JavaScript Fundamentals – Part 2: Question Paper

Time: Take your time

Max Marks: 100

Sections: A – Theory, B – Code-Based, C – Scenario-Based

Instructions: Answer all questions. Use proper syntax and logic.

Section A – Theory (5 marks each)

1. What does "use strict" do in JavaScript? Why is it useful?

2. Differentiate between a function declaration and a function expression.

3. What is an arrow function? Mention one key difference from regular functions.

4. Why are functions useful in programming? Explain in your own words.

5. What does the push() method do in an array?

6. Write the syntax of a for loop and explain its three parts.

7. What is the purpose of the includes() method in arrays?

8. How are dot notation and bracket notation used to access object properties?

9. What is a method in an object? How is it different from a normal function?

10. When is a while loop preferred over a for loop?

Section B – Problem Solving (5 marks each)

11. Enable strict mode in your code. Declare a variable with a typo and observe the error. Fix the issue using strict mode.

12. Write a function sayHello(name) that prints: "Hello, <name>! Have a great day." Call it 3 times.

13. Create two functions: getDouble(n) (declaration) and getTriple(n) (expression). Use 5 as input.

14. Create an arrow function getStatus(score) that returns "Pass" or "Fail" based on 40 marks.

15. Write a function square(n) and another function printSquareSum(a, b) that adds a and b, then squares the result.

16. Work with array colors: Add, replace, and print items. Print the last item.

17. Check if "email" is in toDoList using includes(). Print appropriate message.

18. Create object device. Access properties using dot/bracket notation. Add a new property.

19. Create object employee with getExperience() and getProfile() methods.

20. Use a for loop to print all even numbers between 1 and 20.

21. Create array prices, apply 10% discount in a new array, print both.

22. Simulate a coin toss. Use a while loop to toss until "Heads" is rolled.

Section C – Scenario-Based Coding (8 marks each)

23. Student Result System
Write a function that takes a student's name and marks as input and returns a message based on the following criteria: Marks ≥ 90 → "Excellent, <name>!", 75 –89 → "Very Good, <name>!", 50–74 → "Good, <name>!", Below 50 → "Needs Improvement, <name>".

24. Shopping Cart Total
Given an array of item prices, calculate the total bill. If the total exceeds 1000, apply a discount. Return the final amount.

25. User Profile Generator
Create a function that accepts first name, last name, and year of birth. Return an object with full name, current age (based on 2025), and adult status.

26. Guest List Checker
Write a function that accepts a name and a guest list. Return a message saying whether the person is invited or not.

27. Book Tracker
Create an object representing a book with title, author, publication year, and read status. Add a method to return a summary about the book.

28. Gym Repetition Logger
Write a function that logs exercise progress. The function should accept a number representing how many sets the user has to complete. Log a message for each set.

29. Temperature Category
Create a function that takes a temperature value and returns one of the following categories: "Cold", "Pleasant", or "Hot".

30. Fruit Inventory Reporter
Given an object representing different fruit quantities, write a function that returns a string like: "You have X apples, Y bananas, and Z oranges."

31. Skill Analyzer
Create an object for a person with a name and a list of skills. Add a method that returns the total number of skills and prints each one.

32. Random Number Game
Write a function that keeps generating random numbers from 1 to 10 until the number 7 is generated. Print each number.

33. Array Filter Reporter
Given an array of mixed types, write a function that prints only the string values from the array.

34. Team Age Calculator
You are given an array of birth years for 5 teammates. Write a function that returns a new array containing their ages in 2025.

P.S. I love you ❤