

Class 10 · 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

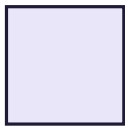
Q1. In a row of 27 children, Imran is 7th from the left end. What is Imran's position from the right end?

- (A) 20th (B) 22th (C) 21th (D) 23th

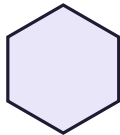
Q2. In a queue, Farah is 9th from the front and 4th from the back. How many people are in the queue altogether?

- (A) 12 (B) 13 (C) 11 (D) 14

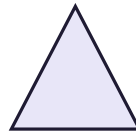
Q3. Which of these figures has exactly 4 lines of symmetry?



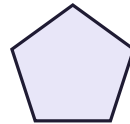
(A)



(B)



(C)



(D)

Q4. Which letter comes next? C, E, H, L, ____

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

Q5. Which one does NOT belong with the others?

- (A) Eagle (B) Crow (C) Bat (D) Sparrow

Q6. $5 : 25 :: 12 : \underline{\hspace{1cm}}$

- (A) 169 (B) 24 (C) 121 (D) 144

Q7. Kabir walks 6 m towards north, turns right and walks 5 m, then turns right again and walks 6 m. How far is Kabir from the starting point, and in which direction?

- (A) 11 m, North (B) 5 m, East (C) 5 m, West (D) 6 m, East

Q8. Which word would come FIRST in a dictionary?

- (A) minute (B) monkey (C) metal (D) melon

Q9. In a certain code BUS is written as EXV. How is SUN written in that code?

- (A) PRK (B) WYR (C) VXQ (D) QXV

Q10. Find the next number in the pattern: 2, 7, 17, 37, ____

- (A) 74 (B) 75 (C) 80 (D) 77

Q11. Which of these is the safest password?

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

Q12. In a spreadsheet, what usually appears at the start of a formula?

- (A) An equals sign (B) A full stop
(C) A question mark (D) A hyphen

Q13. What is an algorithm?

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

Q14. Which shortcut selects everything in a document?

- (A) Ctrl + A (B) Ctrl + E (C) Ctrl + W (D) Ctrl + Q

Q15. Which program is best for adding up a column of numbers automatically?

- (A) A music player (B) A paint program
(C) A spreadsheet (D) A word processor

Q16. Which of these makes a computer run slowly and can harm files?

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

Q17. What is the shortcut normally used to paste copied text?

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

Q18. What does "debugging" mean?

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

Q19. Which of these is an operating system?

- (A) Photoshop (B) Excel (C) Chrome (D) Linux

Q20. What does a modem or router mainly help you do?

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

Q21. Which of these is a programming language?

- (A) Python (B) Windows (C) Firefox (D) Notepad

Q22. Which shortcut is normally used to save your work?

- (A) Ctrl + O (B) Ctrl + N (C) Ctrl + P (D) Ctrl + S

Q23. What will be printed? `x = 5; x = x + 3; print(x)`

- (A) 3 (B) 8 (C) 53 (D) 5

Q24. What is antivirus software for?

- (A) To find and remove harmful programs
- (B) To print in colour
- (C) To make the screen brighter
- (D) To type faster

Q25. What is a computer virus?

- (A) A type of printer
- (B) A broken wire inside the computer
- (C) A harmful program that can damage files
- (D) A germ that makes the user ill

Q26. In a spreadsheet, where a row and a column meet is called a:

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

Q27. Which of these stores data permanently?

- (A) Clipboard
- (B) Hard disk
- (C) Cache
- (D) RAM

Q28. Which shortcut is normally used to print?

- (A) Ctrl + S
- (B) Ctrl + P
- (C) Ctrl + F
- (D) Ctrl + D

Q29. In a flowchart, which shape is used for a decision?

- (A) A rectangle
- (B) An oval
- (C) A diamond
- (D) A circle

Q30. What should you do with a password?

- (A) Tell your whole class
- (B) Use your name as password
- (C) Keep it secret
- (D) Write it on the desk

Q31. What does WWW stand for?

- (A) World Wide Web
- (B) World Wired Web
- (C) Wide World Web
- (D) Web World Wide

Q32. What is the output of the instruction: `print(2 + 3 * 4)`?

- (A) 14
- (B) 9
- (C) 20
- (D) 24

Q33. What is the shortcut normally used to copy selected text?

- (A) Ctrl + V
- (B) Ctrl + X
- (C) Ctrl + C
- (D) Ctrl + P

Q34. Which of these files is most likely a song?

- (A) song.mp3
- (B) notes.txt
- (C) page.html
- (D) photo.jpg

Q35. Which memory loses all its contents when the computer is switched off?

- (A) RAM
- (B) Hard disk
- (C) Pen drive
- (D) ROM

Q36. In programming, what does a variable do?

- (A) It connects to wifi
- (B) It prints the screen
- (C) It deletes a file
- (D) It stores a value that can change

Q37. What does it mean to "download" a file?

- (A) To print it on paper
- (B) To delete it from your device
- (C) To send it to a friend
- (D) To copy it from the internet to your device

Q38. Which of these is an example of hardware?

- (A) An operating system (B) A song file
(C) A printer (D) A web page

Q39. Which is the largest unit of the four?

- (A) 1 byte (B) 1 gigabyte (C) 1 kilobyte (D) 1 megabyte

Q40. Which of these files is most likely a picture?

- (A) photo.jpg (B) song.mp3 (C) movie.mp4 (D) notes.txt

AI, Robotics and Information Technology

5 questions · 1 mark each · 5 marks

Q41. Which of these is an example of a robot being useful in a factory?

- (A) Dreaming about work (B) Assembling parts on a production line
(C) Sleeping at night (D) Eating lunch with workers

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

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

Q43. Which of these is used to store and carry files between computers?

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

Q44. Which of these is an example of using technology politely?

- (A) Recording people without asking (B) Calling during an exam
(C) Silencing your phone in class (D) Playing loud videos in class

Q45. A machine that learns from examples rather than being told every rule is using:

- (A) Word processing (B) Printing
(C) Scanning (D) Machine learning

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. 12 taps together fill a tank in 6 minutes. How long will 4 taps of the same kind take to fill it?

- (A) 6 minutes (B) 18 minutes (C) 21 minutes (D) 15 minutes

Q47. A program repeats "print star" 5 times inside a loop. How many stars appear?

- (A) 5 (B) 10 (C) 1 (D) 0

Q48. A river rises in the Himalayas, flows east across northern India and forms the world's largest delta before reaching the Bay of Bengal. Which river is it?

- (A) The Krishna (B) The Godavari (C) The Ganga (D) The Narmada

Q49. Using each of the digits 6, 2, 7, 0 exactly once, what is the smallest 4-digit number that can be formed?

- (A) 2067 (B) 0267 (C) 2076 (D) 7620

Q50. Find the next number: 3, 5, 9, 15, 23, ____

(A) 34

(B) 31

(C) 33

(D) 35

Answer Key

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

Solutions

Q1. (C) Position from the right = total - position from the left + 1 = 27 - 7 + 1 = 21th.

Q2. (A) Counting Farah only once: 9 + 4 - 1 = 12 people.

Q3. (A) Counting lines of symmetry: square has 4, regular hexagon has 6, equilateral triangle has 3, regular pentagon has 5. The answer is figure (A).

Q4. (B) The gaps grow by one each time (+2, +3, +4, +5), so after L the next letter is Q.

Q5. (C) Bat is a mammal, not a bird.

Q6. (D) The second number is the first multiplied by itself: $5 \times 5 = 25$, so $12 \times 12 = 144$.

Q7. (B) The two 6 m walks (north, then south) cancel out, leaving only the 5 m walked towards the east. So the answer is 5 m, East.

Q8. (D) In alphabetical order the words run melon, metal, minute, monkey, so melon comes first.

Q9. (C) Each letter moves 3 place(s) forward in the alphabet, so SUN becomes VXQ.

Q10. (D) Each number is doubled and 3 is added: $37 \times 2 + 3 = 77$.

Q11. (A) A strong password mixes capitals, small letters, digits and symbols and is hard to guess. The answer is Ra1n@Kolkata#27.

Q12. (A) Spreadsheet formulas normally begin with = . The answer is An equals sign.

Q13. (A) An algorithm is an ordered set of steps that solves a problem. The answer is A step-by-step method to solve a problem.

Q14. (A) Ctrl + A selects all.

Q15. (C) A spreadsheet arranges data in rows and columns and can calculate totals.

Q16. (C) A virus is harmful software that can slow a computer and damage files.

Q17. (C) Ctrl + V pastes whatever was last copied or cut.

Q18. (C) Debugging is locating and fixing mistakes in code. The answer is Finding and fixing errors in a program.

Q19. (D) Linux is an operating system; the others are application programs.

Q20. (B) A modem or router connects your devices to the internet. The answer is Connect to the internet.

Q21. (A) Python is a programming language; the others are programs or an operating system.

Q22. (D) Ctrl + S saves the current file.

- Q23. (B) x starts at 5, then $5 + 3 = 8$ is stored back in x , so 8 is printed.
- Q24. (A) Antivirus software detects and removes malicious programs. The answer is To find and remove harmful programs.
- Q25. (C) A virus is a malicious program; it cannot make a person ill. The answer is A harmful program that can damage files.
- Q26. (B) The box where a row meets a column is a cell.
- Q27. (B) A hard disk keeps data even when the computer is switched off; RAM does not.
- Q28. (B) Ctrl + P opens the print dialog.
- Q29. (C) A diamond marks a decision; a rectangle is a process and an oval is start or stop.
- Q30. (C) A password must be kept secret, or anyone can use your account. The answer is Keep it secret.
- Q31. (A) WWW stands for World Wide Web.
- Q32. (A) Multiplication happens before addition: $3 \times 4 = 12$, then $2 + 12 = 14$.
- Q33. (C) Ctrl + C copies, Ctrl + X cuts and Ctrl + V pastes.
- Q34. (A) An .mp3 file holds audio. The answer is song.mp3.
- Q35. (A) RAM is volatile: its contents disappear when the power goes off.
- Q36. (D) A variable is a named place in memory holding a value that can change. The answer is It stores a value that can change.
- Q37. (D) Downloading brings a file from the internet onto your own device. The answer is To copy it from the internet to your device.
- Q38. (C) Hardware is a physical part, like a printer.
- Q39. (B) A gigabyte is larger than a megabyte, which is larger than a kilobyte, which is larger than a byte. The answer is 1 gigabyte.
- Q40. (A) A .jpg file is an image; .txt is text, .mp3 is audio and .mp4 is video. The answer is photo.jpg.
- Q41. (B) Robots do repetitive, precise tasks such as assembling parts. The answer is Assembling parts on a production line.
- Q42. (A) Genuine services never ask for your password by email; this is a phishing trick. The answer is Ignore it and tell an adult.
- Q43. (B) A pen drive is a small portable storage device.
- Q44. (C) Silencing your phone shows respect for others. The answer is Silencing your phone in class.
- Q45. (D) Machine learning means a program improves from data and examples.
- Q46. (B) One tap alone would take $12 \times 6 = 72$ minutes. With 4 taps the time is $72 / 4 = 18$ minutes.
- Q47. (A) A loop that runs 5 times prints 5 stars.
- Q48. (C) The Ganga flows east and forms the Sundarbans delta at the Bay of Bengal.
- Q49. (A) 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: 2067.
- Q50. (C) The gaps grow 2, 4, 6, 8, so the next gap is 10 and $23 + 10 = 33$.

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