

SAMPLE PAPER

CLASS

The actual test paper has 50 questions. Time allowed: 60 minutes. There are 3 sections: 15 questions in section I, 15 in section II and 20 in section III.

SYLLABUS



Section — **I (Mental Ability)**: Rational Numbers, Operation on Rational Numbers, Decimal Representation of Rational Numbers, Exponents, Direct and Inverse Variations, Percentage and Its Application, Algebraic Expression, Factorization of Algebraic Expressions, Linear Equation in One Variable, More About Triangles, Congruent Triangles, Quadrilaterals, Circles, Area of Rectangular Paths, Surface Area and Volumes, Statistics, Squares and Square Roots, Cubes and Cube Roots.

Section — II (Logical and Analytical Reasoning): Problem Based on Figures, Find Odd Numeral Out, Series Completion, Coding-Decoding, Mathematical Reasoning, Analytical Reasoning, Mirror Images, Embedded Figures.

Section – III (Computers and IT) : Internet & Viruses, HTML, Flash, MS-Access, Networking, MS-Word, MS-Power Point, MS-Excel, Hardware, Software, Input & Output Devices, Memory & Storage Devices.



The actual test paper has 50 questions. Time allowed: 60 minutes. There are 2 sections: 15 questions in section I and 35 in section II.

SYLLABUS

Section — I (Mental Ability): Rational Numbers, Operation on Rational Numbers, Decimal Representation of Rational Numbers, Exponents and Powers, Direct and Inverse Variations, Comparing Quantities, Algebraic Expression, Factorization of Algebraic Expressions, Linear Equation in One Variable, More About Triangles, Congruent Triangles, Quadrilaterals, Circles, Mensuration, Statistics, Arithmetic Ability, Squares and Square Roots, Cubes and Cube Roots, Problem Based on Figures, Find Odd Numeral Out, Series Completion, Coding-Decoding, Mathematical Reasoning, Analytical Reasoning, Mirror Images, Embedded Figures.

Section – II (Science): Crop Production and Management, Microorganisms, Synthetic Fibres and Plastics, Metals and Non-metals, Coal and Petroleum, Combustion and Flame, Conservation of Plants and Animals, Cell, Reproduction in Animals, Force and Pressure, Friction, Sound, Chemical Effects of Electric Current, Some Natural Phenomena, Light, Stars and Solar System, Pollution of Air and Water.



International Mathematics Olympiad

The actual test paper has 50 questions. Time allowed: 60 minutes. There are 3 sections: 20 questions in section I, 20 in section II and 10 in section III.

SYLLABUS

Section – I (Logical Reasoning) : Mathematical Operations, Series Completion, Direction Sense Test, Analytical Reasoning, Problems on Cubes and Dice, Number Ranking & Time Sequence Test and General Reasoning Based on Prescribed Syllabus.

Section – II (Mathematical Reasoning) : Squares and Square Roots, Cubes and Cube Roots, Exponents and Radicals, Comparing Quantities, Algebraic Identities, Polynomials, Equations in One Variable, Parallel Lines, Special Types of Quadrilaterals and Their Constructions, Mensuration, Arithmetic Ability, Data Handling.

Section – III (Everyday Mathematics) : The Syllabus of this section will be based on the syllabus of Mathematical Reasoning.

The actual test paper consists of 50 questions. Time Allowed : 60 minutes. There are 3 sections.

I E

International English Olympiad

SYLLABUS

Section-I: Word and Structure Knowledge: Prepositional phrases, Participle phrases, Tenses, Question tags, Conditionals, Reported speech. Spellings, Collocations, Phrasal verbs, Idioms, Homonyms and homophones, Words related to leisure, Household items/issues, Social causes, Outdoor locations and activities, etc.

Section-II: Reading: Search for and retrieve information from various text types like News reports, Blurb, Dictionaries, etc., Understand information presented in instruction manual format, Message format and others. Acquire broad understanding of and look for specific information in longer texts like editorials, Essays, etc.

Section-III: Spoken and Written Expression : Ability to understand situation-based variations in functions like requesting, Giving information, Expressing surprise, etc.

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National Cyber Olympiad

MENTAL ABILITY

1. In the star shape shown in figure, the sum of the angles marked at the corners

A, B, C, D, E is

(A) 90°

(B) 135°

(C) 180°

(D) 140°



- 2. The age of a man is same as his wife's age with the digits reversed. Then sum of their ages is 99 and the man is 9 years older than his wife. How old is the man?
 - (A) 50
- (B) 49
- (C) 54
- (D) 44
- 3. In the adjoining figure, AOB and COD are the diameters of a circle.

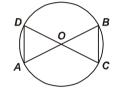
If $\angle ADO = 55^{\circ}$ then $\angle OCB$ is

(A) $27\frac{1}{2}^{\circ}$

(B) $62\frac{1}{2}^{\circ}$

(C) 55°

(D) 35°



- **4.** A cylinder and a cone have the same height and the same radius of the base. The ratio between the volumes of the cylinder and the cone is
 - (A) 1:3
- (B) 3:1
- (C) 1:2
- (D) 2:1

LOGICAL & ANALYTICAL REASONING

- 5. If in a certain code SAND is VDQG and BIRD is ELUG, then what is the code for LOVE?
 - (A) PRYG
- (B) ORTG
- (C) NPUH
- (D) ORYH
- 6. The number of times in a day the hour-hand and the minute-hand of a clock are at right angles is
 - (A) 44
- (B) 48
- (C) 24
- (D) 12.
- **7.** Which one of the following diagrams correctly represents the relationship among tennis fans, cricket players and students?





(B)



(C)



- (D)
- **8.** A, B, C, D, E and F, not necessarily in that order, are sitting on six chairs regularly placed around a round table. It is observed that A is between D and F, C is opposite D, D and E are not on neighbouring chairs. The person sitting opposite B is
 - (A) A
- (B) D
- (C) E
- (D) F

COMPUTERS & INFORMATION TECHNOLOGY

- 9. Which of the following is INCORRECT?
 - (A) <hr>

(B) <HR>

(C) Bold Text

- (D) All of these
- 10. Computers use the seven digit code called ASCII. What does ASCII stand for?
 - (A) American Standard Code for Information Interchange
 - (B) Association of Software Coding and Information Institute
 - (C) American Standard Computing and Information Institute
 - (D) American Scientists Convention for Information Interchange.
- 11. How many sheets are there in Excel Workbook by default?
 - (A) 2
- (B) 3
- (C) 4
- (D) 5

12. In flash,



is called

- (A) Fill color
- (B) Paint bucket
- (C) Ink bottle
- (D) Lasso
- **13.** Modern Computers do not work with decimal numbers. Instead they process binary numbers, groups of 0's and 1's because
 - (A) Electronic devices are most reliable when designed for two state (binary) operation
 - (B) Binary circuits are simple
 - (C) Memory is only possible for binary numbers
 - (D) With decimal numbers, the circuits are complex and costly
- 14. What are the columns in a Microsoft Access table called?
 - (A) Rows
- (B) Records
- (C) Fields
- (D) Columns

- 15. Debug is a term denoting
 - (A) Error correction process
- (B) Writing of instructions in developing a new program
- (C) Fault detection in equipment
- (D) Determining useful life



National Science Olympiad

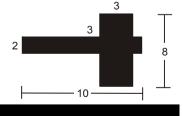
MENTAL ABILITY

- 1. A contest began at noon one day and ended 1000 minutes later. At what time did the contest end?
 - (A) 10:00 p.m.
- (B) Midnight
- (C) 2:30 a.m.
- (D) 4:40 a.m.
- 2. Which of the following sets of whole numbers has the largest average?
 - (A) Multiples of 2 between 1 and 101
- (B) Multiples of 3 between 1 and 101
- (C) Multiples of 4 between 1 and 101
- (D) Multiples of 5 between 1 and 101.
- 3. Beena used a calculator to find the product 0.075 × 2.56. She forgot to enter the decimal points. The calculator showed 19200. If Beena had entered the decimal points correctly, the answer would have been
 - (A) 0.0192
- (B) 0.192
- (C) 1.92
- (D) 19.2
- **4.** Two cyclists, *k* km apart, and starting at the same time, would be together in *r* hours if they travelled in the same direction, but would pass each other in *t* hours if they travelled in opposite directions. The ratio of the speed of the faster cyclist to that of the slower is
 - (A) $\frac{r+t}{r-t}$
- (B) $\frac{r}{r-t}$
- (C) $\frac{r+1}{r}$
- (D) $\frac{r}{t}$
- **5.** The shaded area formed by the two intersecting perpendicular rectangles, in square units is
 - (A) 23

(B) 38

(C) 44

(D) 46



SCIENCE

- 6. A Brief History of Time is the title of a book written by
 - (A) Albert Einstein

(B) Stephen Hawking

(C) Hendrick Lorentz

(D) Isaac Newton

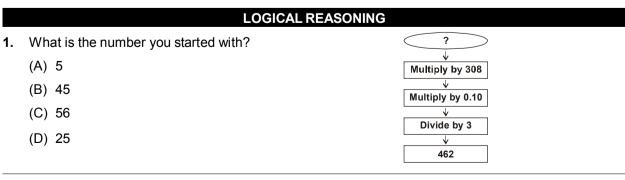
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7.	Which of the following can produce a virtual im (A) Plane mirror (B) Concave lens	nage ? (C) Convex lens (D) All of thes	se									
8.	When a glass rod is rubbed with a piece of silk cloth (A) Both cloth and the rod acquire positive charge (B) Rod becomes positively charged while the cloth has a negative charge (C) Rod becomes negatively charged while the cloth has a positive charge (D) Both cloth and the rod acquire negative charge.											
9.	A body immersed in a fluid experiencs an upwar (A) The weight of the fluid displaced by it (C) The mass of the body	vard thrust which depends on (B) The volume of the body (D) All of these.										
10.	When Cu is exposed to moist air for a long time (A) $Cu(OH)_2$ (B) $CuCO_3$	ne, which of the following is formed? (C) Both (A) and (B) (D) Cu ₂ O										
11.	Which of the following statements is true with r (A) The carbon atoms are connected to each (B) In the diamond crystal, the carbon atoms a (C) Each carbon atom in the crystal is surround (D) It is a very soft substance.	other by metallic bonds. are very loosely packed.	ular tetrahedron									
12.	Which of the following is an acute infection of to (A) Cholera (B) Tuberculosis	the small intestine caused by a bacteriu (C) Polio (D) Night blin										
13.	Some basic steps are needed in agricultural pringht sequence? (1) Preparation of the soil (4) Broadcasting (7) Manuring. (A) 1, 5, 4, 7, 3, 6, 2 (B) 1, 3, 5, 6, 4, 2, 7	ractice. Which of the following given as (2) Harvesting (3) Irrigation (5) Tilling (6) Weeding (C) 1, 3, 5, 2, 4, 6, 7 (D) 1, 5, 6, 2,										
14.	The process shown in the given figure is (A) Cleavage (B) Fertilization (C) Assimilation (D) Budding.											
15.	Which of the following is not true? (A) Burning of coal relases SO ₂ . (C) CNG is a clean fuel.	(B) Acid rain is harmful to crops. (D) Incomplete combustion of coal re	lases O ₂ .									



International Mathematics Olympiad



4 Class 8 2. One term in the number series is wrong. Find out the wrong term.

24, 27, 31, 33, 36

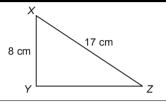
- (A) 24
- (B) 27
- (C) 31
- (D) 33
- 3. A is 40 m South-west of B. C is 40 m South-East of B. Then C is in which direction of A?
 - (A) East
- (B) West
- (C) North-east
- (D) South

- 4. Count the number of cubes in the figure given here.
 - (A) 14
- (B) 15
- (C) 12
- (D) 20

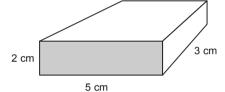


MATHEMATICAL REASONING

- **5.** What is the length of \overline{YZ} ?
 - (A) 9 cm
- (B) 15 cm
- (C) 19 cm
- (D) 25 cm



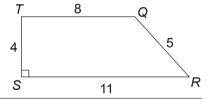
- 6. What is the volume of the rectangular solid shown below?
 - (A) 10 cubic cm
- (B) 25 cubic cm
- (C) 30 cubic cm
- (D) 62 cubic cm



- 7. What is the area of trapezoid QRST in square units?
 - (A) 22

(C) 38

- (B) 27
- (D) 48



8. Which property is used in the equation given below?

$$12(x + 4) = 12x + 48$$

- (A) Associative Property of Addition
- (B) Commutative Property of Addition

(C) Distributive Property

- (D) Reflexive Property
- 9. Which of the following equations illustrates the inverse property of multiplication?

(A)
$$5 \times \frac{1}{5} = 1$$

(B)
$$5 \times 1 = 5$$

(C)
$$5 \times 0 = 0$$

(D)
$$5 \times 5 = 25$$

- **10.** A right triangle's hypotenuse has length 5 units. If one leg has length 2 units, what is the length of the other leg?
 - (A) 3
- (B) $\sqrt{21}$
- (C) $\sqrt{29}$
- (D) 7
- 11. The sum of a number (n) and 14 is 72. Which equation shows this relationship?
 - (A) 14 + n = 72
- (B) 72n = 14
- (C) 14 n = 72
- (D) 72 + n = 14

12. Find the value of x

$$\frac{9x+7}{2} - \left[x - \left(\frac{x-2}{7}\right)\right] = 36$$

- (A) 9
- (B) 18
- (C) 5
- (D) 4.

EVERYDAY MATHEMATICS

- **13.** Dennis the Menace is thinking of two numbers. Their greatest common factor is 6. Their least common multiple is 36. One of the numbers is 12. What is the other number?
 - (A) 18
- (B) 16
- (C) 6
- (D) 24

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	One side was 10 m in length. If the posts were placed 2 m apart, how many posts did he use?											
	(A) 16	(B) 20	(C) 10	(D) 15								
15.	•	around a basket of straw	•									
	strawberries a	and gave a friend 3. Eight	girls arrived at the pa	rty. The first girl took	a strawberry, the							
	second girl too	ok 3 strawberries, the third	l girl took 5 strawberrie	es and so on. After the	last girl took her							
	strawberries, t	he basket was empty. How	many strawberries we	ere there in the basket	at the beginning?							
	(A) 72	(B) 60	(C) 65	(D) 45								

14. Farmer Ramu put a square fence around his vegetable garden to keep the deer from eating his corn.



International English Olympiad

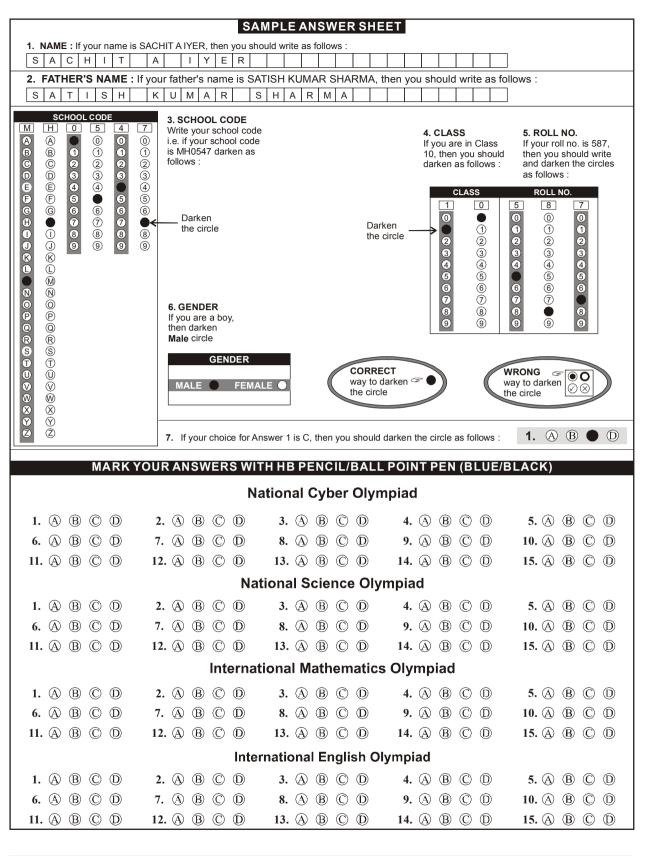
		WORD AND STR	UCTURE KNOWL	EDGE	
1.	Choose the odd pair	r.			
	(A) Annoy: Irritate		(B) Comprehen		
	(C) Spectator : Onlo	ooker	(D) Reserve : S	upply	
2.		vay with the diamond co		o one stopped him because h	ne was
	(A) Contacting	(B) Impersonating	(C) Implanting	(D) Contradicting	
3.	The transmission of	the President's speech	remained inte	rrupted.	
	(A) Mis	(B) Dis	(C) Un	(D) Non	
4.	could be right or walf both P and Q are If P is right and Q If P is wrong and Q If both P and Q are P: The old abando Q: The police susp (A) (++)	rrong. Use the following right, tick A (+ +) is wrong, tick B (+ -) is right, tick C (- +) wrong, tick D () ned building was being ect that the fire was cau (B) (+ -)	burnt to the ground used due to short co	your answer. last night. ircuit. (D) ()	tences
Dir	ections (Q. No. 5 &	6) : Find the incorrect p	oart and mark it in	your answer sheet.	
5.	The papers are incre (A)	easing/ full of stories /of (B)	mindless violence.	N <u>o error.</u> (D)	
6.	The Taj Residency/	is not as expensive than	n/ the Four Season	ns Hotel./ No error.	
	The papers are increasing/ full of stories (A) (B) The Taj Residency/ is not as expensive (A) (B) Maya and Anand		(C)	(D)	
7.	Maya and Anand		for five year	S.	
	(A) Has been marri		(B) Have been		
	(C) Are married		(D) Is married		

READING

Direction (Q. No. 8 to 10): Read the following passage and answer the questions that follow.

The greatest threat to life on Earth today comes from global warming. This is caused due to multiple factors including human activity. It happens when greenhouse gases (carbon dioxide, water vapour, nitrous oxide, and methane) trap heat and light from the sun in the earth's atmosphere, which increases the overall temperature on Earth. This impacts people, animals, and plants. Many who cannot take the change, die. Global warming is affecting many parts of the world, particularly sea coasts. People living on islands and in coastal areas are therefore at risk as the polar ice caps and sea levels rise.

harmful to the environment. (A) BC (B) AB (C) CB (D) AC 7 Class 8 Downloaded From : http://cbseportal.com/ Courtesy: olympiad



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National Cyber Olympiad National Science Olympiad							International Mathematics				International English												
1. 4. 7	(C) (B) (A)	2. 5. 8.	(C) (D) (D)	3. 6. 9.	(C) (A) (B)	1. 4.	(D) (A) (D)	2. 5. 8.	(D) (B) (B)	3. 6. 9.	(B) (B) (A)	1. 4.	(B) (B)	Olyr 2. 5.	npiad (C) (B)	3. 6.	(A) (C)	1. 4.	(D) (C)	Oly 2. 5.	mpiac (B) (A)	3. 6.	(C) (B)
10 13	. (A)	11. 14.	(B) (C)	12. 15.	(B)	10. 13.	(C) (A)	11. 14.	(C)	12.	` '	7. 10. 13.	(C) (B) (A)	8. 11. 14.	(C) (A) (B)	9. 12. 15.	(A) (A) (A)	7. 10. 13.	(-)	8. 11. 14.	(A) (A) (B)		(C) (C) (A)