

## ECAT Mathematics Chapter 23

Sr	Questions	Answers Choice
1	The set $\{1, -1, i, -i\}$ form a group under	A. Addition B. Multiplication C. Subtraction D. None
2	If $A = \{2m/m^3 = 8, m \in \mathbb{Z}\}$ then $A =$	A. $\{1, 8, 27\}$ B. $\{4\}$ C. $\{2, 4, 6\}$ D. $\{2, 16, 54\}$
3	Question Image	
4	Question Image	A. A is proper subset of B B. A is an improper subset of B C. A is equivalent to B D. B is subset of A
5	$\mathbb{Z}$ is the set of integers ( $\mathbb{Z}^*$ ) is a group with $a * b = a + b + 1, a, b \in \mathbb{Z}$ . then inverse of a is	A. $-a$ B. $a + 1$ C. $-1 - a$ D. None of these
6	If $A \subseteq B$ , and B is a finite set, then	A. $n(A) \leq n(B)$ B. $n(B) \leq n(A)$ C. $n(A) \leq n(B)$ D. $n(A) \geq n(B)$
7	Question Image	
8	The set of complex numbers forms a group under the binary operation of	A. Addition B. none of these C. Division D. Subtraction
9	The number of subsets of a set having three elements is	A. 4 B. 6 C. 8 D. none of these
10	The set $(\mathbb{Q}, +)$	A. Forms a group B. Does not form a group C. Contains no additive identity D. Contains no additive inverse
11	Question Image	A. $n(A)$ B. $n(B)$ C. 0 D. 1
12	The number of subset of $\{0\}$ is	A. 1 B. 2 C. 3 D. None
13	Question Image	A. A finite set B. An infinite set C. An empty set D. None of these
14	Which of the following is the definition of singleton	A. The objects in a set B. A set having no element C. A set having no subset D. None of these
15	Question Image	
16	Additive inverse of $-a - b$ is	A. a B. $-a + b$ C. $a - b$ D. $a + b$
17	$\mathbb{Z}$ is a group under	A. Subtraction B. Multiplication C. Addition D. None of these

		D. None of these
18	If $C = \{p/p < 18, p \text{ is a prime number}\}$ , then $C =$	A. $\{2, 3, 4, \dots, 17\}$ B. $\{2, 4, 6, 8, \dots, 16\}$ C. $\{1, 3, 5, 7, 9, 11, 13, 15, 17\}$ D. $\{3, 6, 9, 12, 15\}$
19	Question Image	A. 1 B. 12 C. 5 D. 29
20	If $x = 1/x$ for $x \in \mathbb{R}$ then the value of $x$ is	A. $\pm 1$ B. 0 C. 2 D. 4
21	A conditional is regarded as false only when the antecedent is true and consequent is	A. True B. False C. Known D. Unknown
22	The set of even prime numbers is	A. $\{2, 4, 6, 8, 10\}$ B. $\{2, 4, 6, 8, 10, 12\}$ C. $\{1, 3, 5, 7, 9\}$ D. $\{2\}$
23	Question Image	
24	Question Image	
25	For any set B, $B \cup B'$ is	A. Is set B B. Set $B'$ C. Universal set D. None of these
26	The multiplicative inverse of $x$ such that $x = 0$ is	A. $-x$ B. does not exist C. $1/x$ D. 0
27	A conjunction of two statement $p$ and $q$ is true only if	A. $p$ is true B. $q$ is true C. Both $p$ and $q$ are true D. both $p$ and $q$ are false
28	A set having only one element is called	A. An empty set B. Universal set C. A singleton set D. A power set
29	The set $\mathbb{Q}$	A. Forms a group under addition B. Does not form a group C. Contains no additive identity D. Contains no additive inverse
30	If $A$ is a subset of $B$ and $B$ contains at least one element which is not an element of $A$ , then $A$ is said to be	A. Improper subset of $B$ B. Super set of $B$ C. Proper subset of $B$ D. None of these
31	If $B \subseteq A$ , then complement of $B$ in $A$ is = -----	A. $A - B$ B. $A \cap B$ C. $B - A$ D. $A \cup B$
32	$G = \{e, a, b, c\}$ is an Abelian group with $e$ as identity element. The order of the other elements are	A. 2, 2, 2 B. 3, 3, 3 C. 2, 2, 4 D. 2, 3, 4
33	Given $X, Y$ are any two sets such that number of elements in set $X = 28$ , number of elements in set $Y = 28$ , and number of elements in set $X \cup Y = 54$ , then number of elements in set $X \cap Y =$	A. 4 B. 3 C. 2 D. 1
34	The set of real numbers is a subset of	A. The set of natural numbers B. The set of rational numbers C. The set of integers D. The set of complex numbers
35	$A = B$ if	D. $A$ is equivalent to $B$
36	Question Image	A. An empty set B. Universal set C. A singleton set D. None of these

37	Question Image	
38	Let A and B be two sets. If every element of A is also an element of B then	
39	The total number of subsets that can be formed out of the set {a, b, c} is	A. 1 B. 4 C. 8 D. 12
40	A monoid (G, *) is said to be group if	A. have identity element B. is commutative C. have inverse of each element D. None of these
41	Question Image	A. a constant function B. linear function C. quadratic funtion D. none of these
42	Which conjunction is not true ?	
43	The number of proper subset of $A = \{a, b, c, d\}$ is	A. 3 B. 6 C. 8 D. 15
44	The set R is .....w.r.t subtraction	A. Not a group B. A group C. No conclusion drawn D. Non commutative group
45	Question Image	A. square root function B. identity function C. linear function D. quadratic function
46	$\{x : x \in \mathbb{Z} \text{ and } x < 1\}$ is	A. Singleton set B. A set with two points C. Empty set D. None of these
47	Let A, B, and C be any sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ then	A. $A \neq C$ B. $B = C$ C. $A = B$ D. $A \neq B$
48	The statement that a group can have more than one identity elements is	A. True B. False C. Fallacious D. Some times true
49	The set of all positive even integers is	A. Not a group B. A group w.r.t. subtraction C. A group w.r.t. division D. A group w.r.t. multiplication
50	The multiplicative inverse of -1 in the set $\{1, -1\}$ is	A. 1 B. -1 C. $\pm 1$ D. 0 E. Does not exist
51	If $B = \{x/x \in \mathbb{Z} \wedge -3 < x < 6\}$ , then $n(B) =$	A. 5 B. $\{-3, -2, -1, 0, 1, 2, 3, 4, 5, 6\}$ C. 8 D. 9
52	Question Image	A. A B. A' C. U D. $A \cap A'$
53	The set of integers is a subset of	A. The set of natural numbers B. The set of whole numbers C. The set of prime numbers D. The set of rational numbers
54	A function whose range is just one elements is called	A. One-one function B. Constant function C. Onto function D. Identity function
55	The set of integer is	A. Finite group B. A group w.r.t addition C. A group w.r.t multiplication D. Not a group

56	Which of the following sets is finite	<p>A. The set of natural numbers between 3 and 10</p> <p>B. The set of rational numbers between 3 and 10</p> <p>C. The set of real numbers between 0 and 1</p> <p>D. The set of rational numbers between 0 and 1</p>
57	Question Image	
58	Question Image	
59	The function whose range consists of just one element is called	<p>A. One-One Function</p> <p>B. Identity Function</p> <p>C. Onto Function</p> <p>D. Constant Function</p>
60	$A = B$ iff	<p>A. All elements of A also the elements of B</p> <p>B. A and B should be singleton</p> <p>C. A and B have the same number of elements</p> <p>D. If both have the same element</p>
61	Question Image	<p>A. A</p> <p>B. B</p> <p>C. U</p> <p>D. None of these</p>
62	If $f: A \rightarrow B$ is an injective function and second elements of no two of its ordered pairs are equal, then f is called	<p>A. 1-1 and onto</p> <p>B. Bijective</p> <p>C. 1-1 and into</p> <p>D. None of these</p>
63	Question Image	
64	For a set A, $A \cup A^c =$ -----	<p>A. A</p> <p>B. <math>\emptyset</math></p> <p>C. <math>A^c</math></p> <p>D. U</p>
65	If $\#n = (n-5)^2 + 5$ , then find $\#3 \times \#4$ .	<p>A. 54</p> <p>B. 12</p> <p>C. 4</p> <p>D. 9</p>
66	Question Image	
67	The identity elements with respect to subtraction is	<p>A. 0</p> <p>B. 1</p> <p>C. -1</p> <p>D. Does not exist</p>
68	The sets {1, 2, 4} and {4, 6, 8, 10} are	<p>A. Equal sets</p> <p>B. Equivalent sets</p> <p>C. Disjoint sets</p> <p>D. Overlapping sets</p>
69	Which of the following statement is true?	<p>A. A set is a collection of non-empty object</p> <p>B. A set is a collection of only numbers</p> <p>C. a set is any collection of things</p> <p>D. a set is well-defined collection of objects</p>
70	Question Image	
71	The graph of a linear function is	<p>A. a circle</p> <p>B. triangle</p> <p>C. a straight line</p> <p>D. none of these</p>
72	If $n(X) = 18$ , $n(X \cap Y) = 7$ , $n(X \cup Y) = 40$ then $n(Y) =$	<p>A. 1</p> <p>B. 12</p> <p>C. 5</p> <p>D. 29</p>
73	$A - B =$ _____	
74	Question Image	<p>A. A</p> <p>B. <math>A'</math></p> <p>C. U</p> <p>D. <math>U'</math></p>
75	The geometrical representation of a linear function is	<p>A. Circle</p> <p>B. Parabola</p> <p>C. Straight line</p> <p>D. None of these</p>
76	The number of different ways of describing a set is	<p>A. One</p> <p>B. Two</p> <p>C. Three</p> <p>D. Four</p>

77	What is the number of elements of the power set of $\{0, 1\}$	A. 1 B. 2 C. 3 D. 4
78	The set $(\mathbb{Z}, +)$ forms a group	A. Forms a group w.r.t addition B. Non commutative group w.r.t multiplication C. Forms a group w.r.t multiplication D. Doesn't form a group
79	The set $\{-1, 1\}$ is	A. Group under the multiplication B. Group under addition C. Does not form a group D. Contains no identity element
80	If $A = \{x/x \text{ is a positive integer and } 4 \leq x < 23\}$ , then $A =$	A. $\{1, 2, 3, 4, 5, 6, 7\}$ B. $\{4, 5, 6, \dots, 22\}$ C. $\{1, 2, 3, \dots, 23\}$ D. $\{1, 2, 3, 4, 5\}$
81	The complement of set A relative to universal set U is the set	
82	The set of complex numbers forms	A. Commutative group w.r.t addition B. Commutative group w.r.t multiplication C. Commutative group w.r.t division D. Non commutative group w.r.t addition
83	Question Image	
84	If $A=B$ , then	A. $A \subset B$ and $B \subset A$ B. $A \subseteq B$ and $B \not\subseteq A$ C. $A \subseteq B$ and $B \subseteq A$ D. None of these
85	If we have a statement "if p then q" then q is called	A. Conclusion B. Implication C. Unknown D. Hypothesis
86	Question Image	A. Biconditional B. Implication C. Antecedent D. Hypothesis
87	The function $f\{(x, y) \mid y = ax^2 + bx + c\}$ is	A. One-one function B. Constant function C. Onto function D. Quadratic function
88	Decimal part of irrational number is	A. Terminating B. Repeating only C. Neither repeating nor terminating D. Repeating and terminating
89	Which of the following is the subset of all sets?	
90	$\mathbb{Z}$ is the set of integers, $(\mathbb{Z}, *)$ is a group with $a * b = a + b + 1$ , $a, b \in \mathbb{Z}$ . then inverse of a is	A. $-a$ B. $a + 1$ C. $-2 - a$ D. None of these
91	Question Image	
92	The set $(\mathbb{Z}, +)$ forms a group	A. Forms a group w.r.t. addition B. Non commutative group w.r.t. multiplication C. Forms a group w.r.t multiplication D. Doesn't form a group
93	Question Image	A. 3 B. 1 C. 2 D. 4
94	The multiplicative inverse of -1 in the set $\{1, -1\}$ is	A. 1 B. -1 C. +1 D. 0
95	The set of complex numbers forms	A. Commutative group w.r.t addition B. Commutative group w.r.t multiplication C. Commutative group w.r.t division D. Non commutative group w.r.t addition
96	If p and q are two statements then their conjunction is denoted by	
--	In a country, 55% of the male population has houses in cities while 30% have houses both in	A. 45 B. 30

97	houses in cities and in village. Find the percentage of the population that has house only in villages.	<p>A. 25</p> <p>C. 25</p> <p>D. 50</p>
98	$\{x x \in R \wedge x \neq x\}$ is a	<p>A. Infinite set</p> <p>B. Null set</p> <p>C. Finite set</p> <p>D. None of these</p>
99	The set $(Z, +)$ forms a group	<p>A. Forms a group w.r.t addition</p> <p>B. Forms a group w.r.t multiplication</p> <p>C. Non commutative group w.r.t multiplication</p> <p>D. Doesn't form a group</p>
100	For any set X, $X \cup X$ is	<p>A. X</p> <p>B. <math>X'</math></p> <p>C. <math>\Phi</math></p> <p>D. Universal Set</p>
101	$G = \{e, a, b, c\}$ is an Abelian group with e as identity element The order of the other elements are	<p>A. 2,2,2</p> <p>B. 3,3,3</p> <p>C. 2,2,4</p> <p>D. 2,3,4</p>
102	Question Image	<p>A. <math>A = B</math></p> <p>B. <math>B = C</math></p> <p>C. <math>A = C</math></p> <p>D. None of these</p>
103	If $z_1 = 2 + 6i$ and $z_2 = 3 + 7i$ then which expression defines the product of $z_1$ and $z_2$	<p>A. <math>36 + (-32)i</math></p> <p>B. <math>-36 + 32i</math></p> <p>C. <math>6 + (-11)i</math></p> <p>D. <math>0, +(-12)i</math></p>
104	Group of none-singular matrices under multiplication is	<p>A. None-Abelian group</p> <p>B. Semi group</p> <p>C. Abelian group</p> <p>D. None of these</p>
105	The set $\{x x \in N \wedge x-4=0\}$ in tabular form is	<p>A. <math>\{-4\}</math></p> <p>B. <math>\{0\}</math></p> <p>C. <math>\{\}</math></p> <p>D. None of these</p>
106	Question Image	<p>A. Addition</p> <p>B. Subtraction</p> <p>C. Multiplication</p> <p>D. None of these</p>
107	The logic in which every statement is regarded as true or false and no other possibility is called	<p>A. Aristotelian logic</p> <p>B. Inductive logic</p> <p>C. Non-Aristotelian logic</p> <p>D. None of these</p>
108	If a 1-1 correspondence can be established b/w two sets A and B, then they are called	<p>A. Equal sets</p> <p>B. Equivalent sets</p> <p>C. Overlapping sets</p> <p>D. None of these</p>
109	The set $\{-1, 1\}$ is closed under the binary operation of	<p>A. Addition</p> <p>B. Multiplication</p> <p>C. Subtraction</p> <p>D. Division</p>
110	Question Image	
111	$P \notin A$ means	<p>A. <math>P</math> is subset of A</p> <p>B. <math>P</math> is an element of A</p> <p>C. <math>P</math> does not belongs to A</p> <p>D. A does not element of <math>P</math></p>
112	The set $\{-1, 1\}$ is	<p>A. Group under the multiplication</p> <p>B. Group under addition</p> <p>C. Does not form a group</p> <p>D. Contains no identity element</p>
113	The set X is	<p>A. Proper Subset of X</p> <p>B. Not A subset of X</p> <p>C. Improper Subset of X</p> <p>D. None of these</p>
114	Question Image	<p>A. A</p> <p>B. B</p> <p>C. <math>A \cap B</math></p> <p>D. <math>B \cap A</math></p>
115	Question Image	<p>A. <math>-x</math></p> <p>B. Infinite set</p> <p>C. <math>\{-4, 4\}</math></p> <p>D. <math>\{-4, 4\}</math></p>







		D. None of these
116	{1, 2, 3, 4,.....} is set of _____	A. Natural numbers B. Whole numbers C. Integers D. Rational numbers
117	Question Image	A. $1/x$ B. $-x$ C. $2x$ D. $0.5x$
118	If p and q are two statements then their biconditional 'p if q' is denoted by	
119	$(A \cap B)^c =$	A. $A \cap B$ B. $(A \cup B)^c$ C. $A^c \cup B^c$ D. $\Phi$
120	If A and B are two sets then intersection of A and B is denoted by	
121	Power set of difference set N-W is	A. Empty set B. Infinite set C. Singleton set D. $\{0, \varnothing\}$
122	What is the number of elements of the power set of $\{\}$	A. 0 B. 1 C. 2 D. 3
123	The graph of a quadratic function is	A. Circle B. Ellipse C. Parabola D. Hexagon
124	Power set of X i.e $P(X)$ _____ under the binary operation of union $\cup$	A. Forms a group B. Does not form a group C. Has no identity element D. Infinite set although X is infinite
125	If $n(A) = n$ then $n(P(A))$ is	A. $2n$ B. $n^{2^{2^n}}$ C. $n/2$ D. $2^{2^{n-1}}$
126	The negation of given number is a	A. Binary operation B. Unary operation C. Relation D. None of these
127	The set $\{Z \setminus \{0\}\}$ is group w.r.t	A. Addition B. Multiplication C. Division D. Subtraction
128	Question Image	
129	Question Image	D. none of these
130	Which of the following has the same value as $i^{113}$	A. $i$ B. $-1$ C. $-i$ D. $1$
131	Question Image	A. Natural numbers B. Whole numbers C. Integers D. Rational numbers
132	Z is a	A. Infinite set B. Finite set C. Singleton set D. Set of all integers
133	If A and B are two sets then any subset R of $B \times A$ is called	A. relation on A B. relation on B C. relation from A to B D. relation from B to A
134	If $S = \{3, 6, 9, 12, \dots\}$ , then	A. $S =$ Four multiples of 3 B. $S =$ Set of even numbers C. $S =$ Set of prime numbers D. $S =$ All multiples of 3




135	Question Image	B. 3 C. 2 D. 1
136	If $A \subseteq B$ then $A \cup B$ is	A. A B. B C. A' D. $A \cap B$
137	Question Image	
138	Question Image	A. Every element of A is in B B. Every element of B is in A C. Every element of A is in B' D. Every element of A is in A
139	Question Image	A. A B. A' C. U D. None of these
140	If $A \cap B = B$ , then $n(A \cap B)$ is equal to	A. $n(a)$ B. $n(a) + n(c)$ C. $n(c)$ D. None of these
141	The set of first elements of the ordered pairs in a relation is called its	A. domain B. range C. relation D. function
142	Write down the power set of $\{9, 11\}$	
143	If a set S contains "n" elements then $P(S)$ has ..... number of elements	A. $2^{n+1}$ B. $2^{2n}$ C. $2 \cdot n$ D. $2^n$
144	$\Phi$ set is the _____ of all sets	A. Subset B. Union C. Universal D. Intersection
145	If A is a set then any subset R of $A \times A$ is called	A. relation on A B. relation on B C. relation from A to B D. relation from B to A
146	The complement of set A relative to universal set U is the set	A. $\{x / x \in A \wedge x \in U\}$ B. $\{x / x \notin A \wedge x \in U\}$ C. $\{x / x \in A \text{ and } x \notin U\}$ D. $A - U$
147	Multiplicative inverse of "1" is	A. 0 B. -1 C. 1 D. $\{0, 1\}$
148	Question Image	A. A B. B C. A' D. None of these
149	Question Image	D. none of these
150	A conditional "if p then q" is denoted by	
151	The set of months in a year beginning with S.	A. {September, October, November} B. Singleton set C. Null set D. Empty set
152	Which symbolic notation represent unary operation ?	A. - B. $\vee$ C. $\wedge$ D. $\Leftrightarrow$
153	The multiplicative inverse of -1 in the set $\{1, -1\}$ is	A. 1 B. -1 C. 0 D. Does not exist
154	Given X, Y are any two sets such that number of elements in X = 18, number of elements in set Y = 24, and number of elements in set $X \cup Y$ = 40, then number of elements in set $X \cap Y$ =	A. 3 B. 1 C. 2 D. 4
		A. $\pm 1$ B. $\cap$



155	Multiplicative inverse of "1" is	B. 0 C. 1 D. None of these
156	A statement which is either true or false is called	A. Induction B. Deduction C. Proposition D. Logic
157	If there is one-one correspondence between A and B, then we write.	A. $A = B$ B. $A \subseteq B$ C. $A \supseteq B$ D. $A \sim B$
158	For any set B, $B \cup B'$ is	A. Is set B B. Set B' C. Universal set
159	The set of natural is a semi group w.r.t	A. Addition B. Division C. Subtraction D. None of these
160	$A \cup (A \cap B) =$ -----	A. B B. A C. $A \cup B$ D. None of these
161	Question Image	
162	For any two sets A and, $A \subseteq B$ if	A. $x \in A \Rightarrow x \in B$ B. $x \notin A \Rightarrow x \notin B$ C. $x \in A \Rightarrow x \notin B$ D. None of these
163	The set of all positive even integers is	A. Not a group B. A group w.r.t subtraction C. A group w.r.t division D. A group w.r.t multiplication
164	The set $\{\{a, b\}\}$ is	A. Infinite set B. Singleton set C. Two points set D. None
165	The negation of a number	A. a relation B. a function C. unary operation D. binary operation
166	The set of integer is	A. Finite group B. A group w.r.t addition C. A group w.r.t multiplication D. Not a group
167	Every set is an improper subset of	A. Empty set B. Equivalent set C. Itself D. Singleton set
168	if $A = \{x/x \in \mathbb{Q} \wedge 0 < x < 1\}$ , the A is	A. Infinite set B. Finite set C. Set of rational numbers D. Set of real numbers
169	If $T = \{2, 4, 6, 8, 10, 12\}$ , then	A. $T =$ (First six natural numbers) B. $T =$ (First six odd numbers) C. $T =$ (First six real numbers) D. $T =$ (First six even numbers)
170	Question Image	
171	To each element of a group there corresponds ..... inverse element	A. Two B. One C. No D. Three
172	Question Image	
173	The set $\{\mathbb{Z} \setminus \{0\}\}$ is group w.r.t	A. Addition B. Multiplication C. Division D. Subtraction
174	Question Image	
175	The graph of a quadratic function is	A. Circle B. Straight line C. Parabola

176	If $P = \{x/x = p/q \text{ where } p, q \in \mathbb{Z} \text{ and } q \neq 0\}$ , then P is the set of	A. Irrational numbers B. Even numbers C. Rational numbers D. Whole numbers
177	Multiplicative inverse of 0 is	A. 0 B. 1 C. + -1 D. Does not exist
178	Question Image	A. $a-b=ab$ B. $ab=a$ C. $a+b=ab$
179	The statement that a group can have more than one identity elements is	A. True B. False C. Fallacious D. Some times true
180	Question Image	
181	A function in which the second elements of the order pairs are distinct is called	A. Onto function B. One-one function C. Identity function D. Inverse function
182	The set which has no proper subset is	A. $\{0\}$ B. $\{\}$ C. $\{\emptyset\}$ D. None of these
183	The set of the first elements of the orders pairs forming a relation is called its	A. Relation in B B. Range C. Domain D. Relation In A
184	Question Image	
185	$\{1, 2, 3\}$ is _____	A. an infinite set B. A finite set C. A singleton set D. Universal set
186	A function whose range is just one element is called	A. One-one function B. Constant function C. Onto function D. Identity function
187	If $D = \{a\}$ , the $P(D) =$	A. $\{a\}$ B. $\langle p \text{ class="MsoNormal"><!--[if gte msEquation 12]><m:oMathPara><m:oMath><i style="mso-bidi-font-style:normal"><span style="font-family:"Cambria Math",serif; mso-bidi-font-family:Calibri;mso-bidi-theme-font:minor-latin"><m:r></m:r></span></i></m:oMath></m:oMathPara><![endif]><!--[if !msEquation]><span style="line-height: 107%;"><!--[if gte vml 1]><v:shapetype id="_x0000_t75" coordsize="21600,21600" o:spt="75" o:preferrelative="t" path="m@4@5l@4@11@9@11@9@5xe" filled="f" stroked="f"> <v:stroke joinstyle="miter"/> <v:formulas> <v:f eqn="if lineDrawn pixelLineWidth 0"/> <v:f eqn="sum @0 1 0"/> <v:f eqn="sum 0 0 @1"/> <v:f eqn="prod @2 1 2"/> <v:f eqn="prod @3 21600 pixelWidth"/> <v:f eqn="prod @3 21600 pixelHeight"/> <v:f eqn="sum @0 0 1"/> <v:f eqn="prod @6 1 2"/> <v:f eqn="prod @7 21600 pixelWidth"/> <v:f eqn="sum @8 21600 0"/> <v:f eqn="prod @7 21600 pixelHeight"/> <v:f eqn="sum @10 21600 0"/> </v:formulas> <v:path o:extrusionok="f" gradientshapeok="t" o:connecttype="rect"/> <o:lock v:ext="edit" aspectratio="t"/> </v:shapetype><v:shape id="_x0000_i1025" type="#_x0000_t75" style="width:6.75pt; height:14.25pt"> <v:imagedata src="file:///C:/Users/Softsol/AppData/Local/Temp/msohtmlclip1/01/clip_image001.png" o:title="" chromakey="white"/> </v:shape><![endif]><!--[if !vml]><!--[endif]></span><!--[endif]></o:p></p>$ C. $\{\emptyset, \{a\}\}$ D. $\{\emptyset, a\}$
188	The set R is _____ w.r.t subtraction	A. Not a group B. A group C. No conclusion drawn D. Non commutative group
189	The set $\{1, -1, i, -i\}$	A. Form a group w.r.t addition B. Form a group w.r.t multiplication C. Does not form a group w.r.t multiplication D. Not closed under multiplication
		A. $\{2, 3, 4, 5, 6, 7, 8\}$ B. $\{2, 4, 6, 8\}$ C. $\{2, 3, 4, 5, 6, 7, 8\}$ D. $\{2, 4, 6, 8\}$

190	If $a = \{2m/2m < 9, m \in p\}$ , the $(n A) =$	B. $\{2, 4, 6, 8, \dots, 10\}$ C. $\{4, 6\}$ D. $\{2, 3, 5, 7\}$
191	The function $\{f(x, y)   y = ax^2 + bx + c\}$ is	A. One-one function B. Constant function C. Onto function D. Quadratic function
192	$(A \cap B)^c =$ -----	A. $A^c \cup B^c$ B. $A^c \cup B$ C. $A^c \cap B$ D. None of these
193	Which of the following sets is infinite	A. The set of students of your class B. The set of all schools in Pakistan C. The set of natural numbers between 3 and 10 D. The set of rational numbers between 3 and 10
194	Under multiplication, solution set of is	A. Groupoid B. Abelian group C. Semi group D. All of these
195		A. A onto B B. both a & b C. A into B D. none of these
196	If the intersection of two sets is non-empty, but either is a subset of other are called	A. Disjoint sets B. Overlapping C. Equal sets D. None of these
197		A. A B. A' C. U D. None of these
198	The number of subsets of $B = \{1, 2, 3, 4, 5\}$	A. 10 B. 32 C. 16 D. 5
199	The set of complex numbers forms a group under the binary operation of	A. Addition B. Multiplication C. Division D. Subtraction
200	The identity element of a set X with respect to intersection in $P(X)$ is	A. X B. Does not exist C. $\emptyset$ D. None of these
201		A. $A = C$ B. $A = B$ C. $B = C$ D. None of these
202	$\{0\}$ is a	A. Empty set B. Singleton set C. Zero set D. Null Set
203	To each element of a group there corresponds _____ inverse element	A. Two B. One C. No D. Three
204		
205	The extraction of cube root of a given number is a	A. Unary Operation B. Binary Operation C. Relation D. None of these
206	$\Phi$ set is the _____ of all sets?	A. Subset B. Union C. Universal D. Intersection
207		A. Singleton set B. A set with two points C. Empty set D. None of these
208		D. None of these  A. Function on B

209	The set of the first elements of the ordered pairs forming a relation is called its	A. Function on B B. Range C. Domain D. A into B
210	If A and B are two sets then any subset R of $A \times B$ is called	A. relation on A B. relation on B C. relation from A to B D. relation from B to A
211	If $E = \{ \}$ , then $P(E)$	A. $\emptyset$ B. $\{ \}$ C. $\{(2), (4), (6), \dots\}$ D. $(\emptyset)$
212	The set $\{-1, 1\}$ is closed under the binary operation of	A. Addition B. Multiplication C. Subtraction D. Division
213		A. An empty set B. Universal set C. A singleton set D. None of these
214		B. A C. A' D. U
215	The statement that a group can have more than one identity elements is	A. True B. False C. Ambiguous D. Some times true
216	The set $\{1, -1, 1, -1\}$ , form a group under	A. Addition B. Multiplication C. Subtraction D. None
217	$(A \cup B) \cup C = \dots\dots\dots$	A. $A \cap B(B \cup C)$ B. $A \cup (B \cup C)$ C. $A \cup (B \cap C)$ D. None of these
218	If $0 = \{1, 3, 5, \dots\dots\dots\}$ , then $n(0) =$	A. Infinite B. Even numbers C. odd integers D. 99
219	The set of the first elements of the ordered pairs forming a relation is called its	A. Function on B B. Range C. Domain D. A into B
220	The set $\{x + iy / x, y \in \mathbb{Q}\}$ forms a group under the binary operation of	A. Addition B. Multiplication C. Division D. Both addition and multiplication
221	Empty set is	A. Not subset of every set B. Finite set C. Infinite set D. Not the member of real numbers
222		A. A B. B C. U D. None of these
223	The multiplicative inverse of x such that $x \neq 0$ is	A. -x B. Does not exist C. $1/x$ D. $\pm 1$
224	If $B - A \neq \emptyset$ , then $n(B - A)$ is equal to	A. $n(a) + n(c)$ B. $n(c) - n(a)$ C. $n(a) - n(c)$ D. None of these
225	Power set of X i.e $P(X)$ .....under the binary operation of union U	A. Forms a group B. Does not form a group C. Has no identity element D. Infinite set although X is infinite
226	Identity w.r.t intersection in a power set of any set is	A. $\emptyset$ B. Set itself C. Singleton set D. $\{0\}$

227	Question Image	
228	The set $\{1, -1, i, -i\}$	A. Form a group w.r.t addition B. Form a group w.r.t multiplication C. Does not form a group w.r.t multiplication D. Not closed under multiplication
229	The many subset can be formed from the set $\{a,b,c,d\}$	A. 8 B. 4 C. 12 D. 16
230	A disjunction of two statement p and q is true	A. p is false B. q is false C. Both p and q are false D. One of p and q is true
231	The set of natural numbers is a subset of	A. $\{1, 2, 3, \dots, 100\}$ B. The set of whole numbers C. $\{2, 4, 6, 8, \dots\}$ D. None of these
232	The set of the first elements of the orders pairs forming a relations is called its	A. Relation in B B. Range C. Domain D. Relation in A
233	$\emptyset$ is a symbol of	A. singleton set B. Empty set C. Equivalent set D. Infinite set
234	The set of whole numbers is subset of	A. The set on integers B. The set of natural numbers C. $\{1, 3, 5, 7, \dots\}$ D. The set of prime numbers
235	Question Image	D. None of these
236	In set builder notation the set $\{0, 1, 2, \dots, 100\}$ can be written as	
237	Let A,B and C be any sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ then	A. $A = B$ B. $B = C$ C. $A \neq C$ D. $A \neq B$
238	The set of rational numbers is subset of	A. The set of natural numbers B. The set of real numbers C. The set of integers D. The set of whole numbers
239	Onto function is also called	A. Bijective function B. Injective function C. Surjective function D. None of these
240	Every subset of a finite set is	A. Disjoint B. Null C. Finite D. Infinite
241	Two sets A and B are said to be disjoint if	
242	Question Image	A. Addition B. Multiplication C. Division D. Both addition and multiplication
243	Question Image	A. Conclusion B. Implication C. Antecedent D. Hypothesis
244	If P is a proposition then its negative is denoted by	
245	The set $\{\{a,b\}\}$ is	A. Infinite set B. Singleton set C. Two points set D. Empty set
246	The set $\{\{a,b\}\}$ is	A. Infinite set B. Singleton set C. Two points set D. None

247	Which of the following is the subset of all sets	$\{1,2,3\}$ $\{\Phi\}$ $\{0\}$
248	In a school, there are 150 students. Out of these 80 students enrolled for mathematics class, 50 enrolled for English class, and 60 enrolled for Physics class. The students enrolled for English cannot any other class, but the students of mathematics and Physics can take two courses at a time. Find the number of students who have taken both physics and mathematics	40 30 50 20
249	The set $\{ \{a, b\} \}$ is	Infinite set Singleton set Two points set Empty set
250	The contra positive of $p \rightarrow q$ is	$q \rightarrow p$ $\sim q \rightarrow \sim q$ $\sim p \rightarrow \sim q$ None of these