



# Federal Board SSC-I Examination

## Computer Science Model

### Question Paper (Curriculum 2022-23)

#### Section - A (Marks 13)

Time Allowed: 20 minutes

**Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.**

ROLL NUMBER					

Version No.			

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Candidate Sign. \_\_\_\_\_

Invigilator Sign. \_\_\_\_\_

**Q1. Fill the relevant bubble against each question according to curriculum. Each part carries one mark.**

Sr no.	Question	A	B	C	D	A	B	C	D
i.	Which of the following keyword is used to declare variables in JavaScript?	dim	Var	Let	const	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ii.	Which of the following is a commonly used tool for data analysis and visualization?	Microsoft Word	Microsoft Excel	Microsoft PowerPoint	Microsoft Outlook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
iii.	Which HTML tag is used to create a hyperlink?	<link>	<href>	<hyperlink>	<a>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
iv.	Which of the following statement is true about a business plan?	a document outlining the goals and strategies of a business	a list of potential customers	a financial statement	a marketing brochure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v.	Which of the following memory type is considered as a volatile:	DVD	RAM	PROM	Memory card	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
vi.	How do you write "Hello, World!" in an alert box using JavaScript?	msgBox ("Hello, World!");	alertBox ("Hello, World!");	alert("Hello, World!");	Msg ("Hello, World!");	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
vii.	Which of the following is an example of unethical behavior online?	Sharing positive messages on social media	Cyberbullying	Helping a friend with home task	Respecting others' privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
viii.	What does privacy mean in the context of computer ethics?	Sharing personal information	Keeping personal information	Hacking into others' accounts	Ignoring security measures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

		freely online	confidential and secure			
ix.	What does innovation mean in entrepreneurship?	Copying existing ideas	Creating something new or improving existing products or services	Investing money in the stock market	Following others' ideas	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
x.	Video conferencing is an example of the following transmission mode:	Simplex	Half-duplex	Full-Duplex	Duplex	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
xi.	Which of the following problems is an example of a complex problem?	Finding the sum of two numbers	Memorizing multiplication table	Figuring out how to organize a fundraising event	Identifying prime numbers between 1 and 100	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
xii.	Which of the following is an example of AI used in everyday life?	Microwave oven	Refrigerator	Bicycle	Self-driving car	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
xiii.	In a problem solution involving making a sandwich, what would be considered the input?	A finished sandwich	Spreading butter on bread	Bread and butter	Eating a sandwich	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>



# Federal Board SSC-I Examination

## Computer Science Model Question

### Paper (Curriculum 2022-23)

Time allowed: 2.40 hours

Total Marks: 42

**Note:** Answer all parts from Section 'B' and all questions from Section 'C' on the **E-sheet**.  
Write your answers on the allotted/given spaces.

### SECTION – B (Marks 22)

Q.2	Question	Marks		Question	Marks						
i.	Write down the purpose of any two input devices.	1+1	<b>OR</b>	What is the role of computational thinking in Computer Science?	2						
ii.	Consider the following problem: $Y = 5x + 3$ . Identify the inputs and outputs to find the solution of a problem and fill the relevant boxes: <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Input</td> <td style="padding: 5px;">Process</td> <td style="padding: 5px;">Output</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px; text-align: center;"><math>5x + 3</math></td> <td style="padding: 5px;"></td> </tr> </table>	Input	Process	Output		$5x + 3$		1+1	<b>OR</b>	Write down HTML tags to display 'Software' as a main heading and 'System Software' as a subheading on the web page.	1+1
Input	Process	Output									
	$5x + 3$										
iii.	What is the importance of buses in computer architecture? List down the names of any two types of buses.	1+1	<b>OR</b>	What is the impact of computing on e-commerce?	2						
iv.	Differentiate between discrete and continuous data with example.	1+1	<b>OR</b>	Compare any two types of storage devices with respect to storage capacity and speed.	1+1						
v.	Outline any two (02) strategies that individuals can use to ensure safe and responsible data searches.	2	<b>OR</b>	List down any four (04) methods for primary data collection.	0.5x4						
vi.	Why is the operating system an important software? (Give any two points)	1+1	<b>OR</b>	How does design thinking contribute to create innovative solutions? (Give any two points)	1+1						
vii.	What will be the output of the following HTML code? <html> <head> <title>Output Question </title> <style> .text { font-size: 20px; color: red; } </style> </head> <body> <p class="text">This is a paragraph.</p> </body> </html>	2	<b>OR</b>	Why wireless networks are useful? Provide any two reasons.	1+1						
viii.	Why is data analytics important for determining the number of students who prefer various ice cream flavors in our school cafeteria?	2	<b>OR</b>	What will be the output of the following JavaScript program segment? let a = 10; let b = "5"; console.log(a + b);	2						
ix.	Identify and correct errors in the following JavaScript code:	2	<b>OR</b>	Illustrate at least four (04) components of data communication	0.5x4						

	let fruits = ["Apple", "Banana", "Orange"]; console.log(fruits.length) console.log(fruit.length);			with the help of diagram	
x.	Compare simple and complex problems with one daily life example of each problem.	1+1	<b>OR</b>	How AI can be beneficial in education? (Give any two reasons)	1+1
xi.	Write down any two (02) characteristics of entrepreneur.	1+1	<b>OR</b>	Write down any two (02) advantages of cloud computing.	1+1

### SECTION – C (Marks 20)

**Note:** Attempt all questions. Marks of each question are given.

(4 x 05=20)

Q. No.	Question	Marks		Question	Marks
<b>Q.3</b>	Differentiate between natural and artificial systems with brief explanation of one example of each system.	2.5+ 2.5	<b>OR</b>	What is machine learning and AI? Explain the difference between machine learning and AI.	2+3
<b>Q.4</b>	Draw a flowchart that reads a number and prints whether it is negative, positive or zero.	1+4	<b>OR</b>	Write a JavaScript function called 'CalculateGrade' that takes marks of a student as input and returns grade based on the following grading system: A if marks are greater than or equal to 90, B if marks are between 70 and 89, C if marks are between 50 and 69, and F if marks are below 50.	1+4
<b>Q.5</b>	What is computing innovation? Explain the harmful effects of computing innovation on society and environment.	1+2 +2	<b>OR</b>	What is big data? Describe applications of big data in health care and manufacturing.	1+2 +2
<b>Q.6</b>	Create a webpage in HTML with the following requirements: a. Add a suitable heading to introduce your page b. Below the heading, insert a paragraph about your favorite hobby c. Include a related image d. Add a link to a fun website e. Set the background color of the page	5	<b>OR</b>	Your school wants to set up a network system where every classroom computer can share files and resources easily. Would it be better to connect all the computers in one long line (like a bus), or to have each computer connected to a central server in the school office (like a star)? Compare and contrast network topologies in terms of security, cost, size, and architecture.	1+4

**Federal Board SSC-I Examination**  
**Computer Science Model Question Paper**

(Curriculum 2022-23)

**Alignment of Questions with Student Learning Outcomes**

Sr No	Section: Q. No. (Part no.)	Content Domain / Area	Student Learning Outcomes	Cognitive Level *	Allocated Marks in Model Paper
1	A: Q1(i)	Domain C	[SLO CS-09-C-03] Students should be able to create dynamic websites using JavaScript as the frontend scripting.	K	1
2	A: Q1(ii)	Domain D	[SLO CS-09-D-02] Students will define and explain data types, data collection, and data storage.	U	1
3	A: Q1(iii)	Domain C	[SLO CS-09-C-02] Students should be able to create a static website using HTML/CSS in an appropriate environment.	U	1
4	A: Q1(iv)	Domain H	[SLO EN-09-H-02]: Students will use digital tools to create and present a business plan for an entrepreneurial solution.	K	1
5	A: Q1(v)	Domain A	[SLO CS-09-A-01] Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture (CPU, microprocessors, etc.)	U	1
6	A: Q1(vi)	Domain C	[SLO CS-09-C-03] Students should be able to create dynamic websites using JavaScript as the frontend scripting.	U	1
7	A: Q1(vii)	Domain F	[SLO CS-09-F-02] Analyse the beneficial and harmful effects of computing innovations such as social networking, fake news, etc.	U	1
8	A: Q1(viii)	Domain F	[SLO CS-09-F-03] Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.	K	1
9	A: Q1(ix)	Domain H	[SLO EN-09-H-01]: Students identify a problem and create a business using design thinking	K	1
10	A: Q1(x)	Domain A	[SLO CS-09-A-03] Students will be able to identify and analyze data communication, computer networks, networking devices, basic networking systems and understand how data is transmitted and key concepts such as protocols, speeds, etc.	U	1
11	A: Q1(xi)	Domain B	[SLO CS-09-B-02] Solve simple and complex problems computationally.	U	1
12	A: Q1(xii)	Domain E	[SLO CS-09-E-01] Students will be able to describe uses and applications of computing like AI, Machine Learning, and Cloud Computing	U	1
13	A: Q1(xiii)	Domain B	[SLO CS-09-B-02] Solve simple and complex problems computationally.	U	1

## Section B and C

14	B: Q2(i)	Domain A	<b>OR</b> Domain B	[SLO CS-09-A-01] Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture (CPU, microprocessors, etc.)	<b>OR</b> [SLO CS-09-B-01] Understand and apply techniques to decompose problems.	K	2
15	B: Q2(ii)	Domain B	<b>OR</b> Domain C	[SLO CS-09-B-02] Solve simple and complex problems computationally.	<b>OR</b> [SLO CS-09-C-02] Students should be able to create a static website using HTML/CSS in an appropriate environment.	U	2
16	B: Q(iii)	Domain A	<b>OR</b> Domain F	[SLO CS-09-A-01] Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture (CPU, microprocessors, etc.)	<b>OR</b> [SLO CS-09-F-03] Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.	K	2
17	B: Q(iv)	Domain D	<b>OR</b> Domain A	[SLO CS-09-D-02] Students will define and explain data types, data collection, and data storage.	<b>OR</b> [SLO CS-09-A-01] Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture (CPU, microprocessors, etc.)	U	2
18	B: Q(v)	Domain F	<b>OR</b> Domain D	[SLO CS-09-F-01] Understand and apply safe and responsible use of computers (responsible use of hardware, appropriate use of software, and safe use of digital platforms like data searches, social networking, etc.)	<b>OR</b> [SLO CS-09-D-02] Students will define and explain data types, data collection, and data storage.	K	2

19	B: Q(vi)	Domain A	<b>OR</b> Domain H	[SLO CS-09-A-02] Students will be able to identify and explain system software, application software, low-level and high-level programming languages, and their uses.	<b>OR</b> [SLO EN-09-H-01]: Students identify a problem and create a business using design thinking	U	2
20	B: Q(vii)	Domain C	<b>OR</b> Domain A	[SLO CS-09-C-02] Students should be able to create a static website using HTML/CSS in an appropriate environment.	<b>OR</b> [SLO CS-09-A-03] Students will be able to identify and analyze data communication, computer networks, networking devices, basic networking systems and understand how data is transmitted and key concepts such as protocols, speeds, etc.	U	2
21	B: Q(viii)	Domain D	<b>OR</b> Domain C	[SLO CS-09-D-02] Students will define and explain data types, data collection, and data storage.	<b>OR</b> [SLO CS-09-C-03] Students should be able to create dynamic websites using JavaScript as the frontend scripting.	U	2
22	B: Q(ix)	Domain C	<b>OR</b> Domain A	[SLO CS-09-C-04] Students should be able to implement common algorithms that use sequence, selection, and repetition in JavaScript.	<b>OR</b> [SLO CS-09-A-03] Students will be able to identify and analyze data communication, computer networks, networking devices, basic networking systems and understand how data is transmitted and key concepts such as protocols, speeds, etc.	U	2
23	B: Q(x)	Domain B	<b>OR</b> Domain E	[SLO CS-09-B-02] Solve simple and complex problems computationally.	<b>OR</b> [SLO CS-09-E-01] Students will be able to describe uses and applications of computing like AI, Machine Learning, and Cloud Computing	U	2
24	B: Q(xi)	Domain H	<b>OR</b> Domain E	[SLO EN-09-H-01]: Students identify a problem and create a business using design thinking	<b>OR</b> [SLO CS-09-E-01] Students will be able to describe uses and applications of computing like AI, Machine Learning, and Cloud Computing	K	2

25	C: Q3	Domain A	<b>OR</b> Domain E	[SLO CS-09-A-01]: Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture (CPU, microprocessors, etc.)	<b>OR</b> [SLO CS-09-E-01] Students will be able to describe uses and applications of computing like AI, Machine Learning, and Cloud Computing	U	5
26	C: Q4	Domain B	<b>OR</b> Domain C	[SLO CS-09-B-02] Solve simple and complex problems computationally.	<b>OR</b> [SLO CS-09-C-04] Students should be able to implement common algorithms that use sequence, selection, and repetition in JavaScript.	A	5
27	C: Q5	Domain F	<b>OR</b> Domain D	[SLO CS-09-F-02] Analyse the beneficial and harmful effects of computing innovations such as social networking, fake news, etc.	<b>OR</b> [SLO CS-09-D-03] Students will be able to define and explain big data, and applications of big data in real-world business	K	5
28	C: Q6	Domain C	<b>OR</b> Domain A	[SLO CS-09-C-02] Students should be able to create a static website using HTML/CSS in an appropriate environment.	<b>OR</b> [SLO CS-09-A-03] Students will be able to identify and analyze data communication, computer networks, networking devices, basic networking systems and understand how data is transmitted and key concepts such as protocols, speeds, etc.	A	5

\*Cognitive Level

K: Knowledge

U: Understanding

A: Application



## Table of Specification

### Model Paper Computer Science – Grade IX (SSC-I)

Content Domain / Area	Domain A: Computer Systems	Domain B: Computational Thinking and Algorithms.	Domain C: Programming Fundamentals	Domain D: Data and Analysis	Domain E: Applications of Computer Science	Domain F: Impacts of Computing	Domain G: Digital Literacy	Domain H: Entrepreneurship in the digital age	Total Marks	Percentage of cognitive level
Cognitive Level										
Knowledge	Q2(i/f)2 Q2(iii/f)2	Q2(i/s)2	Q1(i)1	Q2(v/s)2 Q5(s)5		Q1(viii)1 Q2(v/f)2 Q2(iii/s)2 Q5(f)5	-	Q1(iv)1 Q1(ix)1 Q2(xi/f)2	28	<b>28.9%</b>
Understanding	Q1(v)1 Q1(x)1 Q2(vi/f)2 Q2(iv/s)2 Q2(vii/s)2 Q2(ix/s)2 Q3(f)5	Q1(xi)1 Q1(xiii)1 Q2(ii/f)2 Q2(x/f)2	Q1(iii)1 Q1(vi)1 Q2(ii/s)2 Q2(vii/f)2 Q2(viii/s)2 Q2(ix/f)2	Q1(ii)1 Q2(iv/f)2 Q2(viii/f)2	Q1(xii)1 Q2(x/s)2 Q2(xi/s)2 Q3(s)5	Q1(vii)1	-	Q2(vi/s)2	49	<b>50.5%</b>
Application	Q6(s)5	Q4(f)5	Q4(s)5 Q6(f)5				-		20	<b>20.6%</b>
Total Marks	24	13	21	12	10	11	0	6	97	-
Total Percentages	24.7	13.4	21.6	12.4	10.3	11.3	0	6.2	-	<b>100%</b>

**Note:**

- 1 This ToS does not reflect policy, but it is particular to this model question paper.
- 2 Proportionate / equitable representation of the content areas as per the defined ranges may be ensured.
- 3 The percentage of cognitive level is 30%, 50%, and 20% for knowledge, understanding, and application, respectively with  $\pm 5\%$  variation.
- 4 While selecting alternative questions for Short Response Questions (SRQs) and Extended Response Questions (ERQs), it must be kept in mind that:
  - Difficulty levels of both questions should also be same
  - SLOs of both the alternative questions must be different

**Key:** Question Number (part/ first choice) marks      example: **Q2 ( i / f ) 2**  
 Question Number (part/ second choice) marks      example: **Q2 ( i / s ) 2**