



**ASSESSMENT FRAMEWORK
FOR PRACTICAL BASED ASSESSMENT (PBA) - COMPOSITE**

COMPUTER SCIENCE

SSC LEVEL



NATIONAL CURRICULUM OF PAKISTAN (2022-23)

SCHEME OF STUDIES 2009

WE WORK FOR EXCELLENCE

**FEDERAL BOARD OF INTERMEDIATE AND SECONDARY
EDUCATION (FBISE), ISLAMABAD**



Table of Contents

<u>S. No</u>	<u>Contents</u>	<u>Page No.</u>
1.	Acknowledgement	1
2.	About the PBA Assessment Framework	2
3.	Guidelines/instructions for teachers/paper setters	3
4.	List of Experiments aligned with SLOs (Composite PBA)	4
5.	Model Question Paper Computer Science SSC (COMPOSITE)	6

ACKNOWLEDGEMENT

It is a great honour that we at the Federal Board of Intermediate and Secondary Education (FBISE) have developed the Assessment Framework (AF) for the Practical Based Assessment (PBA) of Computer Science at the Higher Secondary School Certificate (SSC) level. The primary objective of the Assessment Framework is to optimize the Student Learning Outcomes (SLOs) of curriculum 2022-23 that are associated with practical concepts and laboratory work. This comprehensive framework has been crafted meticulously by subject matter and assessment experts who conducted an in-depth review of all learning outcomes of SSC level Computer Science curriculum.

This significant undertaking was the result of a series of extensive meetings and collaborative efforts of the subject and assessment experts. Their dedication and expertise have been instrumental in bringing this framework to fruition.

The Assessment Framework for Practical Based Assessment (PBA) will serve as a guiding document for students, teachers, and paper setters. Students will receive clear directions for preparing themselves for the PBA examinations. Similarly, teachers will use it as a guide to perform laboratory work and to prepare students for the final PBA examinations. Paper setters of PBA will also seek guidance from this document and prepare PBA paper accordingly for annual examinations. It may be noted that only those students will be able to attempt the PBA paper who have performed all the practicals in laboratory.

Following subject as well as assessment experts remained constantly engaged in the development of the Assessment Framework for PBA:

1. Ms. Rozina Faheem, Principal, F G College of Home economic and Management Sciences, F-11/1 Islamabad
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4. Ms. Sadia Mujtaba, Assistant Professor, Islamabad Model College for Girls, I-8/4 Islamabad
5. Ms. Zohra Shafaqat, Lecturer, Fauji Foundation College for Girls, Lalazar Rawalpindi

The whole work was successfully accomplished under the able supervision and guidance of Dr. Ikram Ali Malik, Chairman, FBISE and due to the hard work and dedication of the staff of Research Section of FBISE, in particular, Syed Zulfiqar Shah, Deputy Secretary, Research and Academics who played pivotal role in finalizing the Assessment Framework for PBA.

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Director (Test Development)
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ABOUT THE PBA ASSESSMENT FRAMEWORK

To ensure clarity and precision in the understanding of Practical Based Assessment (PBA) Question Paper, the Student Learning Outcomes (SLOs) have been categorized into two distinct groups: formative for PBA and summative for PBA in the separately composed Assessment Frameworks for Classes SSC-I and SSC-II. Subsequently, all the SLOs of SSC-I and SSC-II meant for summative PBA have been translated into workable and functional composite lists of practicals which are part of this booklet. This extraction of lists of practicals helps in effectively measuring student progress and understanding of the scientific concepts linked with laboratory work. These practicals must be performed by the students under the supervision of their teachers in the laboratories in order to prepare themselves for the PBA Examinations.

The Assessment Framework for Practical Based Assessment (PBA) will act as a comprehensive guide for students, teachers, and paper setters. Students will receive clear instructions in order to perform practicals in the laboratory and prepare themselves for the PBA examination. Teachers will use the same to strategize the optimal use of the laboratory for performing practicals.

The Model Question Paper for Practical Based Assessment (PBA), along with clear instructions, has also been developed and made part of this booklet to provide a structured format for upcoming examinations. The model question paper ensures consistency and fairness, offering students a comprehensive understanding of PBA examination.

All the practicals have been aligned with their corresponding SLOs marked summative for PBA. The purpose of this alignment is to explain how the practicals relate with their corresponding summative SLOs for PBA.

Instructions for paper setters have also been included before the PBA model question paper, providing self-explanatory guidance on the selection and nature of each question which is part of the model paper.



PRACTICAL BASED ASSESSMENT (PBA)

(COMPOSITE)

**Computer Science SSC Level for Annual Examination 2026 & onwards
Computer Science Curriculum (2022-23)-Scheme of Studies 2009**



Guidelines/instructions for Students/Teachers/Paper Setters

- i. The paper will consist of two sections i.e. section A and B.
- ii. Section A will have three questions, having parts in it. In section A, all three questions will be based on Domain C.
- iii. Section B will also have three questions, having parts in it. Question-4 will be based on Domain B, Question-5 will be based on Domain A while Question-6 will be based on Domain H.
- iv. The weightage of section A will be 60% i.e. 24 marks, while that of section B will be 40 % i.e. 16 marks.
- v. In Practical Based Assessment (PBA), there will be no marks for practical notebooks and viva voce. However, students may record procedures, observations, apparatus and calculation etc. on any type of plain papers/work sheets / practical folders for their future memory of all aspects of practical performance in order to attempt the PBA Examination amicably.
- vi. It may be noted that performance of all the prescribed practicals is mandatory in the laboratory during the whole academic session because only those students will be able to attempt the PBA who have performed the practicals in the laboratory as per requirement of each practical.
- vii. MCQs will not be included/assessed in the Practical Based Assessment paper.
- viii. Questions carrying 0.5 marks will not be included/assessed as single part in any section of the PBA paper.



**List of Practicals aligned with SLOs (Composite PBA)
For SSC Annual Examination 2026 & onwards
Computer Science Curriculum (2022-23)-Scheme of Studies 2009**



Note: In the Practical-Based Assessment (PBA), questions will be taken/developed from the list of practicals provided below, aligned with the summative SLOs listed in the corresponding column.

SECTION-A (60% of practical marks — 24 Marks)

No.	List of Practicals	Aligned SLOs
1	<p>HTML: Write and execute the codes in HTML to understand the DOM model and work with the HTML tags like; Formatting tags, Anchor tags, Image tags, Lists (ordered, unordered and definition lists) and Tables to made the following webpages:</p> <ul style="list-style-type: none"> • Blogs • Portfolio • Personal websites • Business page • Homepage • Contact page • About us page • Product page etc. <p>CSS: Writing code for applying different styles and design to the layout of the webpage using CSS like:</p> <ul style="list-style-type: none"> • Text styling • Colors • Spacing • Borders • Positioning elements • Backgrounds • Hover effects <p>JAVASCRIPT: Writing the Javascript codes by using variables for Input/ Output handling, practicing sequencing, conditional and iterative structures, implementation of simple functions, debugging of code, to manage the data like:</p> <ul style="list-style-type: none"> • Solving arithmetic problems • Calculating Area, Volume etc. of some geometric shapes • Comparisons • Finding factorial of a number • Printing series • Printing table of a number • Finding the largest or smallest number • Searching of an element etc. • Sorting a list 	<p>[SLO CS-09-C-02] Students should be able to create a static website using HTML/CSS in an appropriate environment.</p> <p>[SLO CS-10-C-02] Students should be able to use more advanced HTML/CSS features in an appropriate environment</p> <p>[SLO CS-09-C-03] Students should be able to create dynamic websites using JavaScript as the frontend scripting.</p> <p>[SLO CS-10-C-03] Students should be able to use more advanced programming constructs (lists, etc.) to create dynamic websites using JavaScript as backend scripting</p> <p>[SLO CS-09-C-04] Students should be able to implement common algorithms that use sequence, selection, and repetition in JavaScript.</p> <p>[SLO CS-10-C-04] Students should be able to implement complex algorithms that use more complex data structures (lists, etc.) in JavaScript</p> <p>[SLO CS-09-C-05] Students will determine ways of debugging their code in JavaScript</p> <p>[SLO CS-10-C-05] Students will determine more advanced techniques (unit tests, breakpoints, watches) for testing and debugging their code in JavaScript</p>

SECTION-B (40% of practical marks — 16 Marks)

1.	<p>Label and identify the type and purpose of different devices such as:</p> <ul style="list-style-type: none"> • Input devices 	<p>[SLO CS-09-A-01] Students will define and describe types of systems (artificial, natural), computer hardware components such as computer architecture</p>
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	<ul style="list-style-type: none"> • Output devices • Processing devices • Storage devices • Communication devices 	(CPU, microprocessors, etc.)
	<p>Label and identify the different types of software such as:</p> <ul style="list-style-type: none"> • System software <ul style="list-style-type: none"> ▪ Operating system ▪ Utility programs ▪ Language translators ▪ Device drivers • Application software <ul style="list-style-type: none"> ▪ Business software ▪ Productivity software ▪ Entertainment software ▪ Education software 	<p>[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.</p>
2.	<p>Develop flowchart/algorithm to address simple/complex problems which includes Sequencing statement, Conditional statement and Iterative statement for practicing following:</p> <ul style="list-style-type: none"> • Solving arithmetic problems • Calculating Area, Volume etc. of some geometric shapes • Comparisons • Finding factorial of a number • Printing series • Printing table of a number • Finding the largest or smallest number • Searching of an element • Sorting a list <p>Design a concept map based on different data structures like:</p> <ul style="list-style-type: none"> • Decision trees • Graphs • IPO • Tree • Organizational charts. 	<p>[SLO CS-09-B-01] Understand and apply techniques to decompose problems.</p> <p>[SLO CS-09-B-02] Solve simple and complex problems computationally</p> <p>[SLO CS-10-B-01] Students will identify common algorithms used to develop software, store, search, or sort information.</p> <p>[SLO CS-10-B-02] Develop and apply abstractions to create generalized, modular solutions</p>
3.	<p>Using any digital tool develop a business plan that includes the following key components:</p> <ul style="list-style-type: none"> • Executive Summary: Provide a brief overview of the business idea. • Company’s Objectives: Outline the main goals and purpose of the business. • Product Specification: Detail the pricing, promotion, packaging, and delivery strategy. • Potential Customers/Market: Identify the target audience and market potential. 	<p>[SLO EN-09-H-02]: Students will use digital tools to create and present a business plan for an entrepreneurial solution</p> <p>[SLO EN-10-H-02]: Students will pitch a business idea.</p>



**Model Question Paper Computer Science SSC (COMPOSITE)
FOR ANNUAL EXAMINATION 2026 & ONWARDS
Practical Based Assessment (PBA)
Computer Science Curriculum (2022-23)-Scheme of Studies 2009**



Total Marks: 40

Time: 2 hours

Note: Attempt all questions and write answers within provided spaces on the E-sheet.

SECTION-A [24 marks]

Q No.1.

[10 marks]

a. Debug and correct the following code to produce the given output.

[5 marks]

(HINT: the code may contain syntax as well as logical errors)

```
// JavaScript program to display the pattern
// Define the number of rows
let 4 = rows;
// Outer loop for each row
for (let i = rows; i < 0; i--) {
  let pattern = "" // Initialize an empty string for each row
  // Inner loop to generate stars for the current row
  for (let j = 1; j < i; j++)
    pattern += "* "; // Add a star followed by a space
  }
  Document.write(pattern); // Print the current row
}
```

OUTPUT

```
* * * *
* * *
* *
*
```

b. Write a simple JavaScript program to calculate the total price of items in a shopping cart. **[5 marks]**

[5 marks]

1. Declare three variables to store the prices of three items (item1, item2, item3).
(Let item1 = 20, item2 = 60 and item3 = 75)
2. Declare a fourth variable, totalPrice, and calculate the total of the three items.
3. Display the value of totalPrice.

OR

a. Write a JavaScript code that accepts a number and displays that the number is negative or positive. **[5 marks]**

[5 marks]

b. What does the following JavaScript code prints? **[5 marks]**

[5 marks]

```
<script>
function displaySeries()
{
  const start = 1; // Starting value
  const step = 2; // Step size
  const length = 10; // Length of the series
  let series = [];
  for (let i = 0; i < length; i++)
  {
    series.push(start + i * step); // Generate the next value in the series
  }
  document.getElementById('output').innerText = series.join(', ');
}
</script>
```

Q No.2.

[10 marks]

Design a personal portfolio webpage using HTML. The page should include the following elements:

- a. Title of the Page: Set an appropriate title for the webpage. **[1 mark]**
- b. Header Section: Include your name and a short introduction about yourself inside a <header> tag. **[1 mark]**
- c. Main Content Section: **[3 marks]**
 - i. A profile picture using the tag.
 - ii. A short biography using paragraphs <p>.

- iii. A list of your skills using or .
- d. Navigation Menu: Create a simple navigation menu with links to "Home", "About Me", and "Contact". [1 mark]
- e. Add a table showcasing your educational background or work experience. [4 marks]

Sr#	Degree	Passing year	GPA/ Grade	Board/ University
1.	Matriculation	2015	A+	FBISE
2.	Intermediate	2017	B+	FBISE
3.	BS	2021	3.56	AIOU

- Q No.3. [4 marks]**
- a. Write the CSS code to change the foreground color of header text in above table (Question-II: part-e) to light blue. [2 marks]
 - b. Write the CSS code to set the width of an image (Question-II: part-c.i) to 300px and height to 200px. [2 marks]

SECTION-B [16 Marks]

- Q No.4. [5 marks]**
Design a concept map to issue a book in a library. Include checks for book availability and the maximum number of books a user can borrow.

OR

Develop a flowchart that represents the process of withdrawing money from an ATM. Also include steps for inserting a card, entering a PIN, choosing an amount, checking balance, and dispensing cash.

- Q No.5. [5 marks]**
a. Label the following devices: [2.5 marks]



i.



ii.



iii.

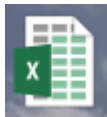


iv.



v.

- b. Classify the following software as system or application software: [2.5 marks]



i.



ii.



iii.



iv.



v.

- Q No.6. [6 marks]**

Consider the following business idea for **Online Food Delivery** and prepare the business plan provided below:
A service that delivers fresh, healthy, and affordable meals to busy professionals and students in urban areas. Customers can place orders through a mobile app with customizable meal options and real-time delivery tracking. Following are the key features:

- Affordable, balanced meal options for breakfast, lunch, and dinner.
- Focus on eco-friendly packaging and sustainability.
- Real-time order tracking and quick delivery within 30 minutes.

COMPANY NAME: MY FOOD CART	
COMPANY'S SLOGAN:	[01 mark]
EXECUTIVE SUMMARY: (In one line)	[01 mark]
COMPANY OBJECTIVES: (Any TWO)	[01 mark]
PRODUCT SPECIFICATIONS: (According to pricing, promotion, packaging & delivery)	[02 marks]
POTENTIAL CUSTOMERS / MARKET: (Any TWO)	[01 mark]



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