CLASS

9

SAMPLE PAPER

SCIENCE • OLYMPIAD • FOUNDATION

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) : Squares and square roots, Cubes and cube roots, Exponents and radicals, Algebra-identities, Division of algebraic expressions, Linear equations, Applications of percentage, Parallel lines, Special types of quadrilaterals, Construction of quadrilaterals, Chords of a circle, Angle properties of a circle, Areas of rectilinear figures, Circumference and area of a circle, Volumes and surface areas, Statistics.

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, Direction sense test, Cubes and dice.

Section – III (Computers and IT) : Technologies development of computation and computers, Hardcore of a computer, How computer languages work, How viruses and anti viruses software s work, MS-Word creating documents, Professional documents in MS-Word, Mail merge in MS-Word, MS-Excel, Charts in MS-Excel 2000, Power Point (Microsoft 2000), Html, World Wide Web (WWW), Electronic mail.

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) : Number Systems, Polynomials, Coordinate Geometry, Linear Equations in Two Variables, Introduction to Euclid s Geometry, Lines and Angles, Triangles, Quadrilaterals, Areas of Parallelograms and Triangles, Circles, Constructions, Heron s Formula, Surface Areas and Volumes, Statistics, Probability.

Section – II (Science) : Motion, Force and Laws of Motion, Gravitation, Work and Energy, Sound, Matter in Our Surroundings, Atoms and Molecules, Is Matter Around Us Pure, Structure of the Atom, The Fundamental Unit of Life, Tissues, Diversity in Living Organisms, Why Do We Fall Ill, Natural Resources, Imporvement in Food Resources.

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.

SYLLABUS

Section – I (Logical reasoning) : Mathematical operations, Series completion, Arithmetical Reasoning, Problems on cubes and dice, Number ranking & Time sequence Test, Inserting missing character and general reasoning based on prescribed syllabus.

Section – II (Mathematical reasoning) : Irrational Numbers, Polynomials, Ratio and Proportions, Linear Equation in Two Variables, Percentage and its applications, Compound Interest, Lines, angles and triangles, Congruence of triangles, Inequalities in triangle, Parallelograms, Areas, Trigonometry, Mensuration of plane and solid figures, Statistics.

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

National Cyber Olympiad

MENTAL ABILITY

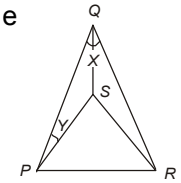
1. How many spokes are there in the wheel of a sports car if any two spokes form an angle of 15°?
(A) 12 (B) 15 (C) 22 (D) 24

2. Two clocks are set at the same time, one is seen to gain 40 seconds and other to lose 50 seconds in 24 hours. In how much time will they show a difference of 15 minutes?
(A) 90 days (B) 10 days (C) 90 hours (D) 10 hours.

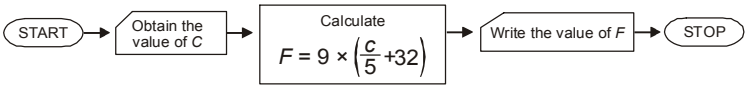
3. A girl was given two candles by her father for her birthday and was told that one candle would burn for six hours and the other, four hours. After they were both lit and allowed to burn for sometime, the girl noticed that one candle was twice as long as the other. State for how long the candles had been burning together?
(A) 2 hours (B) 3 hours (C) 4 hours (D) 5 hours.

4. Students of the psychology class in a college were getting ready to challenge and out-wit their new lecturer on her first day of teaching but became dumb-founded when she asked them to find the product of $(x - a)\ (x - b)\ (x - c)\ (x - d)$.....$(x - y)(x - z)$. What do you think is the answer?
(A) 0 (B) 1 (C) 2 (D) $x^n - (a)\ (b)\ (c)$ .....(z).

5. In the given figure if PQR is an isosceles triangle and PSR is an equilateral triangle and $X = 26°$ then the value of Y (in degrees) will be
(A) 17 (B) 27
(C) 37 (D) 47



6. To convert a given temperature in Celsius scale to Fahrenheit scale, the following flowchart is generated.
Is the generated flowchart correct?



(A) Yes (B) No
(C) Can't say (D) Information is incomplete.

7. In which of the following quadrilaterals, the diagonals must be equal?
(A) Parallelogram (B) Trapezium
(C) Rhombus (D) Square.

8. Each side of a rhombus is 5 cm and one of the diagonals is 8 cm. Calculate the length of another diagonal and the area of the rhombus.
(A) 8 cm, 32 cm^2 (B) 6 cm, 24 cm^2
(C) 4 cm, 16 cm^2 (D) 7 cm, 28 cm^2 .

LOGICAL & ANALYTICAL REASONING

9. A country has six seaports, E, F, G, H, I and J, where ships only run from:
E to F, F to E, F to G, G to H, H to F
H to I, J to E, J to I, J to G, I to H
Passengers can transfer to different ships at the ports. If port G is closed, which of the following trips is impossible by ship?
(A) J to E (B) E to H (C) H to I (D) J to I.

10. **Step 1 :** Add 4
Step 2 : Subtract 1
Step 3 : If less than 15, jump to step 1 and continue from there; otherwise proceed to step 4
Step 4 : Add 3
Step 5 : If greater than 18, subtract 2
If you start with a value of 1 and then apply the above instructions, what is the end result?
(A) 11 (B) 17 (C) 18 (D) 19.

11. On planet *X*, the local terminology for earth, water, light, air and sky are light, air, earth, sky and water respectively. If someone is thirsty there, what would he drink?
(A) Sky (B) Water (C) Air (D) Light.

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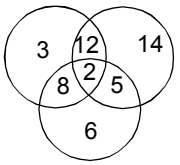
12. Consider the given Venn diagram.
The numbers in the Venn diagram indicate the number of persons reading the newspapers. The diagram is drawn after surveying 50 persons. In a population of 10,000 how many can be expected to read at least two newspapers?
(A) 5000 (B) 6250 (C) 6000 (D) 5400.



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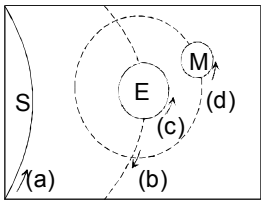
13. Consider the given diagram.
Which one of the four directions of movement as shown by arrows (a), (b), (c) and (d) is wrong ?
(A) Direction of the rotation of the Sun
(B) Direction of the revolution of the Earth
(C) Direction of the rotation of the Earth
(D) Direction of the revolution of the Moon.



S = Sun, E = Earth, M = Moon.
→ Direction of Movement

COMPUTERS & INFORMATION TECHNOLOGY

14. Match the following

Set I (is equal to)	**Set II**
1. 1 Kilobyte	A. 1024 bytes
2. 1 Megabyte	B. 1024 GB
3. 1 Gigabyte	C. 1024 KB
4. 1 Terabyte	D. 1024 MB

(A) 1A, 2C, 3D, 4B (B) 1B, 2D, 3A, 4C
(C) 1C, 2A, 3B, 4D (D) 1D, 2B, 3C, 4A.

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15. In computer science, by information we mean
(A) Any output coming out from computer (B) Processed data put in an intelligent form
(C) A report printed by the computer (D) Plural of data.

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16. What does a disc fragmentor do?
(A) It is a utility program that facilitates compression of files so that they occupy less storage space
(B) It is a utility program that minimizes the time taken by the hard disk optical reader to read up 'split' files. It does so by rearranging the files and free space on your computer so that files are stored in contiguous memory.
(C) It is a utility program that facilitates the backing up of the disk
(D) It is a utility program used for creating and editing text file.

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17. What does OCR stand for?
(A) Optical Character Reader (B) Optical Character Recognition
(C) Operational Character Reader (D) Only Character Reader.

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18. Match the following

1. Scanner	A. Input Device
2. OCR	B. Output Device
3. Light pen	
4. Plotter	
5. Printer	

(A) 1A, 2B, 3A, 4B, 5A (B) 1A, 2A, 3A, 4B, 5B
(C) 1A, 2A, 3B, 4B, 5B (D) 1A, 2B, 3A, 4B, 5B.

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19. The smallest unit of memory is
(A) 16 bytes (B) 8 bits (C) 1 kilobyte (D) 1 GB.

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20. The term "operating system" refers to
(A) A set of programs which controls computer working
(B) The way a computer operator works
(C) Conversion of high level language into machine code
(D) The way a floppy disk drive operates .

National Science Olympiad

MENTAL ABILITY

1. A person is standing on a staircase. He walks down 4 steps, up 3 steps, down 6 steps, up 2 steps, up 9 steps, and down 2 steps. Where is he standing in relation to the step on which he started?
(A) 2 steps above (B) 1 step above
(C) The same place (D) 1 step below.

2. On a certain day, a news vendor began the day with P papers. Between opening and noon, he sold 40 percent of the papers, and between noon and closing, he sold 60 percent of the papers which remained. What percent of the original P papers did he sell?
(A) 0% (B) 20% (C) 24% (D) 76%.

3. A certain liquid fertilizer contains 10 percent mineral X by volume. If a farmer wishes to treat a crop with 3/4 of a litre of mineral X per acre, how many acres can be treated with 300 litres of the liquid fertilizer?
(A) 40 (B) 24 (C) 18 (D) 16.

4. Chandra spent 2/5 of her income of January for rent, and 3/4 of the remainder on other expenses. If she put the remaining Rs. 180 in her savings account, how much was her income in January?
(A) Rs. 1,000 (B) Rs. 1,200 (C) Rs. 1,400 (D) Rs. 1,600.

5. If the numerator of a fraction is decreased 25 percent and the denominator of that fraction is increased 25 percent, then the difference between the resulting and the original fractions represent what percentage decrease?
(A) 40% (B) 45% (C) 50% (D) 60%.

SCIENCE

6. Suppose you are pushing a loaded shopping cart. Which of the following is true ?
(A) If action force always equals reaction force, you cannot move the cart because the cart pushes you backward just as hard as you push forward on the cart
(B) You push the cart slightly harder than the cart pushes you backward, so the cart moves forward
(C) You push before the cart has time to react, so the cart moves forward
(D) You are in contact with the earth through your high-friction shoes, while the cart is free to roll on its round wheels, so the cart moves.

7. The speed c of surface waves of wavelength λ travelling in deep water is given by the equation $c = \sqrt{\frac{\lambda g}{2\pi}}$ where g is the acceleration due to gravity. Which one of the following options would give a straight line graph, given that f is the frequency of the waves ?
(A) f against λ^{-1} (B) f against λ (C) f against λ^2 (D) f^2 against λ^{-1}.

8. For a particle executing simple harmonic motion, the equilibrium position is at $x = 0$ and the amplitude at $x = A$. The kinetic energy of the particle will be equal to the potential energy
(A) At $x = 0$ (B) At $x = A$ (C) At $x = A/2$
(D) When x is greater than $A/2$ but less than A.

9. Elements having the same number of valence electrons in their atoms have
(A) Similar atomic sizes (B) Similar combining capacities
(C) Similar metallic character (D) Similar chemical properties.

10. What happens to the inertia of an object when its velocity is doubled ?
(A) The object's inertia becomes $\sqrt{2}$ times greater
(B) The object's inertia becomes 2 times greater
(C) The object's inertia becomes 4 times greater
(D) The object's inertia is unchanged.

11. If a piece of rock is brought from the moon to the Earth, its
(A) Volume, density and weight will remain the same as it was on the moon
(B) Volume and weight will remain the same as it was on the moon
(C) Density and weight will remain the same as it was on the moon
(D) Volume and density will remain the same as it was on the moon.

12. Newton's first law is based in part on the work of
(A) Dalton (B) Davy (C) Galileo (D) Joule.

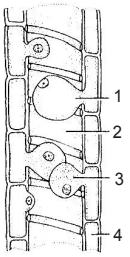
13. As compared to covalent compounds, electrovalent compounds generally have
(A) Low melting points and low boiling points
(B) Low melting points and high boiling points
(C) High melting points and low boiling points
(D) High melting points and high boiling points.

14. Which of the following statements is incorrect?
(A) The charge on an electron and on a proton are equal and opposite
(B) Neutron has no charge
(C) Electrons and protons have the same weight.
(D) The mass of a proton and a neutron are nearly identical.

15. Molten sodium chloride conducts electricity due to the presence of
(A) Free molecules of NaCl (B) Free electrons
(C) Free Na^+ and Cl^- ions (D) Free atoms of sodium and chlorine.

16. Which of the following is used to control only air pollution?
(A) Wet scrubber (B) Cyclone collectors
(C) Electrostatic precipitators (D) All of these

17. The given figure shows the anatomical structure of certain plant tissues. If you are to lable the parts marked 1, 2, 3 & 4 you would choose

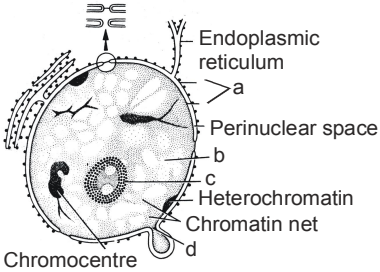


(A) 1 - Tracheid, 2 - Pit, 3 - Tyloses, 4 - Parenchyma
(B) 1 - Parenchyma, 2 - Tracheid, 3 - Tyloses, 4 - Pit
(C) 1 - Pit, 2 - Tracheid, 3 - Tyloses, 4 - Parenchyma
(D) 1 - Tyloses, 2 - Parenchyma, 3 - Pit, 4 - Tracheid.

18. Species *X* are chlorophyllous plants which are autotrophic in their mode of nutrition & may be green, yellow, orange & red colour etc. Species *X* belongs to *Y* which are non-vascular plants and whose plant body is not differentiated into true roots, stems & leaves and have unicellular and nonjacketed sex organs. In the above passage species *Y* is
(A) Bryophyta (B) Thallophyta (C) Pteridophyta (D) Gymnosperms.

19. Which of the following statements is wrong?
(A) An atom and its ion have unequal number of protons.
(B) The size of an anion is bigger than that of the corresponding atom.
(C) An atom is electrically neutral.
(D) The size of a cation is smaller than that of the corresponding atom.

20. Refer the figure and identify from the marked alphabets (a, b, c, d) which is responsible for the following functions.
(I) Means of localization of the chromosomes within the cell
(II) Selective barrier, allowing certain substances in or out of the nucleus
(III) Means of sequestering many of the mRNA processing activities from the cytosol and separating nuclear and cytoplasmic constituents

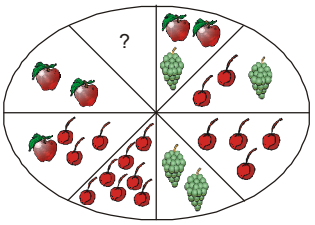


(A) a (B) b
(C) c (D) a and d.

International Mathematics Olympiad

LOGICAL REASONING

1. Apples, cherries and grapes are arranged on a platter in the following fashion: opposite sectors contain fruit which is of equal value. To equal the value of two bunches of grapes, how much fruit must be placed in the empty sector?



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

2. There are twenty people working in an office. The first group of five works between 8.00 A.M. and 2.00 P.M. The second group of ten works between 10.00 A.M. and 4.00 P.M. And the third group of five works between 12 noon and 6.00 P.M. There are three computers in the office which all the employees frequently use. During which of the following hours are the computers likely to be used most?

(A) 10.00 A.M. – 12 noon (B) 12 noon – 2.00 P.M.
(C) 1.00 P.M. – 3.00 P.M. (D) 2.00 P.M. – 4.00 P.M.

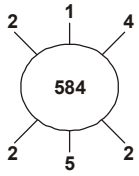
3. If L denotes ÷, M denotes ×, P denotes + and Q denotes –, then which of the following statements is true?

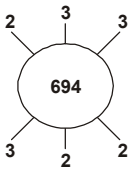
(A) 32 P 8 L 16 Q 4 = $-\frac{3}{2}$ (B) 6 M 18 Q 26 L 13 P 7 = $\frac{173}{13}$
(C) 11 M 34 L 17 Q 8 L 3 = $\frac{38}{3}$ (D) 9 P 9 L 9 Q 9 M 9 = – 71

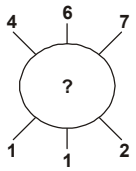
4. A student got twice as many sums wrong as he got right. If he attempted 48 sums in all, how many did he solve correctly?

(A) 12 (B) 16 (C) 24 (D) 18

5. Find the missing number :







(A) 937 (B) 824 (C) 769 (D) 678

6. In a certain code, '256' means 'you are good'; '637' means 'we are bad' and '358' means 'good and bad'. Which of the following represents 'and' in that code?

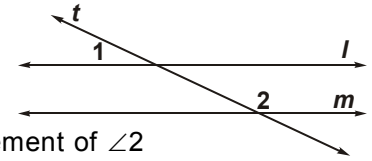
(A) 2 (B) 5 (C) 8 (D) 3

7. Complete the pattern. 6, 11, 21, 36, 56, (.....)

(A) 42 (B) 51 (C) 81 (D) 91

MATHEMATICAL REASONING

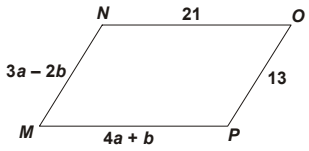
8. In the accompanying diagram, parallel lines *l* and *m* are cut by transversal *t*.
Which statement about angles 1 and 2 must be true?



(A) $\angle 1 \cong \angle 2$ (B) $\angle 1$ is the complement of $\angle 2$
(C) $\angle 1$ is the supplement of $\angle 2$ (D) $\angle 1$ and $\angle 2$ are right angles

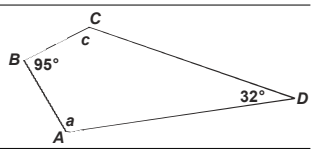
9. What values of *a* and *b* make quadrilateral *MNOP* a parallelogram?

(A) $a = 1, b = 5$ (B) $a = 5, b = 1$
(C) $a = \frac{11}{7}, b = \frac{34}{7}$ (D) $a = \frac{34}{7}, b = \frac{11}{7}$



10. For the quadrilateral shown below, what is $m\angle a + m\angle c$?

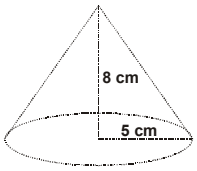
(A) 53° (B) 137°
(C) 180° (D) 233°



11. If a cylindrical barrel measures 22 cm in diameter, how many cm will it roll in 8 revolutions along a smooth surface?

(A) 121π cm (B) 168π cm (C) 176π cm (D) 228π cm

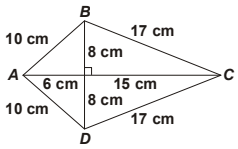
12. A right circular cone has radius 5 cm and height 8 cm.
What is the lateral surface area of the cone?



(A) 40π sq cm (B) 445π sq cm

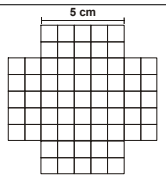
(C) $5\pi\sqrt{39}$ sq cm (D) $5\pi\sqrt{89}$ sq cm

13. Figure *ABCD* is a kite.
What is the area of figure *ABCD*, in square centimetres?



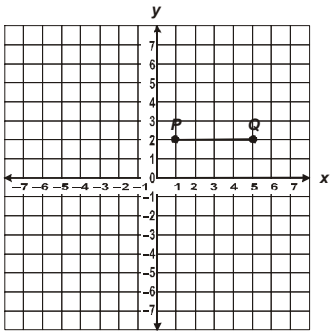
(A) 120 (B) 154
(C) 168 (D) 336

14. The four sides of this figure will be folded up and taped to make an open box.
What will be the volume of the box?



(A) 50 cm^3 (B) 75 cm^3
(C) 100 cm^3 (D) 125 cm^3

15. Look at the given coordinate grid.
Points R and S will be added to the grid to form rectangle *PQRS* with an area of 20 square units. Which ordered pairs could be the coordinates of points *R* and *S*?



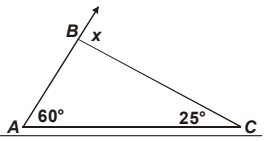
(A) (5, –1) and (1, –1)

(B) (5, –2) and (1, –2)

(C) (5, –3) and (1, –3)

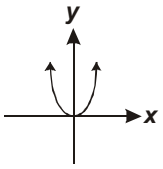
(D) (5, –4) and (1, –4)

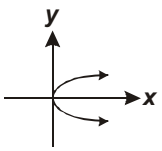
16. What is value of *x*?

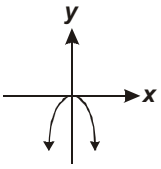


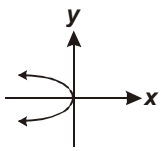
(A) 35° (B) 60°
(C) 85° (D) 95°

17. Which graph shows $y = -x^2$?

(A) 

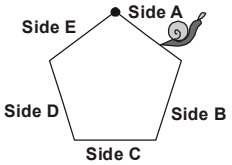
(B) 

(C) 

(D) 

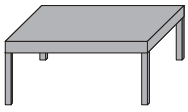
EVERYDAY MATHEMATICS

18. One snail started from the dot. What side will it be on when it has crawled 13/20 of the distance around the regular pentagon of equal sides?



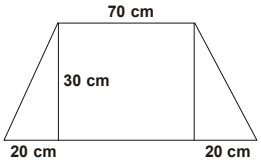
(A) A (B) C
(C) D (D) E

19. A rectangular kitchen table is three times as long as it is wide. If it was 3 m shorter and 3 m wider it would be a square. What are the dimensions of the rectangular table?



(A) 9 × 3 (B) 4 × 2
(C) 12 × 6 (D) 16 × 4

20. Two carpenters decided to design desks for students at the Junior High School. The dimensions of the desk are as shown. How much wood (in cm^2) would they need for 30 desks?



(A) 2700 cm^2 (B) 80000 cm^2
(C) 21000 cm^2 (D) 81000 cm^2

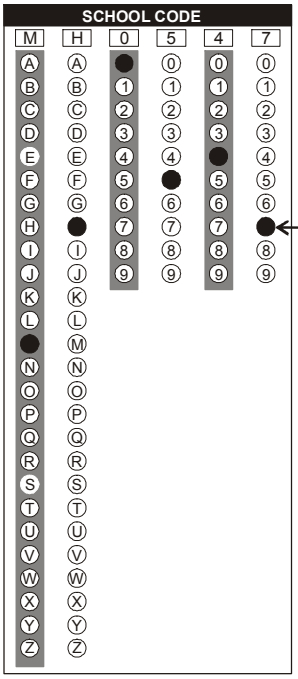
SAMPLE ANSWER SHEET

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 SHARMA, then you should write as follows :

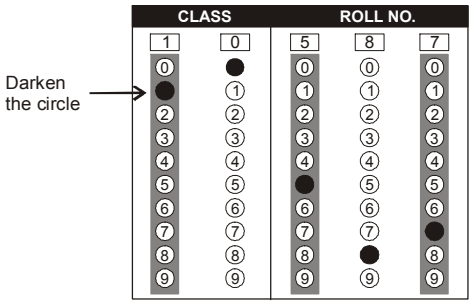
S	A	T	I	S	H		K	U	M	A	R		S	H	A	R	M	A							



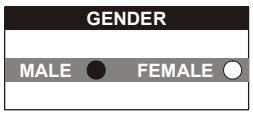
3. SCHOOL CODE
Write your school code i.e. if your school code is MH0547 darken as follows :

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 :



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



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

Darken the circle

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

National Cyber Olympiad

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

National Science Olympiad

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

International Mathematics Olympiad

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

ANSWERS

National Cyber Olympiad

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

National Science Olympiad

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

International Mathematics Olympiad

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