SOF
SCIENCE OLYMPIAD FOUNDATION

SAMPLE PAPER
2014-15

N C O
NATIONAL CYBER OLYMPIAD

The actual test paper has 35 questions. Time allowed : 60 minutes. There are 3 sections: 10 in section I, 20 in section II and 5 in section III.

SYLLABUS

Section – I (Logical Reasoning) : Patterns, Alphabet Test, Coding-Decoding, Mirror Images, Embedded Figures, Geometrical Shapes and Solids, Ranking Test, Direction Sense Test, Days and Dates & Possible Combinations, Analogy and Classification.

Section – II (Computers and IT) : About Computers (General Information), Evolution of Computers, Parts of Computer, Input and Output Devices, Hardware, Software, MS-Word, Using Windows, Introduction to Internet and Its Uses, Computer Networks, MS-Paint, Latest Developments in the field of IT.

Section – III (Achievers Section) : Syllabus as per Section — II.

Questions are based on Windows 7 and MS-Office 2010.

N S O
NATIONAL SCIENCE OLYMPIAD

The actual test paper has 35 questions. Time allowed : 60 minutes. There are 3 sections: 10 questions in section I, 20 in section II and 5 in section III.

SYLLABUS

Section – I (Logical Reasoning) : Patterns, Alphabet Test, Coding-Decoding, Mirror Images, Embedded Figures, Geometrical Shapes and Solids, Ranking Test, Direction Sense Test, Days and Dates & Possible Combinations, Analogy and Classification.

Section – II (Science) : Plants, Animals, Human Body, Water, Matter and Force, Transport, General Activities, Earth and Universe.

Section – III (Achievers Section) : Syllabus as per Section — II.

I M O
INTERNATIONAL MATHEMATICS OLYMPIAD

The actual test paper has 35 questions. Time allowed : 60 minutes. There are 4 sections: 10 questions in section I, 10 in section II, 10 in section III and 5 in section IV.

Section – I : Logical Reasoning **Section – II :** Mathematical Reasoning
Section – III : Everyday Mathematics
Section – IV (Achievers Section) : Syllabus as per Section — II.

SYLLABUS

Numerals and Number Names (5 digit numbers), Place Value, Roman Numerals, Addition and Subtraction, Geometry : Square, Rectangle, Circle, Closed and Open Figure, Multiplication and Division, Factors and Multiples, Fractions, Measurement, Pictorial Representation of Data, Money, Time, Weight and Capacity, Series and Pattern Formation of Numbers and Figures, Conversions, Comparison, Perimeter of Various Shapes, Direction Sense Test, Mirror Images, Embedded Figures, Number Ranking, Alphabetical Test, Coding-Decoding, Mathematical Reasoning, Symmetry.

I E O
INTERNATIONAL ENGLISH OLYMPIAD

IN ASSOCIATION WITH
BRITISH COUNCIL

The actual test paper consists of 35 questions. Time Allowed : 60 minutes. There are 4 sections.

SYLLABUS

Section – I (Word and Structure Knowledge) : Adverbs, Prepositions, Pronouns (possessive, demonstrative, etc.), Simple tenses, Irregular verbs, Modals (of ability and permission, etc.), Basic questions, etc., Collocations, Spellings, Words related to animals, Household things, Clothes, Basic emotions, Food, Animals and pets, etc.

Section – II (Reading) : Search for and retrieve information from various text types like stories, Anecdotes, etc., Understand information through pictures, Time-table format, etc., Acquire broad understanding of and look for specific information in short texts like messages, Invitations, etc.

Section – III (Spoken and Written Expression) : Ability to understand situation-based variations in functions like apology, greeting, introduction, request, etc.
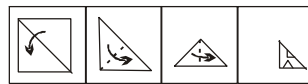
Section – IV (Achievers Section) : Syllabus as per Sections I, II and III.

NCO National Cyber Olympiad

LOGICAL REASONING

1. What is the next number in the pattern below?

125, 150, 175, 200, ...?....

(A) 205   (B) 215   (C) 225   (D) 250

2. If 'a' means '+' ; 'b' means '−' ; 'c' means '÷' and 'd' means '×', then the expression 16 a 4 b 4 c 4 d 2 =

(A) 10   (B) 7   (C) 18   (D) $2\dfrac{1}{2}$

3. How many triangles are there in the given figure?

(A) 15   (B) 18

(C) 17   (D) None of these

4. Choose the correct mirror image of the word, if the mirror is placed vertically to the left.

FIXING

(A) GNIXIF   (B) ƎNIXIꟻ   (C) ƎNIXIF   (D) GNIXIꟻ

5. In a certain code, 3456 is coded as ROPE, 15526 is coded as APPLE, then how is 54613 coded?

(A) RPPEO   (B) ROPEA   (C) POEAR   (D) PAREO

6. A piece of paper folded and punched as shown in the problem figures. From the given option, indicate how it will appear when opened.

Problem Figure

(A)   (B)   (C)   (D)

COMPUTERS AND INFORMATION TECHNOLOGY

7. Internet can be used for _____.

(A) Checking exam results   (B) Chatting

(C) E-mailing   (D) All of these

8. When your desktop is cluttered with open windows, you can use _____ to select a single window and close the rest.

(A) Aero Peek   (B) Aero Shake   (C) Aero Steer   (D) Aero Flip

9. Without this we cannot interact with a computer. What is this?

(A) Scanner   (B) Input device   (C) Output device   (D) Printer

10. This key is used to move cursor to the beginning of the line or the screen depending on the software used. Identify the key.

(A) End   (B) Home   (C) Page Up   (D) Page Down

11. 1024 bytes equals _____.

(A) 1 Kilobyte (KB)   (B) 1 Megabyte (MB)
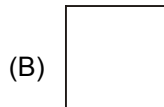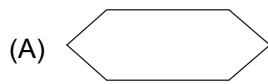
(C) 1 Gigabyte (GB)   (D) 1 Character

12. Who among the following is known as father of computers ?
(A) Charles Babbage (B) John Napier
(C) Blaise Pascal (D) Lady Ada Augusta Lovelace

13. While working with MS-Paint which option is used to add name to your drawing ?
(A) Text tool (B) Pencil tool (C) Air brush tool (D) Erase tool

14. Which of the following is a correct internet address?
(A) ww.yahoo.com (B) www.cartoonnetwork.co
(C) www.hotmail.com (D) www.indiatime.comm

15. In MS-Word, which colour wavy line under a word indicates a spelling or grammar mistake?
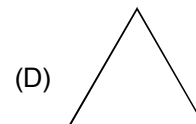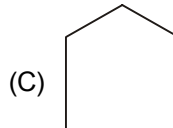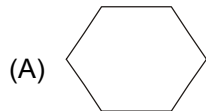(A) Red (B) Green (C) Yellow (D) Both (A) and (B)

N S O National Science Olympiad

LOGICAL REASONING

1. Namita drew a figure with 4 square corners. Which could be the figure she drew ?

(A)   (B)

(C)   (D)

2. Which could be one of the faces of a cylinder ?
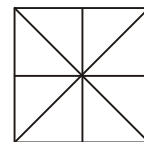
(A)   (B)   (C)   (D)

3. The number of squares in the figure is _____.
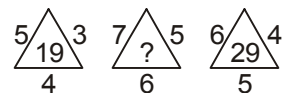
(A) 5 (B) 6
(C) 4 (D) None of these

4. Find the missing character.
(A) 25 (B) 37
(C) 41 (D) 47

5. Find the next term which will complete the series below.
9, 18, 27, 36, ___?___
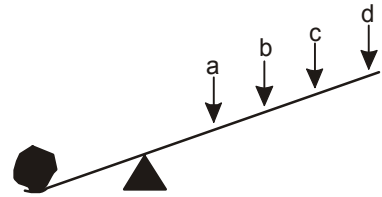(A) 40 (B) 39 (C) 45 (D) 50

SCIENCE

6. Nowadays, many _____ travel at a supersonic speed.
(A) Trains (B) Planes (C) Ships (D) Two-wheelers

7. When the layer of air that surrounds the Earth presses down, this is
(A) Heat (B) Temperature
(C) Air pressure (D) Precipitation

8. The energy an object gets from its motion is –
(A) Electrical energy (B) Chemical energy
(C) Kinetic energy (D) Potential energy
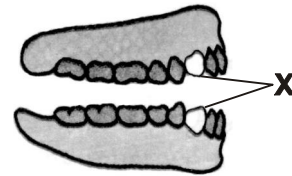
9. The pull or push is
(A) Gravity   (B) Friction   (C) Force   (D) Inertia

10. How long does the Earth take to make one complete revolution around the Sun ?
(A) 24 hours   (B) 28 hours   (C) 240 days   (D) 365 days

11. Arjun wants to lift the rock as shown in the figure. At which point should he apply the force so that he could lift the rock easily ?
(A) a
(B) b
(C) c
(D) d

12. Plants use sunlight to make sugar in the process of –
(A) Oxidation   (B) Reproduction
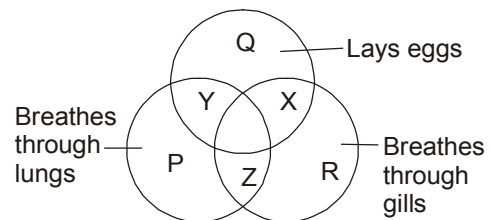(C) Photosynthesis   (D) Fertilization

13. The teeth which are marked X in the given figure are known as
(A) Incisors
(B) Canines
(C) Premolars
(D) Molars

14. Rubber, glass and plastic are good –
(A) Conductors   (B) Generators
(C) Insulators   (D) Electromagnets

15. Study the following Venn diagram carefully.
Which letter represents the hen?
(A) Y
(B) X
(C) Z
(D) R

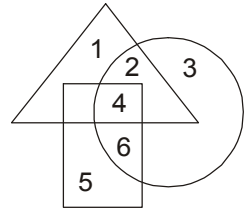# IMO International Mathematics Olympiad

LOGICAL REASONING

1. What is the rule for this number pattern?

1, 1, 2, 6, 24, 120, . . .

(A) Add 0, then add 1, then add 2, and so on
(B) Multiply by 1, then multiply by 2, then multiply by 3, and so on
(C) Multiply by 1, then add 1
(D) Multiply by two, then subtract 1

2. There are four figures out of which three are same in some way while one is different from the rest. Find out the different figure.

(A)   (B)   (C)   (D)

3. Count the number straight lines in the given figure.
(A) 17   (B) 18
(C) 19   (D) 20

4. If in a certain code "MONKEY" is coded as 'YEKNOM', then how is 'MONIKA' coded in that language?
(A) KANIMO   (B) AKINOM   (C) NOMIKA   (D) AIKONIM

5. Which number lies in all the three figures ?
(A) 1
(B) 2
(C) 4
(D) 5

MATHEMATICAL REASONING

6. There are eighty-six thousand four hundred seconds in a day. How else could this number be written?
(A) 80,064   (B) 80,640
(C) 86,400   (D) 86,404

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7. Which set of numbers is in the order from the greatest to the least?
(A) 147, 163, 234, 275   (B) 275, 234, 163, 147
(C) 275, 163, 234, 147   (D) 163, 275, 234, 147

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8. If $\diamondsuit \times 4 = \star$

$\star - \diamondsuit = 330$, then

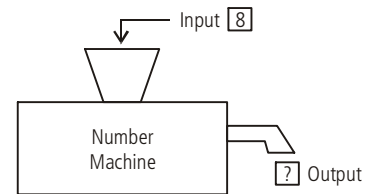What is $\star + \diamondsuit$?

(A) 110   (B) 440   (C) 550   (D) 990

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9. When a number is put into the machine as shown, a different number comes out.
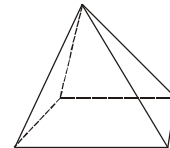If 2 goes in, 6 comes out. If 4 goes in, 12 comes out. If 5 goes in, 15 comes out.
If 8 goes in, what number should come out?
(A) 32   (B) 24
(C) 16   (D) 12

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10. How many vertices does this pyramid have?
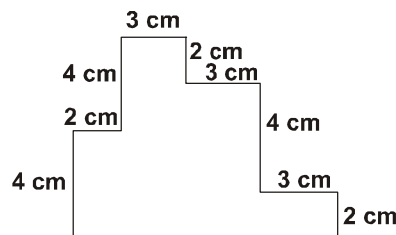(A) 4   (B) 5
(C) 6   (D) 8

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11. There are _____ tens in 36520.
(A) 12   (B) 36   (C) 365   (D) 3652

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12. The perimeter of the given figure (not drawn to scale) is _____.

(A) 35 cm   (B) 27 cm   (C) 38 cm   (D) 42 cm

EVERYDAY MATHEMATICS

13. There are 3 rows of strawberry plants. Each row has 6 plants. How many strawberry plants are there in all?

(A) 9   (B) 18   (C) 22   (D) 24

14. Ram, Rahul and Rohit shared a bag of marbles. The bag contained 272 marbles. How many marbles were left over after the friends shared them equally?

(A) 90   (B) 91   (C) 6   (D) 2

15. There were 3856 trees in a forest. In another forest there were 4795 trees. How many more trees were there in the second forest?

(A) 930   (B) 939   (C) 1689   (D) 1600

I E Q International English Olympiad

WORD AND STRUCTURE KNOWLEDGE

1. I build bridges. I am _____.

(A) A plumber   (B) An engineer   (C) A carpenter

2. Choose the odd one.

(A) Sandals   (B) Shoes   (C) Scarves

3. Given below are three sentences. One of them is incorrect. Find the incorrect sentence and mark it in your answer sheet.

(A) Tina is watching television.   (B) I lose my pen yesterday.

(C) I like playing football.

4. Choose the odd one.

(A) Doctor : Stethoscope   (B) Carpenter : Hammer

(C) Mason : Scissors

5. Complete each word using the letters from the box.

When the boy whistled, the dog __ willingly let go of the bone.

(A) Un   (B) In   (C) Im

Direction (Q. No. 6 to 8) : Fill in the blanks. Choose the right answer.

6. Ann always .... a lot of mistakes when she speaks English.

(A) Make   (B) Makes   (C) Made

7. ……………… of the girls in the class did not want to play football.

(A) Little   (B) Much   (C) Some

8. I am looking forward ……. the birthday party.

(A) With   (B) On   (C) To

9. Complete the sentence with the correct spelling of the word.

My brother travelled to South Korea recently. He likes visiting ……………………… countries.

(A) Phoreign   (B) Foreign   (C) Foriegn

Direction (Q. No. 10 and 11) : Read the paragraph and choose the correct sentence.

Red woods are among the world's tallest trees. They grow 200 to 300 feet high. The wood, when cut remains remarkably free from decay caused by weather and insects. So it is used to build houses and even outdoor furniture.

10. (A) No tree is taller than the red wood tree.
(B) Red wood trees grow very tall.
(C) Trees grow tall all over the world.

11. (A) Red wood tree can be easily destroyed by insects.
(B) Red wood trees decay easily.
(C) Red wood trees are suitable for making long lasting park benches.

Direction (Q. No. 12 and 13) : Read the paragraph and choose the correct sentence.

Many people believe that a house is not a home without a pet. Pets provide companionship and can be a boon to people, especially children. Pets will be there for you through thick and thin. Moreover, caring for a pet teaches you important lessons about taking responsibility, sharing your time and caring for another living creature.

12. "Pets can be a boon to people," because
(A) They can be good friends   (B) They teach children to be responsible
(C) They will look after children

13. "Through thick and thin" means
(A) Through difficulties   (B)   When you are very happy
(C) In good and bad times

SPOKEN AND WRITTEN EXPRESSION

14. Choose the right answer.
Imran : When does the train for Baroda leave?
Official : ……………………………………………………..
(A) Maybe, in a week or so.
(B) In an hour from platform number 5.
(C) Just turn around and walk to the end of the road.

15. Sentence 1 is given. Sentence 2 is not. Choose the right option for sentence 2.
Sentence 1 : A biography is written by a person about the life and activities of another person.
Sentence 2 : …………………………………………………………………………………
(A) Whereas an autobiography is written by a person about his own life.
(B) Gandhiji wrote an autobiography called *My Experiments with Truth.*
(C) People write autobiographies about their own lives.

SAMPLE ANSWER SHEET

1. NAME : If your name is SACHIT A IYER, then you should write as follows :

S	A	C	H	I	T		A		I	Y	E	R										

2. FATHER'S NAME : If your father's name is SATISH KUMAR IYER, then you should write as follows :

S	A	T	I	S	H		K	U	M	A	R		I	Y	E	R						

SCHOOL CODE

M	H	0	5	4	7

3. SCHOOL CODE
Write your school code i.e. if your school code is MH0547 darken as follows :

← Darken the circle

6. GENDER
If you are a boy, then darken **Male** circle

GENDER

MALE ● FEMALE ○

4. CLASS
If you are in Class 10, then you should darken as follows :

5. ROLL NO.
If your roll no. is 587, then you should write and darken the circles as follows :

CLASS | 1 | 0 |
ROLL NO. | 5 | 8 | 7 |

← Darken the circle

CORRECT way to darken ☞ the circle ●

WRONG way to darken ☞ the circle ◉ ○ ✓ ⊗

7. If your choice for Answer 1 is C, then you should darken the circle as follows : **1.** Ⓐ Ⓑ ● Ⓓ

MARK YOUR ANSWERS WITH HB PENCIL/BALL POINT PEN (BLUE/BLACK)

National Cyber Olympiad

1. Ⓐ Ⓑ Ⓒ Ⓓ 2. Ⓐ Ⓑ Ⓒ Ⓓ 3. Ⓐ Ⓑ Ⓒ Ⓓ 4. Ⓐ Ⓑ Ⓒ Ⓓ 5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ 7. Ⓐ Ⓑ Ⓒ Ⓓ 8. Ⓐ Ⓑ Ⓒ Ⓓ 9. Ⓐ Ⓑ Ⓒ Ⓓ 10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ 12. Ⓐ Ⓑ Ⓒ Ⓓ 13. Ⓐ Ⓑ Ⓒ Ⓓ 14. Ⓐ Ⓑ Ⓒ Ⓓ 15. Ⓐ Ⓑ Ⓒ Ⓓ

National Science Olympiad

1. Ⓐ Ⓑ Ⓒ Ⓓ 2. Ⓐ Ⓑ Ⓒ Ⓓ 3. Ⓐ Ⓑ Ⓒ Ⓓ 4. Ⓐ Ⓑ Ⓒ Ⓓ 5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ 7. Ⓐ Ⓑ Ⓒ Ⓓ 8. Ⓐ Ⓑ Ⓒ Ⓓ 9. Ⓐ Ⓑ Ⓒ Ⓓ 10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ 12. Ⓐ Ⓑ Ⓒ Ⓓ 13. Ⓐ Ⓑ Ⓒ Ⓓ 14. Ⓐ Ⓑ Ⓒ Ⓓ 15. Ⓐ Ⓑ Ⓒ Ⓓ

International Mathematics Olympiad

1. Ⓐ Ⓑ Ⓒ Ⓓ 2. Ⓐ Ⓑ Ⓒ Ⓓ 3. Ⓐ Ⓑ Ⓒ Ⓓ 4. Ⓐ Ⓑ Ⓒ Ⓓ 5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ 7. Ⓐ Ⓑ Ⓒ Ⓓ 8. Ⓐ Ⓑ Ⓒ Ⓓ 9. Ⓐ Ⓑ Ⓒ Ⓓ 10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ 12. Ⓐ Ⓑ Ⓒ Ⓓ 13. Ⓐ Ⓑ Ⓒ Ⓓ 14. Ⓐ Ⓑ Ⓒ Ⓓ 15. Ⓐ Ⓑ Ⓒ Ⓓ

International English Olympiad

1. Ⓐ Ⓑ Ⓒ 2. Ⓐ Ⓑ Ⓒ 3. Ⓐ Ⓑ Ⓒ 4. Ⓐ Ⓑ Ⓒ 5. Ⓐ Ⓑ Ⓒ
6. Ⓐ Ⓑ Ⓒ 7. Ⓐ Ⓑ Ⓒ 8. Ⓐ Ⓑ Ⓒ 9. Ⓐ Ⓑ Ⓒ 10. Ⓐ Ⓑ Ⓒ
11. Ⓐ Ⓑ Ⓒ 12. Ⓐ Ⓑ Ⓒ 13. Ⓐ Ⓑ Ⓒ 14. Ⓐ Ⓑ Ⓒ 15. Ⓐ Ⓑ Ⓒ

ANSWERS

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