

**SAMPLE PAPER
2014-15**



NATIONAL CYBER OLYMPIAD

The actual test paper has 50 questions. Time allowed : 60 minutes. There are 3 sections: 15 questions in section I, 30 in section II and 5 in section III.

SYLLABUS

Section – I (Logical Reasoning) : Verbal and Non-verbal Reasoning.

Section – II (Computers and IT) : Internet & Viruses, HTML, Flash CS6, MS-Access, Networking, MS-Word, MS-PowerPoint, MS-Excel, Hardware, Software, Input & Output Devices, Memory & Storage Devices, 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.



NATIONAL SCIENCE OLYMPIAD

The actual test paper has 50 questions. Time allowed : 60 minutes. There are 3 sections: 15 questions in section I, 30 in section II and 5 in section III.

SYLLABUS

Section – I (Logical Reasoning) : Verbal and Non-verbal Reasoning.

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.

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



**INTERNATIONAL
MATHEMATICS OLYMPIAD**

The actual test paper has 50 questions. Time allowed : 60 minutes. There are 4 sections: 15 questions in section I, 20 in section II, 10 in section III and 5 in section IV.

SYLLABUS

Section – I (Logical Reasoning) : Verbal and Non-verbal Reasoning.

Section – II (Mathematical Reasoning) : Rational Numbers, Squares and Square Roots, Cubes and Cube Roots, Exponents and Powers, Comparing Quantities, Algebraic Expressions and Identities, Linear Equations in One Variable, Understanding Quadrilaterals, Constructions, Mensuration, Visualising Solid Shapes, Data Handling, Direct and Inverse Variations, Factorisation, Introduction to Graphs, Playing with Numbers.

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

Section – IV (Achievers Section) : Syllabus as per Section II.



**INTERNATIONAL
ENGLISH OLYMPIAD**

The actual test paper consists of 50 questions. Time Allowed : 60 minutes. There are 4 sections.

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.

Section – IV (Achievers Section) : Syllabus as per Sections I, II and III.

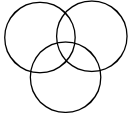
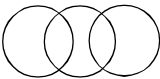
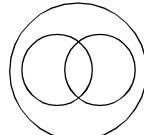
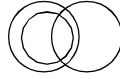
IN ASSOCIATION WITH







National Cyber Olympiad

LOGICAL REASONING

- 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
- Which one of the following venn diagrams correctly represents the relationship among “tennis fans, cricket players and students”?
(A)  (B)  (C)  (D) 
- 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
- If the digits in the number 25673948 are arranged in ascending order from left to right, what will be the sum of the digits which are fourth from the right and third from the left in the new arrangement?
(A) 10 (B) 9 (C) 4 (D) 6
- Find the missing term in the given series :
DMP, FLN, HKL, JJJ, ___?
(A) MII (B) LIH (C) III (D) MIF
- In a certain code 274 means “spread the carpet”, 254 means “dust the carpet”, and 234 means “roll the carpet”. Which digit in that code means ‘roll’ ?
(A) 2 (B) 3 (C) 5 (D) 6

COMPUTERS AND INFORMATION TECHNOLOGY

- Which of the following is NOT available in Control Panel of Windows 7?
(A) System and Security (B) Programs
(C) Bluetooth settings (D) Ease of Access
- The function of given icon in MS-Word is _____.
(A) Add caption to picture or other image
(B) To insert an index into the document
(C) Merge document to PDF files
(D) Insert Flash video

- Which of the following is CORRECT in HTML?
(A) <hr> (B) <HR>
(C) Bold Text (D) All of these
- 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
- How many sheets are there in an Excel Workbook by default?
(A) 2 (B) 3 (C) 4 (D) 5
- In Flash CS6,  is called ____ tool.
(A) Fill color (B) Paint bucket (C) Ink bottle (D) Lasso

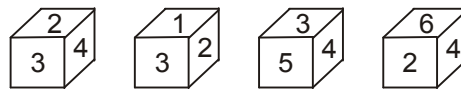
13. In MS-PowerPoint, Format Painter is used to _____.
- (A) Copy formatting from one place and apply it to another
 (B) Reset the position, size and formatting of the slide
 (C) Format text to the left
 (D) Increase the indent level
-
14. What are the columns in a Microsoft Access table called?
- (A) Rows (B) Records (C) Fields (D) Columns
-
15. Debug is a term denoting _____.
- (A) Compiling programs (B) Writing of instructions in developing a new program
 (C) Fault detection in equipment (D) Determining useful life
-



National Science Olympiad

LOGICAL REASONING

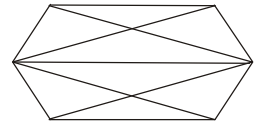
1. A dice has numbers 1, 2, 3, 4, 5 and 6 on its faces. Four positions of the dice are as shown below. The number on the face opposite to the face with number 2 is _____.



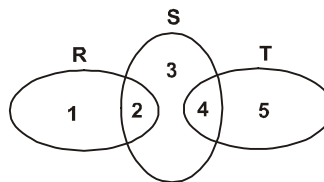
- (A) 6 (B) 5 (C) 4 (D) 1

2. Find the number of triangles in the given figure.

- (A) 12
 (B) 13
 (C) 16
 (D) 10

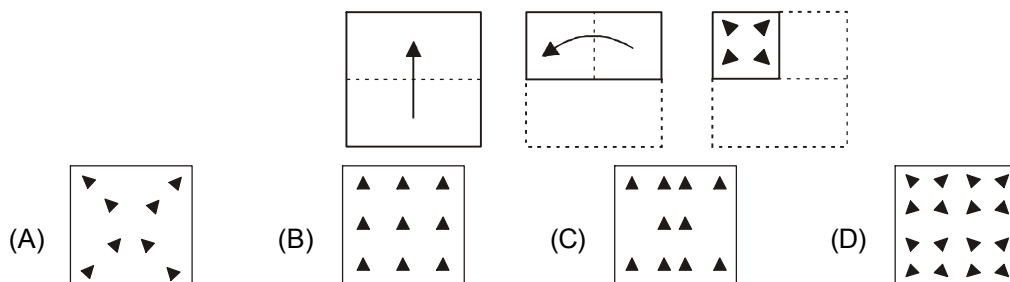


3. In the given diagram, R represents businessmen, S represents rich men and T represents honest men. Which number will represent honest rich men ?



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

4. There is a set of three figures X, Y and Z, showing a sequence in which a paper is folded and finally cut from a particular section. Select the figure from the options which most closely resembles the unfolded piece of fig(Z).

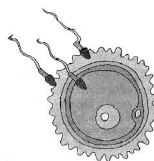


5. If BJP is coded as DMK, how can RSS be written in that code?

- (A) CPI (B) TVN (C) SJP (D) TDP

SCIENCE

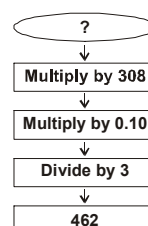
6. What is one likely function of a centriole?
(A) To hold the fibres of spindle (B) To send messages to the nucleus to divide
(C) To divide the cytoplasm
(D) To cause the chromosomes to become shorter and thicker.
-
7. Which of the following can produce a virtual image ?
(A) Plane mirror (B) Concave lens (C) Convex lens (D) All of these
-
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 experiences an upward thrust which depends on
(A) The weight of the fluid displaced by it (B) The volume of the body
(C) The mass of the body (D) All of these.
-
10. When Cu is exposed to moist air for a long time, which of the following is formed?
(A) $\text{Cu}(\text{OH})_2$ (B) CuCO_3 (C) Both (A) and (B) (D) Cu_2O
-
11. Which of the following materials is the best for making garments and jackets that can be used in wet or damp environments?
(A) Polyester (B) Wool (C) Cotton (D) None of these.
-
12. Which of the following is an acute infection of the small intestine caused by a bacterium?
(A) Cholera (B) Tuberculosis (C) Polio (D) Night blindness
-
13. Some basic steps are needed in agricultural practice. Which of the following given as A, B, C, D is the right sequence?
(1) Preparation of the soil (2) Harvesting (3) Irrigation
(4) Broadcasting (5) Tilling (6) Weeding
(7) Manuring.
(A) 1, 5, 4, 7, 3, 6, 2 (B) 1, 3, 5, 6, 4, 2, 7 (C) 1, 3, 5, 2, 4, 6, 7 (D) 1, 5, 6, 2, 4, 7, 3
-
14. The process shown in the given figure is
(A) Cleavage
(B) Fertilization
(C) Assimilation
(D) Budding.



International Mathematics Olympiad

LOGICAL REASONING

1. What is the number you started with?
(A) 5
(B) 45
(C) 56
(D) 25



2. Find out the wrong term in the given series.

24, 27, 31, 33, 36

- (A) 24 (B) 27 (C) 31 (D) 33

3. Rohit is 40 m South-West of Aarav. Ansh is 40 m South-East of Aarav. Then Ansh is in which direction of Rohit?

- (A) East (B) West (C) North-east (D) South

4. Count the number of cubes in the figure given here.

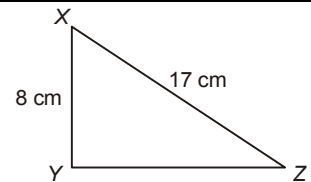
- (A) 14 (B) 15
(C) 12 (D) 20



MATHEMATICAL REASONING

5. What is the length of YZ?

- (A) 9 cm (B) 15 cm
(C) 19 cm (D) 25 cm

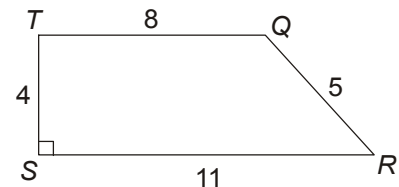


6. 200 kg of sugar was purchased at the rate of ₹ 15 per kg and sold at a profit of 5%. Compute the selling price per kg.

- (A) ₹ 18.25 (B) ₹ 13.85 (C) ₹ 15.75 (D) ₹ 31.50

7. What is the area of trapezoid QRST in square units?

- (A) 22
(B) 27
(C) 38
(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. Simplify: $\frac{25 \times a^{-4}}{5^{-3} \times 10 \times a^{-8}}$

- (A) $625a^{-4}$ (B) $\frac{625}{2}a^4$ (C) $\frac{625}{4}a^8$ (D) $25a^8$

11. Three numbers are in the ratio 2 : 3 : 4. The sum of their cubes is 33957. Find the largest number.

- (A) 28 (B) 21 (C) 32 (D) 14

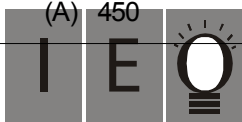
12. Find the value of x

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

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

EVERYDAY MATHEMATICS

13. Mohit 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
14. Ramu put a square fence around his vegetable garden to keep the deer from eating his corn. 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. Find the number of coins, 1.5 cm in diameter and 0.2 cm thick, to be melted to form a right circular cylinder of height 10 cm and diameter 4.5 cm.
(A) 450 (B) 250 (C) 350 (D) 400



International English Olympiad

WORD AND STRUCTURE KNOWLEDGE

1. Choose the odd pair.
(A) Annoy : Irritate (B) Comprehend : Understand
(C) Spectator : Onlooker (D) Reserve : Supply
2. The thief walked away with the diamond crown on display. No one stopped him because he was the director of the museum.
(A) Contacting (B) Impersonating (C) Implanting (D) Contradicting
3. The transmission of the President's speech remained ____ interrupted.
(A) Mis (B) Dis (C) Un (D) Non
4. **Given below are pairs of sentences, marked 'P' and 'Q'. In each case, one or both sentences could be right or wrong. Use the following code to indicate your answer.**
If both P and Q are right, tick A (+ +)
If P is right and Q is wrong, tick B (+ -)
If P is wrong and Q is right, tick C (- +)
If both P and Q are wrong, tick D (- -)
P : The old abandoned building was being burnt to the ground last night.
Q : The police suspect that the fire was caused due to short circuit.
(A) (+ +) (B) (+ -) (C) (- +) (D) (- -)

Directions (Q. No. 5 & 6) : Find the incorrect part and mark it in your answer sheet.

5. The papers are increasing/ full of stories /of mindless violence./No error.
(A) (B) (C) (D)
6. The Taj Residency/ is not as expensive than/ the Four Seasons Hotel./ No error.
(A) (B) (C) (D)
7. Maya and Anand for five years.
(A) Has been married (B) Have been married
(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.
8. Select the statement that is false, according to the passage.

- (A) Life on Earth is threatened only by global warming.
- (B) Global warming threatens human beings who live on islands.
- (C) When the overall temperature on Earth rises the sea level will also increase.
- (D) Creatures which cannot adapt to higher temperatures will become extinct.

9. "Many cannot take the change." Here "change" refers to changes in
 (A) Lifestyle (B) Food habits (C) Temperature (D) Health issues

10. People living in coastal areas are affected by
 (A) Green house gases (B) Human actions
 (C) Rise in sea levels (D) Rise in temperature

SPOKEN AND WRITTEN EXPRESSION

Direction (Q. No. 11 to 13) : Sentences 1 and 3 are given. Sentence 2 is missing. Find the right sentence for sentence 2.

11. Sona : Hema, I notice your tennis serve is much better these days.

Hema:

Sona: Your efforts have not been wasted. There is a remarkable improvement in your game.

- (A) Yes, I think I've finally mastered the technique, though it took months of practice.
- (B) Serving well is an art that can be mastered.
- (C) I saw a doctor because I was suffering from tennis elbow.
- (D) In tennis one has to focus on one's serving action.

12. Mala : I was looking for a birthday present for my nephew but I didn't have much luck. Do you have any bright ideas?

Jhansi :

Mala : I did think about it, but I felt I should take some trouble and choose something useful.

- (A) Some music, maybe? (B) One need not buy a present for everyone.
- (C) You could just give him some money.
- (D) Buying a present is something that only the young enjoy.

13. Sentence 1 : A trained memory is an immense asset, particularly in public life.

Sentence 2 :

Sentence 3 : Many of these systems, still used today were perfected by the Greeks.

- (A) The basic principle is to concentrate the mind on whatever you want to memorize.
- (B) Ancient Greeks encouraged students to cultivate their memory.
- (C) Memory training systems are not very difficult to master.
- (D) A good memory is an advantage.

Direction (Q.No. 14 and 15) : Sentences 1 and 4 are given. Sentence 2 and 3 are missing. Select two sentences that will complete the paragraph.

14. Sentence 1 : Today's world is full of gizmos and gadgets unimaginable to people thirty years ago.

Sentence 2 :

Sentence 3 :

Sentence 4 : However, keeping abreast of technology seems a difficult job by itself considering the pace at which new gadgets appear on the market.

- (D) The markets cater to this section and keep bringing out products that cater to their taste.
- (E) Students and the youth like to keep abreast of technology.
- (F) Who would have imagined a world of cell phones and ipods?

(A) DF (B) ED (C) EF (D) FD

15. Sentence 1 : Disposal of household waste is a daunting task for local authorities.

Sentence 2 :

Sentence 3 :

Sentence 4 : One way to reduce waste therefore is to segregate degradable and non biodegradable waste at its source.

- (D) Efforts should be made to recycle household waste.
- (E) They cannot just dump waste in landfills.
- (F) This is because household waste contains many materials and substances which are extremely harmful to the environment.

(A) EF (B) DE (C) FE (D) DF

SAMPLE ANSWER SHEET

1. **NAME** : If your name is SACHIT AIYER, 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	7
A	A	●	0	0
B	B	1	1	1
C	C	2	2	2
D	D	3	3	3
E	E	4	4	●
F	F	5	●	5
G	G	6	6	6
H	●	7	7	7
I	I	8	8	8
J	J	9	9	9
K	K			
L	L			
●	M			
N	N			
O	O			
P	P			
Q	Q			
R	R			
S	S			
T	T			
U	U			
V	V			
W	W			
X	X			
Y	Y			
Z	Z			

3. SCHOOL CODE

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

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			ROLL NO.		
1	0	5	8	7	
0	●	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	●	5	5	5
6	6	6	6	6	6
7	7	7	7	7	●
8	8	8	8	8	8
9	9	9	9	9	9

Darken the circle

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. (A) (B) ● (D)

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

National Cyber Olympiad

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

National Science Olympiad

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

International Mathematics Olympiad

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

International English Olympiad

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

ANSWERS

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