Final Exam Model Paper 1

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 type of RAM is used as cache memory?

(i) DRAM (ii) SRAM (iii) EPROM (iv) PROM

2. Dolma has 2 GB of free space on her pen drive. How many photos of 4 MB each can she copy onto it?

(i) 500 (ii) 512 (iii) 2048 (iv) 8

3. Kushal edits videos for his school's YouTube channel. His laptop is fine while he edits, but it takes a long time to open his big video files from its hard disk. Which change would make opening them faster?

(i) a bigger hard disk of the same kind
(ii) a solid state drive (SSD) in place of the hard disk
(iii) a DVD writer
(iv) a monitor with more pixels

4. In Scratch, where does the result of a program, the sprites moving and talking, appear?

(i) the blocks palette (ii) the scripts area
(iii) the stage (iv) the sprite pane

5. What is the main job of CSS in a web page?

(i) to give the page its structure: headings, paragraphs and lists
(ii) to control how the page looks: its colors, fonts, spacing and layout
(iii) to make the page respond to clicks and typing
(iv) to store the website's data on the server

6. Rojina writes this list in her web page. With which letter is the first item, Bhimsen Tower, shown?

```
<ol type="A" start="3">
  <li>Bhimsen Tower</li>
  <li>Patan Durbar Square</li>
</ol>
```

(i) A (ii) 3 (iii) C (iv) III

7. Which protocol is used to send email?

(i) HTTP (ii) FTP (iii) SMTP (iv) POP3

8. Sanjeev gets an SMS: "Your eSewa account will be blocked today. Tap the link and enter your PIN to keep it open." What should he do?

(i) Tap the link quickly and type his PIN, so his account isn't blocked.
(ii) Reply to the SMS and ask whether it is real.
(iii) Not tap the link or give his PIN; check in the official eSewa app himself, and report the message.
(iv) Forward the SMS to his friends so they can save their accounts too.

9. Which of the following is a relational operator in Python?

(i) = (ii) == (iii) // (iv) and

10. What is the output of `print(17 // 5, 17 % 5)`?

(i) `3 2` (ii) `3.4 2` (iii) `2 3` (iv) `3 3.4`

Group B — 10 × 2 = 20

Write short answers to the following questions.

11. Write any two differences between RAM and ROM. **[2]**

12. Bimala looks after the computers at her school. Name the port she should use for each job, and give a reason. **[2]**

a. Joining a laptop to the hall's projector so that the pictures and the sound both go on one cable. (1)

b. Joining a new desktop computer to the school's wired local area network (LAN). (1)

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

a. $(110101)_2$ into decimal (1)

b. $(58)_{10}$ into binary (1)

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

a. $(11011)_2 + (1101)_2$ (1)

b. $(11010)_2 - (111)_2$ (1)

15. Write the HTML code to show the heading "Places to visit in Pokhara" as a level-2 heading, and under it an ordered list of three places: Phewa Lake, Sarangkot and Davis Falls. **[2]**

16. Write any two differences between HTTP and HTTPS. **[2]**

17. Rabina's friend is excited about her exam and wants to post a photo of her admit card, with her name, photo, school, symbol number and date of birth on it, on her public social media account. What two pieces of advice would you give her? Give a reason for each. **[2]**

18. What is an identifier? Write any two rules for naming an identifier in Python. **[2]**

19. Pooja wrote this program to add up the digits of a number. Write its output and show it in a dry-run table. **[2]**

```python
n = 472
s = 0
while n > 0:
    d = n % 10
    s = s + d
    n = n // 10
print("Sum of digits:", s)
```

20. Tenzing is putting a fence round his family's rectangular vegetable plot in Solukhumbu. Write a Python program that asks for the length and breadth of the plot in meters and displays its area and the length of fence needed (its perimeter). **[2]**

Group C — 5 × 4 = 20

Write long answers to the following questions.

21. What is software? Explain any three kinds of system software. [1+3] **[4]**

22. Arrange the blocks so that, when the space key is pressed, the sprite turns 15 degrees, says "Namaste!" for 2 seconds and then plays the Meow sound until it is done. **[4]**



Figure 1 Four Scratch blocks, numbered in a jumbled order.

23. Ishwori's school is holding a science fair. Write the HTML code to create the registration form shown below. Both radio buttons must belong to one group, so that only one event can be chosen. **[4]**



Figure 3 The science fair's registration form, as a browser shows it.

24. What is malware? Explain any three kinds of malware. [1+3] **[4]**

25. A parking lot near Bhrikutimandap charges for a motorbike by the hours it is parked: **[4]**

Hours parked	Charge
up to 1 hour	Rs 20 (minimum charge)
2 to 3 hours	Rs 25 per hour
more than 3 hours	Rs 40 per hour

Write a Python program that takes the hours parked (a whole number) as input and displays the charge.