Programme	**Diploma in Information Technology (FT)**
Module	**Web Development 2B**
Module Code	**WPD 220**
NQF Level	**6**
Credits	**10**
Assessment Type	**Examination Memo**
Semester	**2nd**
Date	**12 November 2021**

Duration	**2 hours**
Total marks	**100**
Pass mark	**50%**
Weighting	**20%**
Examiner	**Ms. Jacqueline Mtomba**

This question paper consists of 6 pages including the cover page.

REQUIREMENTS:

Learner Requirements: Stationery and Examination Answer booklet
Equipment Requirements: Notepad++ on computer

This paper consists of:

1.	Section A:	**20 marks**
2.	Section B:	**20 marks**
3.	Section C:	**60 Marks**

ALL sections are **COMPULSORY**. It is in your own interest to write legibly and to present your work neatly.

PLEASE READ THE ASSESSMENT RULES AND REGULATIONS THAT FOLLOW

Learners are warned that contravening any of the examination rules or disobeying the instructions of an invigilator could result in the examination being declared invalid. Disciplinary measures will be taken which may result in the students' expulsion from Damelin.

ASSESSMENT RULES AND REGULATIONS

Please ensure that you have read and fully understand the following assessment rules and regulations prior to commencing with your assessment:

1. To be permitted access to the examination, a learner must arrive with:
   - an Identity Document or other official proof of identity (for example, a student card, passport or driver's licence card with photo); and
   - the required exam stationery.
2. No learner may enter the examination room more than 30 minutes after the examination sitting has commenced and no candidate may leave the room less than one hour after the examination sitting has commenced.
3. No extra time will be allowed should a student arrive late.
4. All learners must sign the *Attendance Register* for the examination on arrival.
5. It is the responsibility of learners to familiarise themselves with the examination rules prior to sitting for the examination.
6. All examinations are to be written on the date and time officially stipulated by the College.
7. It is the responsibility of learners to ensure that they are writing the correct paper and that the question paper is complete
8. Cell phones must be switched *off* prior to entering the exam venue. Cell phones and wallets may be placed under candidates' chairs rather than at the front of the room.
9. Learners may not handle cell phones or wallets during the exam.
10. No weapon of any description may be taken into the assessment room.
11. All personal belongings are to be placed at the front of the examination room. Personal belongings brought to the examination are at the owner's risk.
12. Smoking is not permitted, and learners will not be allowed to leave the examination room in order to smoke
13. Once the examination has commenced, all conversation of any form between candidates must cease until after candidates have left the room, after the examination.
14. *Only* the official College examination book, as supplied by the College, may be used.
15. Learners must ensure that their student number is written on the answer book.
16. Learners are responsible for ensuring that they follow the instructions in the examination for submitting their answers.
17. Please read the instruction appearing on the examination paper carefully
18. The number of every question must be clearly indicated at the top of every answer.
19. No pages may be torn out of the answer book. All question papers and scrap paper must be handed to the invigilator after the examination.
20. Learners finishing earlier are to leave the examination room as quietly as possible on the instruction of the invigilator and may not talk until outside the building where the examination is being written.
21. Only under exceptional circumstances will a learner be permitted to leave the examination room during the examination, and if the invigilator gives permission. An invigilator must accompany the learner. Only one learner at a time may be absent from the examination room.
22. Candidates may not act dishonestly in any respect.

SECTION A

QUESTION 1: MULTIPLE CHOICE QUESTIONS (10)

Select the correct answer from the options available.

In the provided answer book, write down the question number and the letter of the correct answer next to it

1.1 Which of the following does not correctly create an array?

A. var myarray = new Array();

B. var myarray = [3, 4, “Book”, 7];

C. var myarray = new Array(“hello”, ”hi”, ”greet”);

D. var if = new Array[10];

1.2 By default, how does the sort() method sort the contents of an array?

A. It reverses the contents of the array.

B. It sorts the contents numerically.

C. It sorts the contents using string character codes.

D. It sorts it based on a random algorithm.

1.3 In JavaScript, you typically access object properties through the use of the

A. addition operator (+)

B. dot operator (.)

C. multiplication operator (*)

D. You can’t access the properties of an object

1.4 Which property returns the complete URL of the current document?

A. domain

B. referrer

C. URL

D. title

1.5 A mouseover event occurs when:

A. The viewer clicks the mouse while the cursor is over a button.

B. The viewer moves the mouse cursor away from a link.

C. The viewer clicks a link, linked image, or linked area of an image map.

D. The viewer moves the mouse cursor over an element on the page.

Question 2 True/False **(10)**
Select the correct answer from the options available

2.1 An event handler is a predefined JavaScript property of an object that is used to handle an event on a Web page. True
2.2 To correctly access the fifth item of an array named "Web", you can write Web[5]. False
2.3 The Document Object Model (DOM) allows JavaScript (and other scripting languages) to access the structure of the document in the browser. True
2.4 When using object literal notation, the properties and values are enclosed within curly brackets ({}). True
2.5 The keydown event occurs when a viewer presses down a key on the keyboard. True

SECTION B
Question 3 Short Answers **(20)**

3.1 What are the advantages of JavaScript? (5)

Lightweight: It is easy to implement. It has small memory footprints.
Interpreted: It is an interpreted language. Instructions are executed directly.
Object-oriented: It is an object-oriented language.
First-class functions: In JavaScript, a function can be used as a value.
Scripting Language: It's a language in which instructions are written for a run-time environment.

3.2 With the aid of an example explain how you split a string into array items? (5)

A string can be split into an array using the JavaScript split() method. This method takes a single parameter, the character you want to separate the string at, and returns the substrings between the separator as items in an array.

Marker may use discretion on the example

```
myDaysString = "Sunday,Monday,Tuesday,Wednesday";
String can be split at comma as below:
myDaysArray= myDaysString.split(',');
document.write(myDaysArray[0]);
```

3.3 Is JavaScript a case-sensitive language? (5)

Yes, JavaScript is a case sensitive language. Meaning of this is keywords of the language, variables, function names, and any other identifiers that must always be typed with consistent uppercase or lower-case letters.

e.g myVar is a different variable to myvar.

3.4 To calculate the balance on a loan, the following formula is used:
PV = PMT * (1 – (1 + IR)–NP) / IR
PV is the present value of the loan; PMT is the regular monthly payment of the loan; IR is the loan's interest rate; NP is the number of payments remaining.
Write a JavaScript statement in a function to represent this formula. (5)

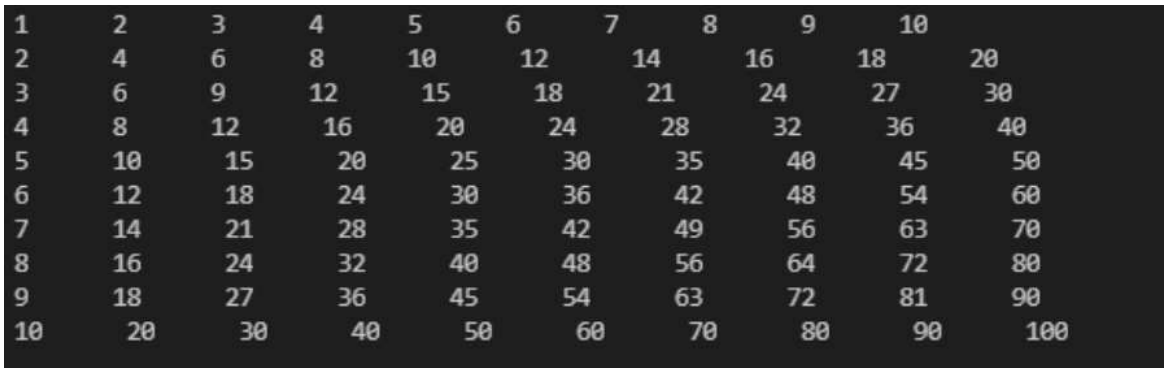
Marker may use discretion

```
function PV(IR, NP, pmt)
{
   return pmt / IR * (1 - Math.pow(1 + IR, -NP));
}
```

SECTION C

Question 4 Practical **(60)**

4.1 Create the following 10* 10 multiplication table using only either a nested for loop, or a nested while loop. Take care to also recreate the spaces as shown in the example below. You should also try to match the spacing.



(15)

4.2 A grocery store has approached to you to help them to digitalize their prices of fruits and sales made each day of the week. Below is an extract of the excel sheet.

Table 1: Fruit Quantities

Week-Day	**Apples**	**Bananas**	**Grapes**	**Oranges**
Monday	*56*	*105*	*38*	*140*
Tuesday	*146*	*46*	*67*	*20*
Wednesday	*81*	*55*	*177*	*150*
Thursday	*5*	*23*	*40*	*123*
Friday	*90*	*67*	*104*	*90*

a) Create an object (using an object literal or a constructor function) to that represents each of the records. An object represents a row of the above spreadsheet; and each single object will contain the following properties: WeekDay, Apples, Bananas, Grapes and Oranges. Ensure that you use the values in the table given above. Store these objects in an array called fruits.

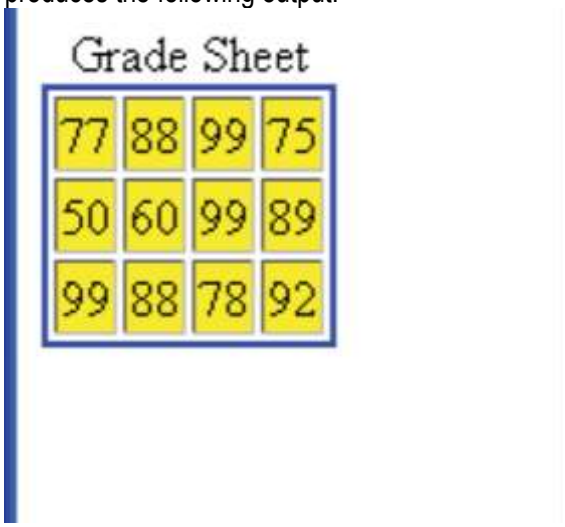
b) Write a function that takes the entire array of fruits and calculates the total number of fruits sold each day. It must then print out messages as shown below.

Monday sold 339 fruits
Tuesday sold 279 fruits
Wednesday sold 463 fruits
Thursday sold 191 fruits
Friday sold 351 fruits

c) Write a function that displays the days where you sold more than 100 Oranges.

d) Write a function that calculates the average Banana's sold in a week (Monday – Friday). (30)

4.3 Using two dimensional arrays in JavaScript, HTML5 tables and CSS create a nested array that produces the following output.



NB. Background and border properties may be of your own choice (15)