



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) : Numerals and number names, Addition, Subtraction, Multiplication, Division, Time, Calendar, Measurement of weight and capacity, Geometrical shapes, Money.

Section – II (Logical and analytical reasoning) : Problems based on figures, Find odd numeral out, Series completion, Coding-decoding, Mathematical reasoning, Analytical reasoning.

Section – III (Computers and IT) : About computers (General information), Parts of a computer, Applications of computers, Start and shut down a computer, Keyboard, Computer mouse, Fun with paint.



National Science Olympiad

The actual test paper has 50 questions. Time allowed : 60 minutes. There are 2 sections, 20 questions in section I and 30 in section II.

SYLLABUS

Section – I (Mental ability) : Numerals and number name, Addition, Subtraction, Multiplication, Division, Time, Calendar, Measurement of weight and capacity, Geometrical shapes, Money.

Section – II (Science) : The human body, The family, The home, The school, The neighbourhood, Important places, Transport, Life around us, Plants, Animals, Water, The earth.



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

Numerals and number name, Addition, Multiplication, Division, Fractions, Money, Length (conversions), Weight, Capacity, Time, Point, Line and plane Figures.



National Cyber Olympiad

MENTAL ABILITY

1. Which set of numbers will give the greatest answer?

| | | | |
|--------------|--------------|--------------|--------------|
| P | Q | R | S |
| 3×3 | 8×2 | 3×6 | 5×4 |

- (A) P (B) Q (C) R (D) S

2. 7 groups of _____ makes 49.

- (A) 9 (B) 7 (C) 4 (D) 3

3. Anu and her brother went for fishing. She caught 2 more fish than her brother did. The \square represents the number of fish her brother caught. Which of the following could be used to find the number of fish Anu caught?

- (A) $\square + 2$ (B) $\square - 2$ (C) $\square \times 2$ (D) $\square \div 2$

4. I am thinking of a number. When I double the number and add 9 to the result, the answer is 29. What is the number I am thinking of ?

- (A) 38 (B) 29 (C) 18 (D) 10

5. In science class, Samir recorded the following amounts of rainfall for one 4-day period.

On what day of the week did Samir record the least amount of rainfall?

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

AMOUNT OF RAINFALL RECORDED

| Day of Week | Amount of Rainfall |
|-------------|--------------------|
| Monday | 0.12 mm |
| Tuesday | 0.02 mm |
| Wednesday | 0.21 mm |
| Thursday | 0.11 mm |

6. Mr. Narayan is lining up his students in this order:

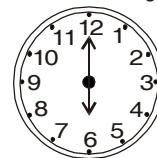
girl, girl, boy, boy, girl, girl, boy, boy girl, girl, boy, ? ?

If he continues the same pattern, what are the next two students in line?

- (A) Boy, boy (B) Boy, girl (C) Girl, boy (D) Girl, girl

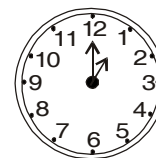
7. Mona went fishing with her dad. This clock shows the time they left in the morning.

Time they left in the morning



This clock shows the time they returned home that afternoon.

Time they returned in the afternoon



How many hours were they on their fishing trip?

- (A) 1 hour (B) 5 hours (C) 6 hours (D) 7 hours

8. Which is the greatest number ?

- (A) 345 (B) 354 (C) 376 (D) 367

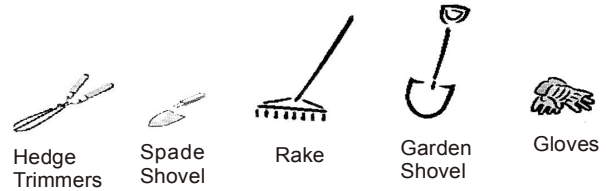
9. There are 79 animals in the animal shelter. 27 are dogs and 31 are cats. The rest are rabbits. How many rabbits are there ?

- (A) 58 (B) 152 (C) 48 (D) 21

10. Anil is an animal doctor who works at the zoo. Yesterday he weighed an elephant. Which unit of measure could be used to weigh an elephant?
- (A) Centimetres (B) Kilograms (C) Litres (D) Metres

11. Monika has these tools to use in her garden. Which fraction below shows the number of shovels compared to the whole set?

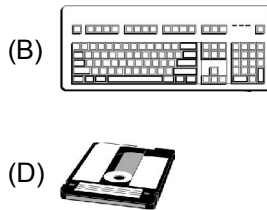
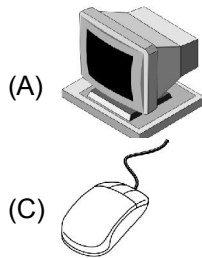
- (A) $\frac{1}{5}$ (B) $\frac{2}{3}$
(C) $\frac{2}{5}$ (D) $\frac{5}{2}$



COMPUTERS & INFORMATION TECHNOLOGY

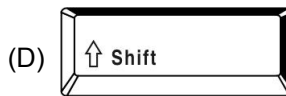
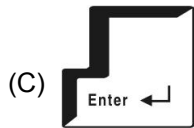
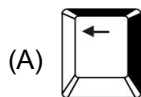
12. CD-ROM stands for
- (A) Central processing unit (B) CD-remote open mouse
(C) CD-resize or minimize (D) CD-read only memory

13. The device which is used to store information



14. CPU is called *the brain of the computer*. What does CPU stands for ?
- (A) Control Processing Unit (B) Calculations Processing Unit
(C) Central Processing Unit (D) Computer Processing Unit

15. This is the key which is used to give space after words, alphabets or numbers. If pressed once, it gives the space of one character. It is



16. A blinking symbol on the screen that shows where the next character will appear is
- (A) Delete key (B) Arrow key (C) Cursor (D) Return key

17. The computer monitor is which type of device ?

- (A) Output (B) Input (C) Processor (D) Software

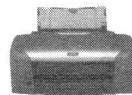
18. Leela wants to send an electronic message to her friend. She should use which type of application ?

- (A) Word processing (B) E-mail
(C) Spreadsheet (D) Paper and pencil

19. A keyboard is which kind of device ?

- (A) Block (B) Input (C) Output (D) Word processing

20. A light weight & compact machine, capable of doing everything which a desktop computer can do, is called _____.



(A) CD-ROM

(B) Scanner

(C) Printer

(D) Laptop



National Science Olympiad

MENTAL ABILITY

1. Look at the number sentence below.

$$27 + \square = 37$$

What number is missing from the number sentence?

- (A) 0 (B) 10 (C) 17 (D) 64

2. Which of these number sentences is true?

- (A) $12 - 5 = 11 - 6$ (B) $12 - 5 = 12 - 7$
(C) $12 - 5 = 15 - 2$ (D) $12 - 5 = 16 - 9$

3. Dolly made the number pattern below.

3, 6, 9, ?, ?, 18

What two numbers are missing from the pattern?

- (A) 10, 11 (B) 12, 15 (C) 13, 15 (D) 19, 20

4. Which of these numbers has an 8 in the tens place?

- (A) 18 (B) 98 (C) 281 (D) 862

5. The table below shows how many minutes Raghav practiced playing the piano last weekend.

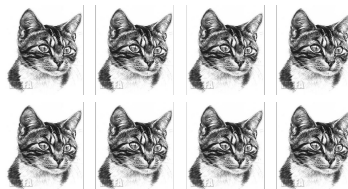
Raghav's Piano Practice

| Day | Time (in minutes) |
|----------|----------------------|
| Friday | 25 |
| Saturday | 30 |
| Sunday | 29 |

How many minutes did Raghav practice playing the piano in all?

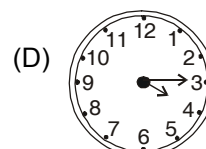
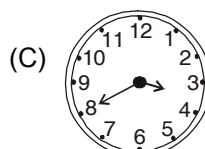
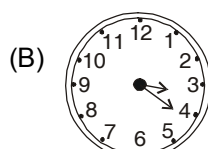
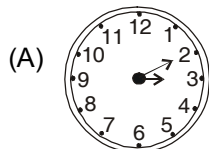
- (A) 74 Minutes (B) 79 Minutes (C) 84 Minutes (D) 85 Minutes

6. Ram's cat had 8 kittens as shown below. Ann kept $\frac{1}{4}$ of Ram's kittens. How many kittens did Ram have now?



- (A) 1 Kitten (B) 2 Kittens (C) 4 Kittens (D) 6 Kittens

7. Which clock shows 3 : 20?



8. Manjit walks to school each day. Which of these best describes how long it takes Manjit to walk to school?

- (A) Centimeters (B) Inches (C) Seconds (D) Minutes

9. A pilot flies 728 kilometre. Which is another way to write this number?

- (A) Seven hundred eighty-two (B) Seven hundred thirty-eight
(C) Seven hundred twenty-eight (D) Seven hundred forty-eight

10. Ali is taller than Kapil. Kapil is taller than Kevin. Ali is 48 inches tall. Kevin is 45 inches tall. How tall could Kapil be?

- (A) 51 Inches (B) 48 Inches
(C) 47 Inches (D) 45 Inches

SCIENCE

11. Which of the given figures represents the organ that helps in breathing ?

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

12. My father's nephew or niece is my

- (A) Cousin (B) Uncle (C) Aunt (D) Brother-in-law

13. The person in the given figure is a/an

- (A) Doctor
(B) Soldier
(C) Diver
(D) Astronaut



14. The given figure shows a microscope. Which subject is it related to ?

- (A) Maths (B) Geography
(C) History (D) Science



15. Which of the following mode of transport does not have an engine and are not pulled by animals ?

- (A) Cycle (B) Tonga (C) Jeep (D) Car

16. To which place of worship does Sikhs go to pray ?

- (A) Temple (B) Mosque (C) Church (D) Gurdwara

17. Which of the following yields fibre ?

- (A)  (B)  (C)  (D) 
- (A) Barley (B) Tea (C) Cotton (D) Mustard

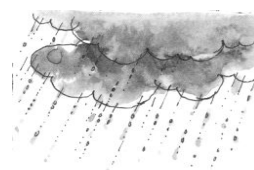
18. If you face the rising sun in the morning, the direction on your left is

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







19. The given figure represents which of the following seasons ?

- (A) Spring (B) Summer
(C) Monsoon (D) Winter



20. Which of the following figures represent crescent moon ?

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



International Mathematics Olympiad

1. Largest two digit number is

(A)

| | |
|---|---|
| 0 | 1 |
|---|---|

(B)

| | | |
|---|---|---|
| 1 | 0 | 0 |
|---|---|---|

(C)

| | |
|---|---|
| 9 | 0 |
|---|---|

(D)

| | |
|---|---|
| 9 | 9 |
|---|---|

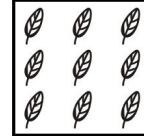
2. Total number of leaves in the given figure can be found using

(A) 3×3

(B) 3×2

(C) $3 + 3$

(D) $3 + 3 + 2$



3. An ant has 6 legs. How many legs do 8 ants have ?

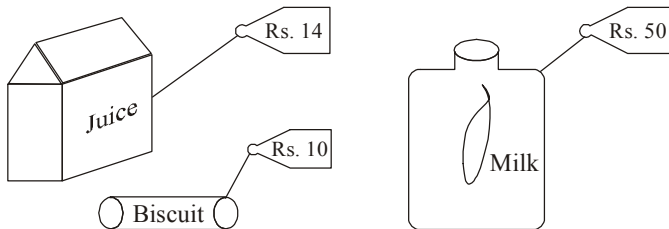
(A) $6 + 8$

(B) 6×8

(C) $8 - 6$

(D) 8×5

4.



What is the total cost of the food items displayed ?

(A) Rs. 74

(B) Rs. 84

(C) Rs. 64

(D) Rs. 70

5. What note would you use to pay for a Geometry box costing Rs. 18 ?

(A) 10 rupee note

(B) 20 rupee note

(C) 5 rupee note

(D) 2 rupee note.

6. A leap year is a year that has

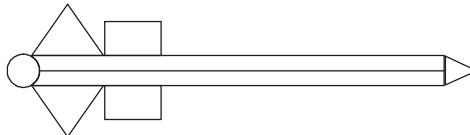
(A) An extra day

(B) An extra week

(C) An extra month

(D) An extra hour

7. Number of triangles in the given figure



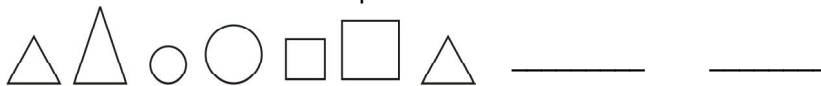
(A) 3

(B) 4

(C) 5

(D) 0

8. What will come next in the sequence ?



(A)

(B)

(C)

(D)

9. What will come next in the sequence ?



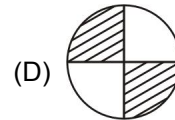
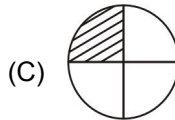
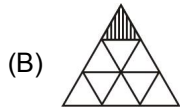
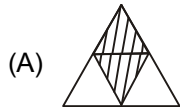
(A)

(B)

(C)

(D)

10. Which of the following shows $\frac{1}{4}$ part shaded ?



11. In 3278, 2 is in which place ?

(A) Ones (B) Hundreds
(C) Tens (D) Thousands

12. 5 Hundreds, 2 Thousands, 1 ones and 5 tens will make

(A) 2551 (B) 5521
(C) 5251 (D) 1552

13. There are 15 beetles. Ring the beetles into group of 3. How many groups will be formed ?

(A) 5 (B) 6 (C) 4 (D) 3

14. When arranged in order from smallest to biggest, which number will be at last position in the sequence?
21, 12, 79, 63, 36, 47

(A) 79 (B) 36 (C) 47 (D) 12

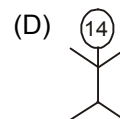
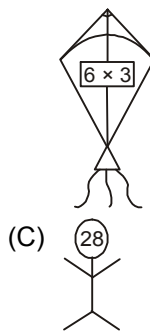
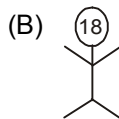
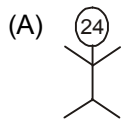
15. Anupriya had Rs. 90. She bought a pair of scissors for Rs. 60. How much amount she has now ?

(A) Rs. 30 (B) Rs. 40
(C) Rs. 35 (D) Rs. 25

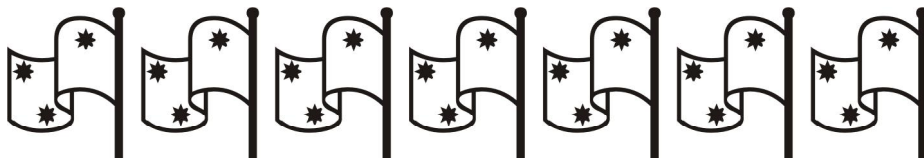
16. Mrs. Tanuja bakes 20 cup cakes. If she packs 4 cup cakes in one box, how many boxes does she need to pack all the cakes ?

(A) 7 boxes (B) 6 boxes
(C) 5 boxes (D) 3 boxes

17. The kite flying in the sky belongs to which girl ?



18. There are 3 stars on a flag. There are 7 such flags. How many stars are there altogether ?



(A) 20 (B) 21
(C) 28 (D) 27

19. Reena has 496 story books. Mona has 388 story books. How many story books do they have in all ?

(A) $496 - 388$ (B) $496 + 388$
(C) 469×388 (D) $469 \div 388$

20. Which of the following digit in 928 is at hundreds place ?

(A) 2 (B) 0
(C) 9 (D) 8

SAMPLE ANSWER SHEET

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

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| S | A | C | H | I | T | A | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|

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 | 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 ○ |

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 |
| 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 |

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)

Darken the circle

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

National Cyber Olympiad

- | | | | | |
|--------------------|--------------------|---------------------|---------------------|---------------------|
| 1. (A) (B) (C) (D) | 5. (A) (B) (C) (D) | 9. (A) (B) (C) (D) | 13. (A) (B) (C) (D) | 17. (A) (B) (C) (D) |
| 2. (A) (B) (C) (D) | 6. (A) (B) (C) (D) | 10. (A) (B) (C) (D) | 14. (A) (B) (C) (D) | 18. (A) (B) (C) (D) |
| 3. (A) (B) (C) (D) | 7. (A) (B) (C) (D) | 11. (A) (B) (C) (D) | 15. (A) (B) (C) (D) | 19. (A) (B) (C) (D) |
| 4. (A) (B) (C) (D) | 8. (A) (B) (C) (D) | 12. (A) (B) (C) (D) | 16. (A) (B) (C) (D) | 20. (A) (B) (C) (D) |

National Science Olympiad

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|--------------------|--------------------|---------------------|---------------------|---------------------|
| 1. (A) (B) (C) (D) | 5. (A) (B) (C) (D) | 9. (A) (B) (C) (D) | 13. (A) (B) (C) (D) | 17. (A) (B) (C) (D) |
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International Mathematics Olympiad

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| 3. (A) (B) (C) (D) | 7. (A) (B) (C) (D) | 11. (A) (B) (C) (D) | 15. (A) (B) (C) (D) | 19. (A) (B) (C) (D) |
| 4. (A) (B) (C) (D) | 8. (A) (B) (C) (D) | 12. (A) (B) (C) (D) | 16. (A) (B) (C) (D) | 20. (A) (B) (C) (D) |

ANSWERS

National Cyber Olympiad

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (D) | 2. (B) | 3. (A) | 4. (D) | 5. (B) | 6. (B) | 7. (D) | 8. (C) | 9. (D) | 10. (B) |
| 11. (C) | 12. (D) | 13. (D) | 14. (C) | 15. (B) | 16. (C) | 17. (A) | 18. (B) | 19. (B) | 20. (D) |

National Science Olympiad

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|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (B) | 2. (D) | 3. (B) | 4. (C) | 5. (C) | 6. (D) | 7. (B) | 8. (D) | 9. (C) | 10. (C) |
| 11. (C) | 12. (A) | 13. (C) | 14. (D) | 15. (A) | 16. (D) | 17. (C) | 18. (A) | 19. (C) | 20. (C) |

International Mathematics Olympiad

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|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (D) | 2. (A) | 3. (B) | 4. (A) | 5. (B) | 6. (A) | 7. (A) | 8. (B) | 9. (C) | 10. (C) |
| 11. (B) | 12. (A) | 13. (A) | 14. (A) | 15. (A) | 16. (C) | 17. (B) | 18. (B) | 19. (B) | 20. (C) |