

FREE PRACTICE PACK · EDITION 1

Class 9 Computer Science Olympiad practice

16 original questions + explained answers

For students preparing for SOF ICSO.

Inside this pack

Eight topic-practice questions and an eight-question, 20-minute mini-mock.

Topics selected for practice

- Number systems and memory
- Algorithms and Python
- HTML and CSS
- Spreadsheets and databases
- Networks and cyber safety

How to use it

Try the practice first. Complete the mini-mock in one sitting. Check the explanations, mark mistakes, and retry them the next day.

This pack covers selected topics. It is original BodhiScore material, independent of SOF, and is not an official paper or a full-length exam. Check the official syllabus for the complete scope.

Topic practice

Work through these eight questions without a timer. Explain your choice before checking the solutions.

1. Number systems and memory

What is the decimal value of the binary number 10110?

- | | |
|--------------|--------------|
| A. 18 | B. 22 |
| C. 20 | D. 26 |
-

2. Number systems and memory

Which memory normally loses its contents when the computer's power is switched off?

- | | |
|-----------------------|-----------------------------|
| A. SSD storage | B. A USB flash drive |
| C. RAM | D. ROM |
-

3. Algorithms and Python

What does this Python code print?

```
x = 3
for i in range(2):
    x = x + 4
print(x)
```

- | | |
|--------------|--------------|
| A. 7 | B. 9 |
| C. 15 | D. 11 |
-

Topic practice (continued)

4. Algorithms and Python

A flowchart checks whether age ≥ 18 . Its Yes branch displays 'Adult', and its No branch displays 'Minor'. What is displayed for age = 17?

- A. Adult
 - B. Both messages
 - C. No message
 - D. Minor
-

5. HTML and CSS

Which HTML element creates a hyperlink to another page?

- A. `<a href="next.html">Next</a>`
 - B. `<p href="next.html">Next</p>`
 - C. `<img href="next.html">`
 - D. `<table src="next.html">Next</table>`
-

6. HTML and CSS

Which CSS declaration changes the text colour to green?

- A. `font-size: green;`
 - B. `text-align: green;`
 - C. `color: green;`
 - D. `background-color: green;`
-

Topic practice (continued)

7. Spreadsheets and databases

A spreadsheet contains 8 in A1, 12 in A2 and 10 in A3. What does =AVERAGE(A1:A3) return?

- A.** 8
 - B.** 10
 - C.** 30
 - D.** 12
-

8. Spreadsheets and databases

Which field is the best primary key for a student table if every student has a unique admission number?

- A.** Date of birth
 - B.** Admission number
 - C.** First name
 - D.** Class name
-

Timed mini-mock

Set a 20-minute timer for these eight questions. Score 1 point per correct answer; there is no penalty for an incorrect answer. This is BodhiScore's practice scoring.

9. Networks and cyber safety

Two school computers on the same local network need to exchange a file. Which device commonly connects wired computers in that LAN?

- A. Projector
 - B. Keyboard
 - C. Network switch
 - D. Document scanner
-

10. Networks and cyber safety

An unexpected email asks for a password and claims the school account will close immediately. What is the safest response?

- A. Verify with school IT through a known contact without using the email link
 - B. Reply with the password
 - C. Open the link and enter the password
 - D. Forward the password to a friend
-

11. Number systems and memory

A 4-bit unsigned binary number uses all four bits as 1. What is its decimal value?

- A. 15
 - B. 16
 - C. 8
 - D. 14
-

Timed mini-mock (continued)

12. Algorithms and Python

What is printed by this Python code?

```
n = 10
while n > 4:
    n = n - 3
print(n)
```

- | | |
|--------------|-------------|
| A. 7 | B. 1 |
| C. 10 | D. 4 |
-

13. HTML and CSS

Which HTML tag represents a row inside a table?

- | | |
|----------------|-------------------|
| A. <tr> | B. <td> |
| C. <th> | D. <table> |
-

14. Spreadsheets and databases

Cell B2 contains =\$A\$1*C2. If this formula is copied down one row to B3, what is the copied formula?

- | | |
|----------------------|----------------------|
| A. =\$A\$1*C2 | B. =A2*\$C\$2 |
| C. =\$A\$1*C3 | D. =\$A\$2*C3 |
-

Timed mini-mock (continued)

15. Spreadsheets and databases

A database table has the fields Title, Author and PublicationYear. What is one complete book entry called?

- A.** A data type
 - B.** A record
 - C.** A field
 - D.** A column name
-

16. Networks and cyber safety

A public website uses HTTPS. Which conclusion is justified by HTTPS alone?

- A.** Every claim on the site is correct
 - B.** The site cannot contain a scam
 - C.** The site belongs to the government
 - D.** The connection uses encryption; the site's claims still need checking
-

Answers and explanations

Check why the answer works, then retry any question you missed.

1. B - 22

The place values are 16, 8, 4, 2 and 1. The set bits contribute $16 + 4 + 2 = 22$.

2. C - RAM

Ordinary RAM is volatile working memory. ROM, SSDs and flash drives retain stored data without continuous power.

3. D - 11

The loop runs twice. Starting from 3, the two additions give 7 and then 11.

4. D - Minor

17 is less than 18, so the condition is false and the No branch displays Minor.

5. A - `<a href="next.html">Next</a>`

The anchor element `a` uses the `href` attribute to specify the destination of a hyperlink.

6. C - `color: green;`

The `color` property sets foreground text colour. Background colour, font size and alignment are different properties.

7. B - 10

The average is the total $8 + 12 + 10$ divided by three cells: $30 / 3 = 10$.

Answers and explanations (continued)

8. B - Admission number

A primary key uniquely identifies each record. Admission numbers are stated to be unique; names, classes and birthdays may be shared.

9. C - Network switch

A switch forwards data between connected devices on a local network. The other devices do not connect network computers.

10. A - Verify with school IT through a known contact without using the email link

Urgency and credential requests can indicate phishing. A separately verified contact lets you check the claim without trusting the message.

11. A - 15

1111 represents $8 + 4 + 2 + 1 = 15$. Four unsigned bits represent values from 0 to 15.

12. D - 4

The first iteration changes 10 to 7; the second changes 7 to 4. At 4, $n > 4$ is false, so the loop stops.

13. A - <tr>

tr defines a table row. td and th define cells, while table defines the table itself.

14. C - =\$A\$1*C3

Dollar signs fix both parts of A1. C2 is a relative reference, so copying down changes its row to C3.

Answers and explanations (continued)

15. B - A record

A record is one row containing related values for an item. Each individual attribute, such as Title, is a field.

16. D - The connection uses encryption; the site's claims still need checking

HTTPS protects data in transit. Encryption does not establish that the site's content, owner or offer is trustworthy.

Topic scope checked against SOF syllabus: [SOF ICSO Class 9 syllabus](#)