Final Exam Model Paper 2

MODEL PAPER

Full marks 50 · 2 hours

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 50

All questions are compulsory. Time: 2 hours.

A practice paper by Science Playground, made to CDC's Specification Grid, Computer Science, Grade 9 (2082); not an official CDC or exam board paper. Mark it yourself online: the QR code below opens the paper with its answers.

A full practice run of the Grade 9 final exam's Computer Science theory paper: 50 marks in 2 hours, every question compulsory. Work out on paper what each program in a question does, as in the exam hall: those programs have no Run button. The programs in the answers do run.

Group A

10 × 1 = 10

Choose the correct answer for each of the following questions.

1. Which of the following is an impact printer?

(i) laser printer (ii) inkjet printer
(iii) dot-matrix printer (iv) 3D printer

2. A computer's data bus is 32 bits wide. How many bytes can it carry in one transfer?

(i) 4 (ii) 8 (iii) 32 (iv) 256

3. Nirmala's school wants every student to have office software (a word processor and a spreadsheet) on their home computer, free and legally. Which is the best choice?

(i) Buy one license of Microsoft Office and copy it onto every student's computer.
(ii) LibreOffice, which is open source: anyone may use, copy and share it free.
(iii) Ask a software company to make customized office software for the school.
(iv) Download a cracked copy of a paid office program.

4. To which category of Scratch blocks does **when green flag clicked** belong?

(i) Control (ii) Events (iii) Motion (iv) Sensing

5. In which pair are both tags empty tags?

(i) `<p>` and `<br>` (ii) `<br>` and `<img>` (iii) `<ul>` and `<li>` (iv) `<table>` and `<hr>`

6. Which CSS rule makes the text of every paragraph of a page blue?

(i) `<p color="blue">` (ii) `p ( color = blue )`
(iii) `p { color: blue; }` (iv) `#p { colour: blue; }`

7. Which of the following is a search engine?

(i) Google Chrome (ii) Zoom (iii) Bing (iv) Mozilla Firefox

8. Nabin is choosing a new password for his email. Which one is the strongest?

(i) `123456` (ii) `Nabin2082`
(iii) `P@ss1` (iv) `mango ladder river kettle`

9. Which of the following is a keyword in Python?

(i) `print` (ii) `input` (iii) `while` (iv) `range`

10. What does this program print?

```
marks = [45, 62, 78, 90]
print(marks[2])
```

(i) 62 (ii) 78 (iii) 90 (iv) an error

Group B

10 × 2 = 20

Write short answers to the following questions.

11. Write any two differences between system software and application software. **[2]**

12. Laxmi is sorting files on her school's computer. Convert as indicated, showing your working. **[2]**

a. 3 GB into MB (1)

b. 5,120 KB into MB (1)

13. Convert as indicated. **[2]**

a. $(247)_8$ into decimal (1)

b. $(101101110)_2$ into octal (1)

14. Perform the following binary operations. **[2]**

a. $(1101)_2 \times (101)_2$ (1)

b. $(11110)_2 \div (110)_2$ (1)

15. Anju is making a web page about Rara Lake. Write the HTML code for: **[2]**

a. a link with the words "Visit Nepal Tourism Board" that opens https://www.welcomenepal.com in a new tab; (1)

b. the picture `rara.jpg`, with the text "Rara Lake" shown if the picture can't be loaded. (1)

16. Durga's uncle in Ilam can't open a program on his laptop. From her home in Kathmandu, Durga connects to his laptop with AnyDesk and fixes it. What is remote login? Write one more use of it. **[2]**

17. Prakriti, the class captain, has to email a notice about a picnic to the parents of 30 classmates. The parents don't know each other. **[2]**

a. In which field should she put the parents' addresses? Give a reason. (1)

b. Suggest a subject for her email, and say why a clear subject matters. (1)

18. Write any two differences between a compiler and an interpreter. **[2]**

19. Salim keeps the prices of four items of his shop in a list. Study the program and answer the questions. **[2]**

```
prices = [120, 85, 60, 150]
total = 0
for p in prices:
    if p > 80:
        total = total + p
print("Total:", total)
```

a. How many times does the loop run? (1)

b. Write the output of the program. (1)

20. Kopila saves Rs 50 on the first day, and each day after that she saves Rs 10 more than the day before. Write a Python program that displays how much she saves on each of the first 10 days, and her total savings after 10 days. **[2]**

Group C

5 × 4 = 20

Write long answers to the following questions.

21. What is an input device? Write the use of any three input devices. [1+3] **[4]**

22. Study this Scratch script and answer the questions. **[4]**

Figure 1 A Scratch script for a times-table quiz.

a. Which block starts the script, and when does the script run? (1)

b. What does the block **ask What is 7 × 8? and wait** do, and where is the user's reply kept? (1)

c. What does the sprite say if the user types 54? (1)

d. Name the category of the **if … then … else** block and of the **=** block. (1)

23. Sagar works at a bus counter in Kathmandu. Write the HTML code to create the timetable shown below, with borders. **[4]**

timetable.html

Route	Departure	
	Morning	Evening
Kathmandu–Pokhara	7:00 AM	2:00 PM
Kathmandu–Chitwan	6:30 AM	1:00 PM

Figure 2 The bus timetable, as a browser shows it.

24. What is a digital footprint? Explain its two types with an example of each, and write one way to protect yourself from its risks. [1+2+1] **[4]**

25. A children's park in Butwal charges for a ticket by the visitor's age: **[4]**

Age	Ticket
under 3 years	free (Rs 0)
3 to 12 years	Rs 50
13 to 59 years	Rs 100
60 years and above	Rs 50

Write a Python program that takes a visitor's age as input and displays the price of the ticket.