a(mod\ M), x \equiv b(mod\ N)$ is					
	a) $\gcd(M, N)$ 1	b)$\gcd(M, N) >$ 1	c) $\gcd(a, M) = \gcd(b, N)$	d) $\gcd(a, b) =$ 1	a	$\gcd(M, N) = 1$
44	The number of positive integer solution of the Diophantine equation$3x + 2y = 6$ is					
	a) 1	b) 2	c) 3	d) 0	d	0

45	Prime numbers of the form$2^n - 1$, where n is a positive integer, are called					
	a) Fermat primes	b) Merssene primes	c) Fibonacci primes	d)Harmonic primes	b	Merssene primes
46	Which of the following is incorrect about complex numbers?					
	a) $\|z\|^2 = z\,\overline{z}$	b) $\|z_1 - z_2\| \geq \|z_1\| - \|z_2\|$	c) $\overline{z_1 + z_2} \leq \overline{z_1} + \overline{z_2}$	d) $\overline{\left(\frac{z_1}{z_2}\right)} = \frac{\overline{z_1}}{\overline{z_2}}$, $z_2 \neq 0$.	c	$\overline{z_1 + z_2} \leq \overline{z_1} + \overline{z_2}$
47	If $z_1 = -1$ and $z_2 = i$, then the argument of $(z_1 z_2)$ is					
	a) $-3\pi/2$	b) $\pi/4$	c) $-\pi/2$	d) $3\pi/2$	d	$3\pi/2$
48	If $f(z) = (z/\overline{z})$, then $\lim_{z\to 0} f(z)$					
	a) 0	b) 1	c)-1	d) does not exist	d	does not exist
49	If the complex numbers z_1, z_2 and z_3 are in arithmetic progression, then they must lie on					
	a) a hyperbola	b) a circle	c) a straight line	d) a parabola	c	a straight line
50	If a function $f(z) = u(x,y) + iv(x,y)$ is analytic, then					
	a) $u(x,y)$ is harmonic but $v(x,y)$ is not.	b) $v(x,y)$ is harmonic but $u(x,y)$ is not.	c) neither $u(x,y)$ nor $v(x,y)$ is harmonic.	d) both $u(x,y)$ and $v(x,y)$ are harmonic.	d	both $u(x,y)$ and $v(x,y)$ are harmonic.
51	The value of $\mathbf{sin}(\mathbf{log}\, \boldsymbol{i}^{\boldsymbol{i}})$ is				b	-1
	a) 1	b) -1	c) $1 + i$	d) $1 - i$		
52	If x is a real solution of the equation $(1 - ix) = (1 + ix)(a - ib)$, then					
	a) $a^2 - b^2 = 1$	b) $a^2 + b^2 = 1$	c) $a^2 + b^2 = 0$	d) $a^2 - b^2 = 0$	b	$a^2 + b^2 = 1$
53	If a polynomial $f(x)$ is divided by a binomial $(x - A)$, then the remainder is					
	a) $f(A)$	b) $A + f(A)$	c) $f(A) - A$	d) A	a	$f(A)$

54	If α, β, γ and δ are roots of the equation $x^4 + x^3 - 16x^2 - 4x + 48 = 0$, then $\alpha + \beta + \gamma + \delta$ is equal to					
	a) 1	b) -4	c) 48	d) -1	d	-1
55	If two rows or two columns of a determinant are same then the value of the determinant is always					
	a) 0	b) 1	c) 2	d) -1	a	0
56	If $1, \omega$ and ω^2 are cube roots of the unity, then $\begin{vmatrix} 1 & \omega & \omega^2 \\ \omega & \omega^2 & 1 \\ \omega^2 & 1 & \omega \end{vmatrix}$ is equal to					
	a)3	b) -1	c) 0	d) 1	c	0
57	The equation $x^5 - x^4 + x^3 - 2x^2 - 3 = 0$ has					
	a) no negative roots	b) all negative roots	c) three negative roots	d) at least one negative roots	a	no negative roots
58	A square matrix M is said to be symmetric if and only if					
	a) $\det(M) = \lvert M \rvert = 0$	b) $\det(M) = \lvert M \rvert \neq 0$	c) $M = (transpose\ of\ M)$	d) $-M = (transpose\ of\ M)$	c	$M = (transpo$
59	Let (X, d) be a metrics space and A be a subset of X. Then a point $x \in X$ is a limit point of A if for any open sphere $S_r(x)$ centered at x and radius $r > 0$,					
	a) $S_r(x) \cap A \neq \emptyset$	b)) $(S_r(x) - \{x\}) \cup A \neq \emptyset$	c) $(S_r(x) - \{x\}) \cap A \neq \emptyset$	d) $(S_r(x) - \{x\}) \cap A = \emptyset$	c	$(S_r(x) - \{x\}) \cap A \neq \emptyset$
60	Let (X, d) be a discrete metric space. Then for $0 < r < 1$, closed sphere $S_r[x_0]$ centred at $x_0 \in X$ is					
	a) X	b) $X - \{x_0\}$	c) $\{x_0\}$	d) $\emptyset$	c	$\{x_0\}$
61	In a metric space, ever Cauchy sequence ...					
	a) has a convergent sub sequence	b) is bounded	c) is unbounded	d) convergent.	b	bounded
62	If A, B and C are mutually exclusive events such that $P(A) = (3/2)P(B)$ and $P(C) = (1/2)P(B)$. Then $P(A)$ is _					

	$(P(\cdot)denotes\ probability\ of\ an\ event.)$					
	a) 4/13	b) 3/4	c) 12/13	d) 13/12	a	4/13
63	If A and B are independent events, then					
	a) $P(A \cap B) = 0$	b) $P(A \cap B) = P(A) + P(B)$	c) $P(A \cap B) = P(A)P(B)$	d) $P(A \cap B) = 1/2$	c	$P(A \cap B) = P(A)P(B$
64	The differential equation $\left(\frac{d^2y}{dx^2}\right)^2 - \frac{dy}{dx} - y^3 = 0$ has degree:					
	a)0.5	b)2	c)3	d)4	b)	2
65	The differential equation of the family of curves $y(x) = A\cos\mu x + B\sin\mu x$, where A and B are arbitrary constants, is given by					
	a)$\frac{d^2y}{dx^2} + \mu y = 0$	b)$\frac{d^2y}{dx^2} - \mu y = 0$	c)$\frac{d^2y}{dx^2} + \mu^2 y = 0$	d)$\frac{d^2y}{dx^2} - \mu^2 y = 0$	c)	$\frac{d^2y}{dx^2} + \mu^2 y = 0$
66	Which of the following differential equation is linear?					
	a)$\frac{dy}{dx} + x^2y^2 = \sin y$	b)$\frac{dy}{dx} - x^2y = \sin x$	c)$(1 + y)\frac{dy}{dx} + \sin x = 0$	d)$\frac{dy}{dx} + y(x + y) = x^2$	b)	$\frac{dy}{dx} - x^2y = \sin x$
67	The differential equation $\frac{dy}{dx} + P(x)y = Q(x)y^n$ is called:				d)	Bernoulli's equation
	a)Auxiliary equation	b)Euler's equation	c)Linear equation	d) Bernoulli's equation		
68	The differential equation $y = x\frac{dy}{dx} + f\left(\frac{dy}{dx}\right)$ is known as:					
	a)Bernoulli's equation	b) Clairut's equation	c) Linear equation	d)Exact equation	b)	Clairut's equation
69	The solution of the differential equation $\left(\frac{dy}{dx}\right)^2 - 5\frac{dy}{dx} + 6 = 0$ is					
	a)(a) $y = x + c$	b)$y^2 = x + c$	c)$(y - 2x - c)(y - 3x - c) = 0$	d) none of these	c)	$(y - 2x - c)(y - 3x - c) = 0$
70	If $f(D)y = 0$, where $D \equiv \frac{d}{dx}$, be a linear differential equation with					

	constant coefficients, then its auxiliary equation is				b)	$f(m)=0$
	a)$f(D-m)=0$	b)$f(m)=0$	c)$f(e^m)=0$	d) none of these		
71	The number system with base 2 is known as:				b)	Binary system
	a)Decimal system	b) Binary system	c) Octal system	d) Hexadecimal system		
72	What is the result of the binary addition performed on the numbers 0010 and 0111?				a)	1001
	a)1001	b)0101	c) 0110	d) 1111		
73	The C language consists of -------- number of keywords.				b)	32
	a)40	b)32	c)33	d)56		
74	C programming language was developed by				b)	Dennis Ritchie
	a) Ken Thompson	b) Dennis Ritchie	c)Bill Gates	d) Peter Norto		
75	Which is the correct way to declare a pointer?				b)	int *ptr;
	a)int_ptr;	b) int *ptr;	c) *int ptr;	d) ptr_int;		
76	Which is more appropriate for reading in a multi-word string?				b)	gets( )
	a)printf( )	b) gets( )	c) scanf( )	d) puts( )		
77	The processor of translating a source program into machine language is a function of:				c)	Compiler
	a)Translator	b)Assembler	c)Compiler	d) none of these		
78	The operator + in $x+=5$ means				a)	$x=x+5$
	a)$x=x+5$	b)$x+5=x$	c)$x=5+1$	d)$x=5+5$		
79	Which of the following is uniformly continuous on [0,1]?					

	a)$f(x) = x^2$	b)$f(x) = \sin x^2$	c)$f(x) = 1/x$	d)$f(x) = \frac{x}{1+x}$	d	$f(x) = \frac{x}{1+x}$
80	The value of $\lim_{x\to 0}\left(\frac{1-\cos x}{3x^2}\right)$					
	a) 0	b) 1/3	c) 1/6	d) 1/9	c	1/6
81	Which is an example of infinitely oscillatory sequence?					
	a)$\langle(-1)^n/n\rangle$	b)$\langle(-1)^n n\rangle$	c)$\langle(-1)^{n^2}\rangle$	d)$\langle(-1)^n/n^2\rangle$	b	$\langle(-1)^n n\rangle$
82	If $f(x+1) + f(x-1) = 2f(x)$ and $f(0) = 0$, then $f(n)$, where $n \in \mathbb{N}$, is					
	a)$nf(1)$	b)0	c)n	d)$(f(1))^n$	a	$nf(1)$
83	The function $f(x) = \sin 1/x$ at x=0 has a					
	a)Discontinuity of first kind	b)Discontinuity of second kind	c)Mixed continuity	d)Removable discontinuity	b	Discontinuity of second kind
84	The number of asymptotes of a curve of nth degree is					
	a)At least one	b)At least n	c)At most n	d)At most 1	c	At most n
85	The radius of curvature of the origin, if y axis is the tangent at the origin, is given by					
	a)$\lim_{x\to 0}\frac{x^2}{2y}$	b)$\lim_{x\to 0}\frac{x^2}{y}$	c)$\lim_{x\to 0}\frac{y^2}{x}$	d)$\lim_{x\to 0}\frac{y^2}{2x}$	d	$\lim_{x\to 0}\frac{y^2}{2x}$
86	The radius of convergence of the series $\sum_{n=0}^{\infty} k^n x^n$ is					
	a) 1	b) k	c) 1/k	d)$(1/k)^n$	c	1/k
87	The nth derivative of $(ax + b)^{-1}$ is					
	a)$\frac{(-1)^n n! a^n}{(ax+b)^{n+1}}$	b)$\frac{n! a^n}{(ax+b)^n}$	c)$\frac{(-1)^n n! a^n}{(ax+b)^n}$	d) 0	a	$\frac{(-1)^n n!\, a^n}{(ax+b)^{n+1}}$
88	If $y = a\,log\,x + bx^2 + x$ has its extremum at $x = -1$ and $x = 2$, then					
	a)$a = 2, b = -1/2$	b)$a = 2, b = -1$	c)$a = -2, b = -1/2$	d)$a = -2, b = 1/2$	a	$a = 2, b = -1/2$
89	A double point on the curve is a cusp if tangents are					
	a)Real and coincident	b)Imaginary and distinct	c)Real and distinct	d)Imaginary and	a	Real and coinciden

				coincident		t
90	Which of the following statement is false?					
	a)All partially ordered sets are not lattice.	b)The product of two lattices is a lattice.	c)The union of two sublattices of a lattice is a sublattice.	d)Every finite lattice is complete.	c	The union of two sublattices of a lattice is a sublattice.
91	The dual of the Boolean expression $x(y'z' + yz)$ is					
	a)$x + y + z$	b)$x + (y' + z')(y + z)$	c)$x + (y + z)(y + z)$	d)$x + (y' + z') + (y + z)$	b	$x + (y' + z')(y + z)$
92	Which of the following is not a chain? ('/' is division)					
	a)$(\mathbb{Z}^+,/)$	b)$(A,/)$, where $A = \{2,6,12,36\}$	c)$(\mathbb{Z}, \leq)$	d)$(\mathbb{Z}^+, \leq)$	a	$(\mathbb{Z}^+,/)$
93	The contrapositive of $p \Longrightarrow q$ is					
	a)$\sim q \Longrightarrow \sim p$	b)$\sim p \Longrightarrow \sim q$	c)$q \Longrightarrow \sim p$	d)$q \Longrightarrow p$	a	$\sim q \Longrightarrow \sim p$
94	The number of solutions of equation $x + y + z = 17$, where x, y, z are non negative integers, is					
	a) 171	b) 680	c) 136	d) 450	a	171
95	Which of the following is a contradiction?					
	a)$p \Longrightarrow q$	b)$p \wedge (q \wedge \sim p)$	c)$p \vee q$	d)$p \vee \sim p$	b	$p \wedge (q \wedge \sim p)$
96	The number of different Boolean functions of degree 3 is					
	a)2^3	b)2^6	c)2^8	d)3!	c	2^8
97	The minimum number of students in a class which will ensure that four out of them are born in the same month is					
	a) 49	b) 37	c) 61	d) 48	b	37
98	If λ is an eigen value of a non-singular matrix A, then eigen value of A^{-1} is					
	a)λ	b)$-\lambda$	c)$-1/\lambda$	d)$1/\lambda$	d	$1/\lambda$
99	Which of the following is not a subspace of $\mathbb{R}^3(\mathbb{R})$?					
	a) $\{(x,y,z): x \geq 0\}$	b)$\{(x, 2x, 3x)\}$	c) $\{(x,y,z): \sqrt{2}x =$	d) $\{(x,y,z): x - 2y = z -$	a	$\{(x,y,z): x \geq 0\}$

			$\sqrt{3}y\}$	$3y/2\}$		
100	For Riemann integrability, continuity is					
	a)Necessary	b)Sufficient	c)Necessary and sufficient	d)Neither necessary nor sufficient.	b	Sufficient

SPACE FOR ROUGH WORK