NCO
SOF NATIONAL CYBER OLYMPIAD

Total Questions : 50   Time : 1 hr.

PATTERN & MARKING SCHEME			
Section	(1) Logical Reasoning	(2) Computers & IT	(3) Achievers Section
No. of Questions	10	35	5
Marks per Ques.	1	1	3

SYLLABUS

Section – 1 : Patterns, Analogy and Classification, Coding-Decoding, Geometrical Shapes, Mirror Images, Water Images, Embedded Figures, Direction Sense Test, Ranking Test, Alphabet Test and Logical Sequence of Words, Puzzle Test.

Section – 2 : Input and Output Devices, Hardware, Software, Storage Devices, Memory –Primary & Secondary Memory, MS-Paint, Introduction to Multimedia, MS-Word (Paragraph formatting Using Paragraph group, Drop Cap, Document views, Inserting Graphics-Pictures and Shapes, Clip Arts, Symbols, SmartArt, Multimedia Objects, Text Box, Inserting Header and Footer in a document and exploring its features), Introduction to MS-PowerPoint(Component of MS-PowerPoint window and its features, Inserting Graphics-Pictures and Shapes, Clip Arts, Symbols, SmartArt, Multimedia Objects, Text Box, Inserting Header & Footer and exploring its features, Running slide shows, Presentation Views), Internet, Computer Networks, Using Windows, Latest Developments in the field of IT.

Section – 3 : Higher Order Thinking Questions - Syllabus as per Section – 2.

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

NSO
SOF NATIONAL SCIENCE OLYMPIAD

Total Questions : 50   Time : 1 hr.

PATTERN & MARKING SCHEME			
Section	(1) Logical Reasoning	(2) Science	(3) Achievers Section
No. of Questions	10	35	5
Marks per Ques.	1	1	3

SYLLABUS

Section – 1 : Patterns, Analogy and Classification, Coding-Decoding, Geometrical Shapes, Mirror Images, Water Images, Embedded Figures, Direction Sense Test, Ranking Test, Alphabet Test and Logical Sequence of Words, Puzzle Test.

Section – 2 : Animals, Human Body and Health, Plants and Food, Natural Resources, Pollution and Calamities, Earth and Universe, Matter, Force, Work and Energy.

Section – 3 : Higher Order Thinking Questions - Syllabus as per Section – 2.

IMO
SOF INTERNATIONAL MATHEMATICS OLYMPIAD

Total Questions : 50   Time : 1 hr.

PATTERN & MARKING SCHEME			
Section	(1) Logical Reasoning	(2) Mathematical Reasoning	(3) Everyday Mathematics	(4) Achievers Section
No. of Questions	15	20	10	5
Marks per Ques.	1	1	1	3

SYLLABUS : Number sense, Numeral and Number Name (7 and 8 digit numbers), Roman Numbers, Addition, Subtraction, Multiplication, Division, Factors and Multiples, LCM, HCF, Rules of Divisibility, Whole, Prime and Composite Numbers, Fractions, Decimals, Geometrical Shapes & Angles, Circles, Symmetry, Measurement of Length, Mass, Capacity, Perimeter and Area of Rectangle, Square, Measurement of Volume, Temperature, Time and Various Operations on Time, Relationship Between Seconds, Minutes and Hours, Money, Representation of Data in Pictorial Form, Patterns, Formation of Numbers and Figures, Direction Sense, Number Ranking and Alphabetical Test, Series, Odd One Out.

Achievers Section : Higher Order Thinking Questions - from the above given Syllabus.

IEO
SOF INTERNATIONAL ENGLISH OLYMPIAD

In association with ●● BRITISH COUNCIL

Total Questions : 50   Time : 1 hr.

PATTERN & MARKING SCHEME			
Section	(1) Word and Structure Knowledge	(2) Reading	(3) Spoken and Written Expression	(4) Achievers Section
No. of Questions	45			5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : Spellings, Collocations, Idioms, Homonyms and homophones, Words related to feelings, Travel, Food, Health, Appearance, Character, etc. Nouns, Pronouns, Verbs and Phrasal Verbs, Adverbs, Adjectives, Articles, Prepositions, Punctuation, Tenses, Passive Voice and Reported Speech etc.

Section – 2 : Search for and retrieve information from various text types like news headlines, Messages, Letters, etc., Understand information given in News reports, Time tables, Messages, etc., Acquire broad understanding of and look for specific information in short texts like messages, menu card dialogues, etc.

Section – 3 : Ability to understand situation-based variations in functions like requests, Refusals, Apologies, etc. and the use of conjunctions.

Section – 4 : Higher Order Thinking Questions - Syllabus as per Sections 1, 2 and 3.

LOGICAL REASONING

1. How many times exactly two X's occurs together?

X Y X X Y X Y Y X X X Y Y X X Y X Y X X

(A) 5   (B) 4   (C) 2   (D) 3

2. Which of the following options replaces the question mark (?) in Fig. X?
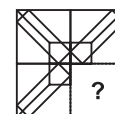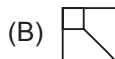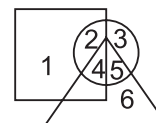
(A)   (B)

(C)   (D)

Fig. (X)

3. If "MATHEMATICS" is coded as "SCITAMEHTAM" then how will "OLYMPIAD" be coded?

(A) DAMPOMYL   (B) OLYMDIAP   (C) DAIPMYLO   (D) IADYMPLO

4. Which number lies in the circle and square, but not in the triangle?

(A) 1
(B) 2
(C) 3
(D) 6

COMPUTERS AND INFORMATION TECHNOLOGY

5. Which of the following is NOT a Windows 7 Aero feature?

(A) Snap   (B) Peek   (C) Bump   (D) Shake

6. What is a firewall in a network?

(A) It is the memory unit of a network.
(B) A network operating system.
(C) A system preventing unauthorized access to a network.
(D) It is a web browsing software.

7. Multimedia is used for many purposes like _____.

(A) Education   (B) Advertising   (C) Playing games   (D) All of these

8. Find the odd term out.

(A) Scanner   (B) Pointing device   (C) OMR   (D) Printer

9. What is the significance of star icon placed adjacent to the sender name in inbox of Gmail?

(A) To mark them as spam message.
(B) To easily mark certain messages as important or to indicate that you need to reply to them later.
(C) Star marked mail will be deleted after some time automatically.
(D) Star marked mail will move to trash folder after 30 days.

10. Which of the following devices emits computer audio as audible audio?

(A) Trackball   (B) Cursor   (C) Webcam   (D) Speaker

11. Which of the following icons of MS-PowerPoint 2010 is used to insert the characters like □, ©, etc. that are not present on the keyboard?

(A) π (B) $\mathcal{A}$ (C)   (D) Ω

12. The small picture representing a program in Windows 7 is called _____.
(A) Icon   (B) Pictures   (C) Images   (D) Drive

13. While working in MS-Paint, the option which is used to show the drawing in a small reference window is _____.
(A) Grid   (B) Zoom in   (C) Bitmap   (D) Thumbnail

ACHIEVERS SECTION

14. Mr. Kumar is making a presentation for his company in which he is required to include some graphics, audio and video clips. Which of the following options will help him to insert a video clip in MS-PowerPoint 2010?

(A)   (B)   (C) π (D)

15. Which of the following type of expansion cards can be inserted into a computer motherboard via expansion slot, to allow television signals to be received by a computer system?

(A)   (B)   (C)   (D)
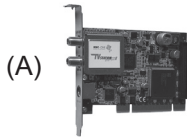
N S ☼ National Science Olympiad

LOGICAL REASONING

1. If you are eleventh in a queue starting either end, how many are there in the queue?
(A) 11   (B) 21   (C) 20   (D) 24

2. Choose the 2-dimensional figure that represents the 3-dimensional figure when viewed from top.


(A)   (B)   (C)   (D)
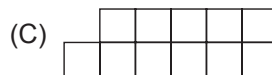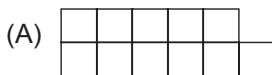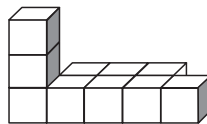
3. The mirror image of SON, if the mirror is placed vertically to the left is ____.
(A) NOS   (B) ꙄOᴎ   (C) ꙄOᴎ   (D) ᴎOꙄ

SCIENCE

4. The term 'Reduce' is one of the three R's (reduce, reuse and recycle) to save the environment. An example of the opposite of reducing is over-packaging which is an anti-environment activity. Which of the following packaging activities is anti-environment?
(A) Filling a cereal box completely
(B) Putting an item in a cardboard box, then putting that box in another box
(C) Putting foam packing material around a fragile item
(D) Packing an item in the smallest possible box

5. If your diet is deficient in sour fruits then you are supposed to suffer from
(A) Rickets   (B) Beri Beri   (C) Scurvy   (D) Night blindness.

6. _____ is a good conductor of electricity.
(A) Metal   (B) Rubber   (C) Plastic   (D) All of these

7. A small baby plant coming out of a seed is
(A) Grain   (B) Root   (C) Dispersal   (D) Seedling.

8. Which of these is needed to measure the mass of a rock?
(A) A balance   (B) A barometer   (C) A metric ruler   (D) Thermometer

9. Burning of garbage leads to ___(i)__. (i) can cause deadly diseases such as __(ii)__ and asthma. Which of the following options correctly fills the blanks (i) and (ii)?
(A) (i)-Air pollution, (ii)-Lung caner   (B) (i)-Water pollution, (ii)-Lung caner
(C) (i)-Soil pollution, (ii)-Cholera   (D) (i)-Water pollution, (ii)-Typhoid

10. The substance that makes plants green is known as
(A) Water   (B) Chlorophyll   (C) Carbon dioxide   (D) Calcium.

**11.** Which of the following figures are included in first class levers?

1.   2.   3.   4.

5.

(A) 1, 2 and 4   (B) 1, 2 and 3   (C) 3, 4 and 5   (D) 1, 4 and 5
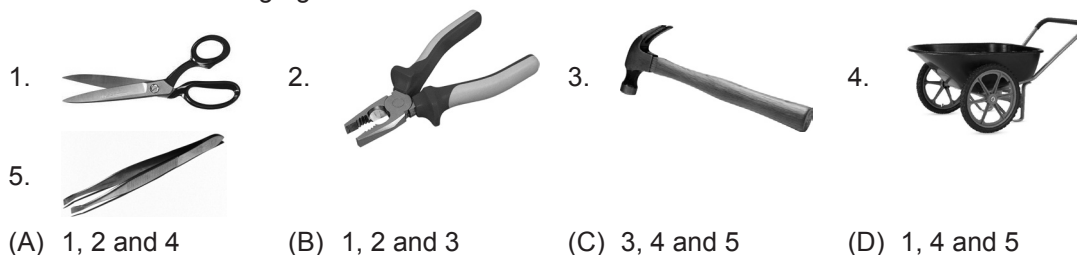
12. Look at the figure. It shows lunar eclipse. Where will be the Earth in it ?
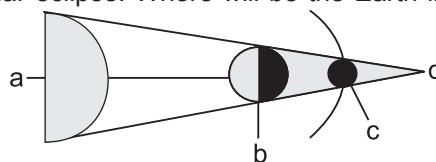
(A) a   (B) b   (C) c   (D) d

13. If there is no rain, crops fail to grow. This condition will lead to
(A) Flood   (B) Drought   (C) Famine   (D) Both (B) and (C).

ACHIEVERS SECTION

14. Three different types of plants X, Y and Z, were selected by scientists who want to document their methods of seed dispersal. The graphs below show the approximate number of seedlings found at various distances around the parent plant.
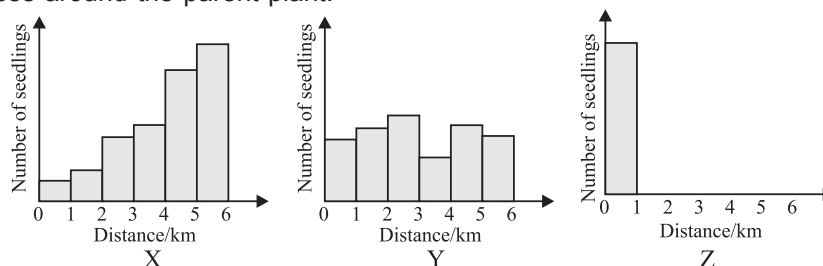
Which option most correctly lists the methods of seed dispersal of each plant?

	X	Y	Z
(A)	Water	Explosive action	Animal
(B)	Wind	Animal	Water
(C)	Wind	Animal	Explosive action
(D)	Explosive action	Water	Animal

**15.** Identify 1, 3, 4 and 6 in the given pyramid and select the correct option.

	1	3	4	6
(A)	Fruits	Grains	Proteins	Sweets and fats
(B)	Grains	Fruits	Proteins	Sweets and fats
(C)	Proteins	Fruits	Grains	Sweets and fats
(D)	Fruits	Proteins	Fats	Grains
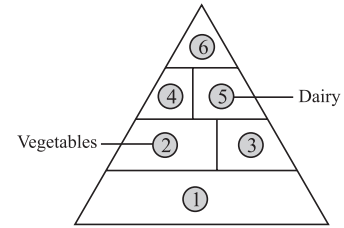
# International Mathematics Olympiad

LOGICAL REASONING

1. Shelley is ordering a skirt from a catalog. She can choose one of two lengths: a short skirt or a long skirt. Then she can choose one of three fabric patterns: stripes, plaid, or flowers. At most how many different combinations could Shelley order choosing a length and a fabric pattern?
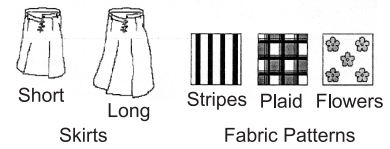
(A) 2   (B) 3   (C) 5   (D) 6

2. The number of cubes in the given figure is _____.
(A) 11
(B) 12
(C) 13
(D) 14
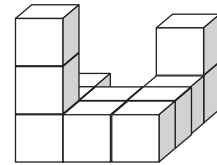
3. Find the odd numeral out.

(A) $\boxed{7}$ (B) $\boxed{9}$ (C) $\boxed{12}$ (D) $\boxed{6}$

4. Which of the following is ninth to the right of the seventeenth from the right end of the given arrangement?

$$M\,4\,E\,T\,\%\,J\,9\,I\,B\,@\,U\,8\,©\,N\,\#\,F\,1\,V\,7\,\star\,2\,A\,H\,3\,Y\,5\,\$\,6\,K$$

(A) A   (B) %   (C) I   (D) Y

MATHEMATICAL REASONING

5. Which figure has an area of 8 sq. units and a perimeter of 12 units? (Each square block is of side 1 unit).

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

6. The line graph shows the number of people who visited a museum from March to July. How many more visitors were there in April than in June?

(A) 200
(B) 350
(C) 150
(D) 100
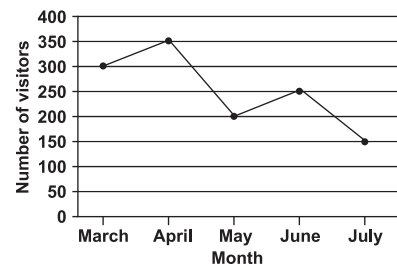
7. How many angles inside the figure are greater than a right angle?
(A) 5   (B) 6
(C) 7   (D) 8

8. What fraction of the figures are ♡ ?
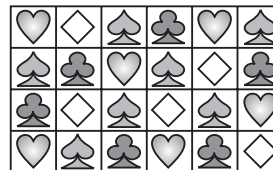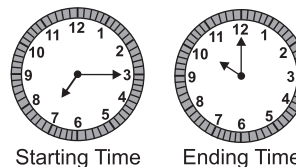

(A) 1/4
(B) 1/3
(C) 1/5
(D) 1/2

9. Katrina went to watch a movie. The time that the movie started and ended are shown on the two clocks given here. How long did the movie last ?

(A) 1 hr 45 mins
(B) 2 hrs 45 mins
(C) 2 hrs 15 mins
(D) 3 hrs

Starting Time   Ending Time

10. If 'White' is called 'Blue', 'Blue' is called 'Red', 'Red' is called 'Yellow', 'Yellow' is called 'Green', 'Green' is called 'Black', 'Black' is called 'Violet' and 'Violet' is called 'Orange', then what would be the colour of human blood?

(A) Red   (B) Yellow   (C) Green   (D) Violet

EVERYDAY MATHEMATICS

11. Harry had 500 coins in a jar. He sorted the coins into 25 different stacks. Each stack had the same number of coins. How many coins were in each stack?

(A) 20   (B) 45   (C) 25   (D) 12

12. There are 914 students enrolled in Elementary School. Middle School has 276 fewer students enrolled. How many students are enrolled at Middle School?

(A) 642   (B) 762   (C) 1,190   (D) 638

13. Tom left home at 7 : 15 a.m. to go to work. He returned home at 4 : 45 p.m. What is the total amount of time Tom was away from home?

(A) 7 hours 30 minutes   (B) 9 hours 30 minutes
(C) 3 hours 30 minutes   (D) 8 hours 30 minutes

ACHIEVERS SECTION

14. Part of a scale is shown below. What is the value of the reading at X?

(in cm)
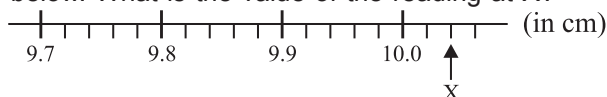
(A) 10.02 cm   (B) 10.04 cm   (C) 10.2 cm   (D) 10.4 cm

15. Vivek rented a bicycle for 3 hours. How much did he pay?

(A) ₹ 13   (B) ₹ 19

(C) ₹ 22   (D) ₹ 30

Bicycle for Rent

First hour : ₹ 7
Every additional $\frac{1}{2}$ hour : ₹ 3

IEO International English Olympiad

WORD AND STRUCTURE KNOWLEDGE

Direction : Complete the word using the letters from the given option.

1. I can't wait to ___wrap my birthday presents.

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

Direction : Complete the sentence with the correct spelling of the word.

2. I like to read _____ to my brother.
    (A) Allowed   (B) Aloud   (C) Alaud   (D) None of these.

Direction : Match the underlined phrase with its correct meaning.

3. Mother tried <u>in vain</u> to make her finish her milk.
    (A) Unable to do something   (B) Using a pipe
    (C) With a lot of effort   (D) None of these.

4. Find the odd one out.
    (A) Teacher : Student   (B) Shopkeeper : Customer
    (C) Doctor : Librarian   (D) None of these.

Direction (Q. No. 5 and 6) : Fill the correct word.

5. You have to go _____ this door to reach the library.
    (A) From   (B) By   (C) Through   (D) None of these

6. If he is planning to participate in the marathon, he _____ practice regularly.
    (A) Should   (B) Shall   (C) Can   (D) None of these

Direction : Spot the error in the sentence.

7. <u>This doll</u>   / <u>was my</u>/   <u>before I gave it to you</u>.   No error
   (A)   (B)   (C)   (D)

8. Find the incorrect sentence.
    (A) The Amazon river is the largest river in the world.
    (B) Sangeeta is watching television.
    (C) I will start my course on June.
    (D) None of the above.

READING

Direction (Q. No. 9 and 10) : Read the passage and answer the following questions.
Miss Jabber Blabber,
The teacher, Mr. Rao walked to the blackboard and wrote up a list of words. He pointed to the list.
"I want you to read these words to yourselves," he said. "Then, without talking to your neighbour, choose any word from the list and draw a picture of it in your notebook."
Joy squealed very thrilled.
I stared at the words. Then I tapped my chin. And I scratched my head. Finally, I reached out to Rahul and tapped on his head.
"Psst, Rahul", I whispered, "which word are you drawing?"
Joy jumped up from her seat and pointed at me.
"Sir, Sir, Jenny is talking to her neighbour."
That's how Joy earned her famous name, one that she never liked, "J Joy Jabber Blabber"!

9. Joy complained to the teacher because _____.
    (A) She couldn't do her work.
    (B) They were not including her in their conversation.
    (C) She wanted to show the teacher that she was an obedient student.
    (D) None of the above.

10. Which of the following words would Rahul and Jenny use to describe Joy?
    (A) Irritating   (B) Liar   (C) Friendly   (D) None of these

SPOKEN AND WRITTEN EXPRESSION

Direction (Q. No. 11 to 13) : Find one sentence to complete the dialogue.

11. Mother : When did you come back from the zoo? Did you like it there?
Minu : _____.
(A) Yes, I did.   (B) I will think about it.   (C) I cannot come.   (D) None of these.

12. Teacher 1 *:* You have got a list of students. How many of them are coming to the picnic?
Teacher 2 : _____
(A) I don't know.   (B) I can't see them.   (C) I haven't got any.   (D) None of these.

13. Sentence 1. I am celebrating my doll's birthday tomorrow.
Sentence 2. _____.
Sentence 3. You are invited.
(A) There is a party at my place at 6:00 pm.   (B) Please come with a gift.
(C) Don't come after 6:00!   (D) None of these.

ACHIEVERS SECTION

Direction : Choose the correct word/phrase.

14. I get so angry when I see people _____ the place. In some countries, the police makes you pay a fine if they see you doing it.
(A) Litter   (B) Littering   (C) Drop litter   (D) Dropping

Direction : Choose the best reply.

15. Archana : Are you tired?
Kapil : _____
(A) Yes, in the morning I eat a lot.   (B) Yes, I always am after school.
(C) Yes, I am always ready to sleep.   (D) Yes, we need to drink juice.

SPACE FOR ROUGH WORK

ANSWERS

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