



## SAMPLE PAPER



National Cyber Olympiad

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)** : Regional and Roman Numerals, Numbers up to one Lakh, Multiples and Factors, Fractional Numbers, Addition, Subtraction, Multiplication, Division, Estimation, Geometrical Shapes, Measurement, Time, Money, Perimeter, Area, Angle, Pictorial Representation of Data, Prime and Composite Numbers, HCF and LCM.

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

**Section – III (Computers and IT)** : Input and Output Devices, Hardware, Software, Storage Devices, Memory Primary & Secondary Memory, MS-Paint, MS-Word, Introduction to MS-Power Point, Introduction to Multimedia, Internet, Computer Networks, MS-Windows.



National Science Olympiad

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)** : Number Sense, Regional and Roman Numerals, Numbers up to Lakhs, Multiples and Factors, Fractional Numbers, Addition, Subtraction, Multiplication, Division, Decimals, Geometrical Shapes and Angles, Symmetry, Measurement of Length, Time, Money, Weight, Perimeter and Area of Square, Rectangle and Circle, Pictorial Representation of Data, HCF and LCM, Problems Based on Figures, Find Odd Numeral Out, Series Completion, Coding-Decoding, Mathematical Reasoning, Mirror Images, Embedded Figures, Direction Sense, Patterns, Number Ranking, Alphabetical Test.

**Section – II (Science)** : Animals, Plants and Food, Human Body and Health, Water, Matter, Natural Resources and Calamities, Earth and Universe, General Science.

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.

**Section – I** : Logical Reasoning, **Section – II** : Mathematical Reasoning & **Section – III** : Everyday Mathematics

## 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.

International  
English Olympiad

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

## SYLLABUS

**Section-I : Word and Structure Knowledge** : Prepositions, Tenses, Irregular verbs, Pronouns, Modals quantifiers, etc. , Spellings, Collocations, Phrasal verbs, Idioms, Homonyms and homophones, Words related to feelings, Travel, Food, Health, appearance, Character, etc.

**Section-II : Reading** : 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-III : Spoken and Written Expression** : Ability to understand situation-based variations in functions like requests, Refusals apologies, etc. and the use of conjunctions.



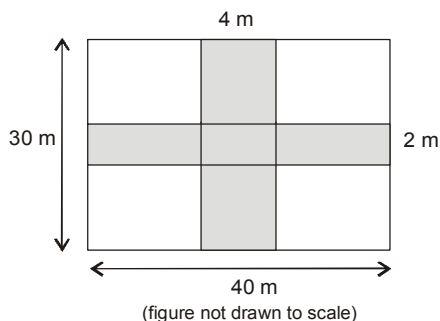
# National Cyber Olympiad

## MENTAL ABILITY

- Which of the following are supplementary angles?  
(A)  $180^\circ, 180^\circ$  (B)  $100^\circ, 80^\circ$  (C)  $50^\circ, 50^\circ$  (D)  $40^\circ, 50^\circ$
- A table was sold for ₹ 900. If the profit of ₹ 100 earned on it, then the cost price of the table is  
(A) ₹ 800 (B) ₹ 700 (C) ₹ 1000 (D) ₹ 1200

- The area of the shaded region is

- (A)  $264 \text{ m}^2$   
(B)  $192 \text{ m}^2$   
(C)  $190 \text{ m}^2$   
(D)  $36 \text{ m}^2$



- Which of the figures shows correct fraction for  $\frac{1}{3}$ ?

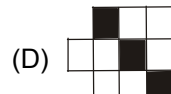
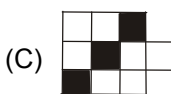
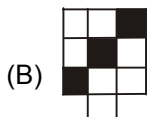
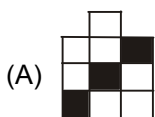
- (A)  $\times \times \times \times (\times \times)$  (B)  $\div \div \div \div (\div)$  (C)  $\circ \circ \circ (\circ \circ)$  (D)  $\circ \circ \circ \circ (\circ \circ \circ)$

## LOGICAL & ANALYTICAL REASONING

- $5\frac{3}{4} = 5 + (\square + \square + \square)$ . Here,  $\square$  stands for

- (A)  $\frac{3}{4}$  (B)  $\frac{1}{4}$  (C) 3 (D) 4

- Which is the odd one out?



- Library is to book as book is to

- (A) Page (B) Copy (C) Binding (D) Cover

- If the day before yesterday is two days after Monday then what day is it today?

- (A) Monday (B) Tuesday (C) Wednesday (D) Saturday

## COMPUTERS & INFORMATION TECHNOLOGY

- Multimedia is used for many purposes like \_\_\_\_\_.

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

- Find the odd term out.

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

- To exit the Power Point

- (A) Click the application minimize button (B) Click the document close button  
(C) Double click the applications control menu icon  
(D) Double click the document control menu icon

- Computer cannot perform anything on its own. It can process only when it is instructed to do so. These sets of instructions that are fed in by the user are termed as

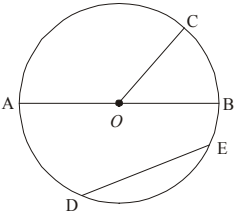
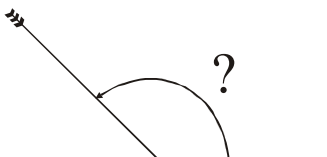
- (A) Hardware (B) Software (C) Flowcharts (D) Programs

13. MS-paint is  
 (A) Accounting software (B) System software  
 (C) Application software (D) Physical component
- 
14. The small picture representing a program is a  
 (A) Icon (B) File (C) Folder (D) Drive
- 
15. While working in MS-paint, the option which is used to show the drawing in a small reference window is  
 (A) Show grid (B) Zoom in (C) View bitmap (D) Show thumbnail
- 



# National Science Olympiad

## MENTAL ABILITY

1. A circle is drawn, with centre point O.  
 The line segment from point A to point B, through the centre of the circle, is called  
 (A) An arc (B) A circumference  
 (C) A radius (D) A diameter
- 
- 
2. Which could be the measures of the angles of a right triangle ?  
 (A)  $80^\circ, 50^\circ, 90^\circ$  (B)  $36^\circ, 90^\circ, 54^\circ$  (C)  $44^\circ, 90^\circ, 40^\circ$  (D)  $110^\circ, 90^\circ, 20^\circ$
- 
3. A race started at 11:16 A.M. The first person to cross the finish line came in at 1:22 P.M. How long did it take the first person to reach the finish line ?  
 (A) 13 hours 38 minutes (B) 2 hours 6 minutes  
 (C) 1 hours 6 minutes (D) 2 hours 38 minutes
- 
4. An arrow makes an angle with the level ground, as shown in the picture.  
 Which is the best name for this angle ?  
 (A) Obtuse (B) Right  
 (C) Straight (D) Acute
- 
- 
5. If  $A = 5$ , which number sentence is true ?  
 (A)  $A \times 4 = 20$  (B)  $A - 3 = 8$  (C)  $12 + A = 7$  (D)  $15 \div A = 10$

## SCIENCE

6. Oxygen, nitrogen, and carbon dioxide may be grouped together because at room temperature they are all —  
 (A) Colloids (B) Solids (C) Gases (D) Liquids
- 
7. The Moon revolves around —  
 (A) Itself (B) The solar system (C) The Earth (D) The star
- 
8. Which of these is a process that allows plants to convert light energy into food energy?  
 (A) Photosynthesis (B) Excretion (C) Reproduction (D) Digestion
- 
9. A small baby plant coming out of a seed is  
 (A) Grain (B) Root (C) Dispersal (D) Seedling
- 
10. Which of these is needed to measure the mass of a rock?  
 (A) A balance (B) A barometer (C) A metric ruler (D) Thermometer

11. Which of these can most easily attract magnets ?  
 (A) Wood                      (B) Notebook                      (C) Iron nails                      (D) Eraser

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

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13. Today, which human activity is responsible for endangering the greatest number of land animal species?  
 (A) Accidental starting of forest fires                      (B) Cutting wildflowers in national parks  
 (C) Destruction of habitats                      (D) Hunting for food and sport

---

14. Which of these probably causes the most air pollution?  
 (A) Cars                      (B) Wind                      (C) Rain                      (D) Trees

---

15. People in very cold places live in  
 (A) Stilt house                      (B) Wooden house                      (C) Igloo                      (D) House of mud



## International Mathematics Olympiad

1. Harry had 500 coins in a jar. He sorted the coins into 25 different stack. Each stack had the same number of coins. How many coins were in each stack?  
 (A) 20                      (B) 45                      (C) 25                      (D) 12

---

2. There are 914 students enrolled in Lakeview Elementary School. Frederick Elementary School has 276 fewer students enrolled. How many students are enrolled at Frederick Elementary School?  
 (A) 642                      (B) 762                      (C) 1,190                      (D) 638

---

3. Which of the following shows a reflection (flip) of the shaded shape across the dotted line?  
 (A)      (B)      (C)      (D)

---

4. Which of the following has exactly 6 vertices?  
 (A)      (B)      (C)      (D)

---

5. Which figure is quadrilateral?  
 (A) Figure T                      (B) Figure S                      (C) Figure X                      (D) Figure W

---

6. Which figure has an area of 8 and a perimeter of 12? Each square block is of side 1 unit.  
 (A)      (B)      (C)      (D)

---

7. 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

8. A rule was used to make the pattern shown below.

51, 45, 39, 33, 27, 21 . . .

Which could be the rule used to make the pattern?

- (A) Divide by 7      (B) Divide by 6      (C) Subtract 7      (D) Subtract 6

9. Which of these could be solved by using the open sentence  $S - 7 = ?$

- (A) Rita collected 7 more seashells than Henry. If  $S$  is the number of seashells that Henry collected, how many did Rita Collect ?  
 (B) Bony collected 7 fewer seashells than Kamal. If  $S$  is the number of seashells Kamal collected, how many did Bony collect ?  
 (C) David needs 7 seashells more to complete his collection. If  $S$  is the number of seashells he has so far, how many will he have after he gets 7 more ?  
 (D) Amit filled 7 boxes with seashells. If  $S$  is the number of seashells she put in each box, how many seashells did she use in all ?

10. An optometrist uses the symbol below as a tool during an eye exam.

Which figure would result when the symbol is flipped over the dotted line?



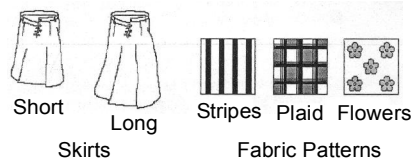
- (A)      (B)      (C)      (D)

11. Simon and Julie need 72 paper flowers to complete a bulletin board. They have 19 paper flowers so far. Which operation should be used in the box below to find how many more paper flowers they need?

$$72 \boxed{?} 19 =$$

- (A) Addition      (B) Division      (C) Multiplication      (D) Subtraction

12. 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. How many different combinations could Shelley order choosing a length and a fabric pattern?

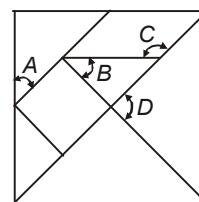


- (A) 2      (B) 3      (C) 5      (D) 6

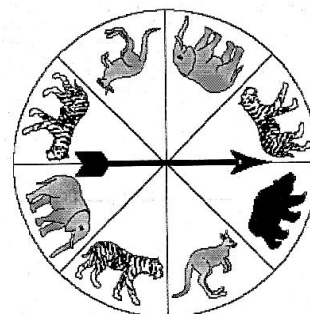
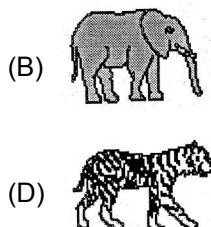
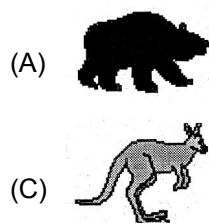
13. A tangram is an ancient Chinese puzzle. It is made of seven pieces that fit together to make a square.

Which of the angles marked in the tangram puzzle given is an obtuse angle?

- (A) Angle A      (B) Angle B  
 (C) Angle C      (D) Angle D



14. The picture below shows a spinner for an animal board game. In which animal section is spinner least likely to land?



15. The following table shows the distance around four different planets.

Which planet's distance has the numeral 3 in the ten-thousands place?

- (A) Jupiter      (B) Mars  
 (C) Mercury      (D) Neptune

DISTANCE AROUND

| Planet  | Distance Around (in miles) |
|---------|----------------------------|
| Jupiter | 88,732                     |
| Mars    | 4,213                      |
| Mercury | 3,032                      |
| Neptune | 30,603                     |



# International English Olympiad

## WORD AND STRUCTURE KNOWLEDGE

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

I can't wait to \_\_\_wrap my birthday presents.

(A) In                      (B) Im                      (C) Un                      (D) None of these

2. Choose the odd one out.

(A) Build                      (B) Separate                      (C) Construct                      (D) None of these

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

I like to read \_\_\_\_\_to my brother.

(A) Allowed                      (B) Aloud                      (C) Alaud                      (D) None of these

4. Match the underlined phrase with its correct meaning in the box.

Mother tried in vain 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

5. Find the odd one out.

(A) Teacher : Student                      (B) Shopkeeper : Customer  
(C) Doctor : Librarian                      (D) None of these

6. You have to go \_\_\_\_\_ this door to reach the library.

(A) From                      (B) By                      (C) Through                      (D) None of these

### Direction (Q. No. 7 and 8) : Spot the error in the sentence.

7. This doll / was my/ before I gave it to you.

No error

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

8. If a student is not well, / he must to stay home / and rest till he feels better.                      No error

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

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

(A) I will start my course on June.  
(B) He wore a shirt that came well below his knees.  
(C) Sangeeta was lying on the bed reading a book.  
(D) None of these

10. If he is planning to participate in the marathon, he \_\_\_\_\_ practice regularly.

(A) Should                      (B) Shall                      (C) Can                      (D) None of these

**READING**

**Direction (Q. No. 11 and 12) : 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"!

11. 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 these

12. 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. 13 to 15) : Find one sentence to complete the dialogue.**

13. 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

14. 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

15. 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

**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 SHARMA, then you should write as follows :

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|
| S | A | T | I | S | H | K | U | M | A | R | S | H | A | R | M | A |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|

**SCHOOL CODE**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| M | H | 0 | 5 | 4 | 7 |
| A | A | ● | 0 | 0 | 0 |
| B | B | 1 | 1 | 1 | 1 |
| C | C | 2 | 2 | 2 | 2 |
| D | D | 3 | 3 | 3 | 3 |
| E | E | 4 | 4 | ● | 4 |
| F | F | 5 | ● | 5 | 5 |
| G | G | 6 | 6 | 6 | 6 |
| H | ● | 7 | 7 | 7 | ● |
| I | I | 8 | 8 | 8 | 8 |
| J | J | 9 | 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 :

Darken  
the circle

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

| GENDER |          |
|--------|----------|
| MALE ● | FEMALE ○ |

Darken  
the circle

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

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

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

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