

Class 9 · Computer Science Olympiad

Total questions 50	Total marks 60	Time 60 minutes	Negative marking None
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Each question has four options, of which only one is correct. Mark your answer on the answer sheet. The Achievers Section carries higher marks per question. The answer key with full solutions is at the end of this paper.

This is original practice material written to the Level 1 pattern. It is not a past paper and is not affiliated with SOF or any official olympiad body.

Logical Reasoning

10 questions · 1 mark each · 10 marks

Q1. In a certain code FAN is written as JER. How is CUP written in that code?

- (A) TYG (B) GYT (C) HZU (D) YQL

Q2. $11 : 121 :: 9 : \underline{\hspace{1cm}}$

- (A) 81 (B) 18 (C) 100 (D) 64

Q3. Find the next number in the pattern: 34, 39, 44, 49, $\underline{\hspace{1cm}}$

- (A) 54 (B) 55 (C) 59 (D) 49

Q4. Read the statements and choose the conclusion that **MUST** be true.

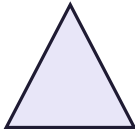
Every student in the class has a pencil. Rahul is a student in the class.

- (A) Rahul has no pencil. (B) Some students have no pencil.
(C) Only Rahul has a pencil. (D) Rahul has a pencil.

Q5. Which of these figures has exactly 6 lines of symmetry?



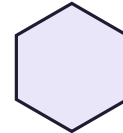
(A)



(B)



(C)



(D)

Q6. Count backward in 10s: 100, 90, 80, 70, $\underline{\hspace{1cm}}$

- (A) 60 (B) 70 (C) 61 (D) 50

Q7. Pointing to a boy in a photograph, Rahul said, "He is the son of my paternal grandfather's only son." How is the boy related to Rahul?

- (A) Brother (B) Nephew (C) Cousin (D) Uncle

Q8. In a row of 35 children, Arjun is 17th from the left end. What is Arjun's position from the right end?

- (A) 18th (B) 20th (C) 21th (D) 19th

Q9. Pen : Write :: Knife : $\underline{\hspace{1cm}}$

- (A) Sing (B) Sleep (C) Run (D) Cut

Q10. Arun walks 5 m north, then 3 m east, then 4 m south. Where is Arun now, relative to the starting point?

- (A) 1 m north and 4 m east
- (B) 2 m north and 3 m east
- (C) 1 m north and 3 m east
- (D) 5 m north and 3 m east

Computer Science

30 questions · 1 mark each · 30 marks

Q11. Which of these makes a computer run slowly and can harm files?

- (A) A virus
- (B) A folder
- (C) A shortcut
- (D) A wallpaper

Q12. What is an algorithm?

- (A) A kind of computer screen
- (B) A storage device
- (C) A type of virus
- (D) A step-by-step method to solve a problem

Q13. Which of these is a storage device?

- (A) Monitor
- (B) Hard disk
- (C) Mouse
- (D) Speaker

Q14. What is the binary number 101 in decimal?

- (A) 5
- (B) 9
- (C) 6
- (D) 3

Q15. What is an email used for?

- (A) Charging the battery
- (B) Printing documents
- (C) Sending messages over the internet
- (D) Playing music only

Q16. Which number system does a computer use internally?

- (A) Octal
- (B) Decimal
- (C) Binary
- (D) Roman

Q17. What does "www" appear in?

- (A) A file size
- (B) A website address
- (C) A phone number
- (D) A password

Q18. What is a file extension such as .txt or .jpg used for?

- (A) To lock the file
- (B) To print the file
- (C) To make the file smaller
- (D) To show what kind of file it is

Q19. What does a modem or router mainly help you do?

- (A) Connect to the internet
- (B) Cool the computer
- (C) Print in colour
- (D) Store photos

Q20. How many bits make one byte?

- (A) 8
- (B) 16
- (C) 4
- (D) 32

Q21. What does "debugging" mean?

- (A) Renaming the program
- (B) Finding and fixing errors in a program
- (C) Deleting the program
- (D) Printing the program

Q22. What is the shortcut normally used to paste copied text?

- (A) Ctrl + V
- (B) Ctrl + Z
- (C) Ctrl + C
- (D) Ctrl + S

- Q23. Which of these is NOT an input device?
(A) Microphone (B) Monitor (C) Mouse (D) Keyboard
- Q24. What is the shortcut normally used to copy selected text?
(A) Ctrl + X (B) Ctrl + C (C) Ctrl + V (D) Ctrl + P
- Q25. What should you do with a password?
(A) Use your name as password (B) Keep it secret
(C) Write it on the desk (D) Tell your whole class
- Q26. What does it mean to "download" a file?
(A) To delete it from your device (B) To send it to a friend
(C) To print it on paper (D) To copy it from the internet to your device
- Q27. What does CPU stand for?
(A) Central Program Utility (B) Central Processing Unit
(C) Control Panel Unit (D) Computer Printing Unit
- Q28. Which of these is a programming language?
(A) Python (B) Firefox (C) Notepad (D) Windows
- Q29. In programming, what does a variable do?
(A) It prints the screen (B) It deletes a file
(C) It stores a value that can change (D) It connects to wifi
- Q30. Which of these is a web browser?
(A) Windows (B) Linux (C) Android (D) Firefox
- Q31. What is a bug in a program?
(A) A type of cable (B) A small insect inside the computer
(C) A mistake that makes it behave wrongly (D) A kind of printer
- Q32. Which of these stores data permanently?
(A) Clipboard (B) Cache (C) Hard disk (D) RAM
- Q33. Which of these is an example of hardware?
(A) An operating system (B) A web page
(C) A printer (D) A song file
- Q34. Which memory loses all its contents when the computer is switched off?
(A) Hard disk (B) ROM (C) RAM (D) Pen drive
- Q35. Which part of a computer carries out calculations?
(A) The printer (B) The CPU (C) The monitor (D) The keyboard
- Q36. Which shortcut undoes the last action?
(A) Ctrl + B (B) Ctrl + A (C) Ctrl + Y (D) Ctrl + Z
- Q37. Which shortcut selects everything in a document?
(A) Ctrl + W (B) Ctrl + Q (C) Ctrl + E (D) Ctrl + A

Q38. Which of these is the safest password?

- (A) 123456 (B) Ra1n@Kolkata#27
(C) password (D) myname

Q39. In a spreadsheet, where a row and a column meet is called a:

- (A) Border (B) Sheet (C) Cell (D) Chart

Q40. In programming, what is a loop used for?

- (A) To repeat a set of instructions (B) To delete a file
(C) To print a document (D) To stop the program

AI, Robotics and Information Technology

5 questions · 1 mark each · 5 marks

Q41. What does a scanner do?

- (A) It plays sound (B) It copies a printed page into the computer
(C) It charges the battery (D) It prints a page

Q42. What is the safest thing to do if a website asks for your password by email?

- (A) Post it online (B) Ignore it and tell an adult
(C) Reply with the password (D) Send it to a friend first

Q43. What does "AI" stand for?

- (A) Automatic Input (B) Applied Information
(C) Artificial Intelligence (D) Advanced Internet

Q44. Which of these lets you talk to someone far away using the internet?

- (A) A video call (B) A keyboard (C) A printer (D) A scanner

Q45. Which of these is used to store and carry files between computers?

- (A) A monitor (B) A speaker (C) A keyboard (D) A pen drive

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. How many numbers between 50 and 75 leave a remainder of 5 when divided by 8?

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

Q47. Using each of the digits 2, 0, 5, 8 exactly once, what is the smallest 4-digit number that can be formed?

- (A) 8520 (B) 2067 (C) 0258 (D) 2058

Q48. Which pair is correctly matched?

- (A) Kolkata — West Bengal (B) Jaipur — Gujarat
(C) Bhopal — Bihar (D) Chennai — Kerala

Q49. If FISH is coded as KNXM, how is MILK coded?

- (A) RNQP (B) PQNR (C) WSVU (D) HDGF

Q50. The binary number 1000 equals which decimal number?

(A) 4

(B) 1000

(C) 16

(D) 8

Answer Key

1	2	3	4	5	6	7	8	9	10
B	A	A	D	D	A	A	D	D	C
11	12	13	14	15	16	17	18	19	20
A	D	B	A	C	C	B	D	A	A
21	22	23	24	25	26	27	28	29	30
B	A	B	B	B	D	B	A	C	D
31	32	33	34	35	36	37	38	39	40
C	C	C	C	B	D	D	B	C	A
41	42	43	44	45	46	47	48	49	50
B	B	C	A	D	B	D	A	A	D

Solutions

Q1. (B) Each letter moves 4 place(s) forward in the alphabet, so CUP becomes GYT.

Q2. (A) The second number is the first multiplied by itself: $11 \times 11 = 121$, so $9 \times 9 = 81$.

Q3. (A) Each number is 5 more than the one before it, so the next is $49 + 5 = 54$.

Q4. (D) From "Every student in the class has a pencil. Rahul is a student in the class." it follows necessarily that rahul has a pencil.

Q5. (D) Counting lines of symmetry: rectangle has 2, equilateral triangle has 3, square has 4, regular hexagon has 6. The answer is figure (D).

Q6. (A) Subtracting 10 from 70 gives 60.

Q7. (A) Rahul's paternal grandfather's only son is Rahul's own father, so that man's son is Rahul's own sibling. The answer is Brother.

Q8. (D) Position from the right = total - position from the left + 1 = $35 - 17 + 1 = 19$ th.

Q9. (D) The second word relates to the first in the same way Cut relates to Knife.

Q10. (C) The 4 m south cancels part of the 5 m north, leaving $5 - 4 = 1$ m north, and the 3 m east is unchanged. So Arun is 1 m north and 3 m east.

Q11. (A) A virus is harmful software that can slow a computer and damage files.

Q12. (D) An algorithm is an ordered set of steps that solves a problem. The answer is A step-by-step method to solve a problem.

Q13. (B) A hard disk stores data.

Q14. (A) 101 in binary is $1 \times 4 + 0 \times 2 + 1 \times 1 = 5$.

Q15. (C) Email carries written messages over the internet. The answer is Sending messages over the internet.

Q16. (C) Computers work in binary, using only the digits 0 and 1.

Q17. (B) Many website addresses begin with www. The answer is A website address.

Q18. (D) The extension tells the computer and the user what type of file it is. The answer is To show what kind of file it is.

Q19. (A) A modem or router connects your devices to the internet. The answer is Connect to the internet.

Q20. (A) One byte is made of 8 bits.

- Q21. (B) Debugging is locating and fixing mistakes in code. The answer is Finding and fixing errors in a program.
- Q22. (A) Ctrl + V pastes whatever was last copied or cut.
- Q23. (B) A monitor shows output; the other three send information in.
- Q24. (B) Ctrl + C copies, Ctrl + X cuts and Ctrl + V pastes.
- Q25. (B) A password must be kept secret, or anyone can use your account. The answer is Keep it secret.
- Q26. (D) Downloading brings a file from the internet onto your own device. The answer is To copy it from the internet to your device.
- Q27. (B) CPU stands for Central Processing Unit.
- Q28. (A) Python is a programming language; the others are programs or an operating system.
- Q29. (C) A variable is a named place in memory holding a value that can change. The answer is It stores a value that can change.
- Q30. (D) Firefox is a web browser; the others are operating systems.
- Q31. (C) A bug is an error in the program. The answer is A mistake that makes it behave wrongly.
- Q32. (C) A hard disk keeps data even when the computer is switched off; RAM does not.
- Q33. (C) Hardware is a physical part, like a printer.
- Q34. (C) RAM is volatile: its contents disappear when the power goes off.
- Q35. (B) The CPU performs the calculations and processing.
- Q36. (D) Ctrl + Z undoes the last action.
- Q37. (D) Ctrl + A selects all.
- Q38. (B) A strong password mixes capitals, small letters, digits and symbols and is hard to guess. The answer is Ra1n@Kolkata#27.
- Q39. (C) The box where a row meets a column is a cell.
- Q40. (A) A loop repeats instructions until a condition is met. The answer is To repeat a set of instructions.
- Q41. (B) A scanner turns a paper document into a digital image, so it is an input device. The answer is It copies a printed page into the computer.
- Q42. (B) Genuine services never ask for your password by email; this is a phishing trick. The answer is Ignore it and tell an adult.
- Q43. (C) AI stands for Artificial Intelligence — machines performing tasks that normally need human intelligence.
- Q44. (A) A video call carries picture and sound over the internet.
- Q45. (D) A pen drive is a small portable storage device.
- Q46. (B) The numbers are 53, 61, 69 — 3 of them.
- Q47. (D) A 4-digit number cannot begin with 0, so the smallest possible first digit is 2. The remaining digits are then placed in increasing order: 2058.
- Q48. (A) Kolkata is the capital of West Bengal. Jaipur is in Rajasthan, Chennai in Tamil Nadu and Bhopal in Madhya Pradesh. The answer is Kolkata — West Bengal.
- Q49. (A) Every letter moves 5 place(s) forward, so MILK becomes RNQP.
- Q50. (D) 1000 in binary is $1 \times 8 + 0 \times 4 + 0 \times 2 + 0 \times 1 = 8$.

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