



ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE  
FACULTY OF ENGINEERING  
DEPARTMENT OF COMPUTER ENGINEERING

SECOND SEMESTER EXAMINATION, 2018/2019 ACADEMIC SESSION

COURSE TITLE: SOFTWARE DEVELOPMENT TECHNIQUES

COURSE CODE: ECE 516

EXAMINATION DATE: JULY 10, 2019

COURSE LECTURER: Prof. A.I. Oluwaranti/Mr. Isaac Elesemoyo

A rectangular box containing a handwritten signature in black ink.

HOD's SIGNATURE

TIME ALLOWED: 3 HOURS

**INSTRUCTIONS:**

1. ANSWER FIVE QUESTIONS ONLY.
2. SEVERE PENALTIES APPLY FOR MISCONDUCT, CHEATING, POSSESSION OF UNAUTHORIZED MATERIALS DURING EXAM.
3. YOU ARE NOT ALLOWED TO BORROW ANY WRITING MATERIALS DURING THE EXAMINATION.

### Question 1

- a. Draw the flowchart for finding the prime numbers from 2 to a given number. [5 marks]
- b. What is searching in an array? Explain the binary and linear type of searching algorithms. [5 marks]
- c. What is sorting in an array? Explain the insertion and selection sort algorithms. [5 marks]

### Question 2

- a. List and Explain the Software development life cycle [12 marks]
- b. Explain what you understand by casting [3 marks]

### Question 3

- a. What will be the output of this program segment? [5 marks]

```
void main()
{ int i = 0, a[3];
  a[1]=i++;
  print ("%d", a[i];

}
```

- b. Identify the error(s) in this program segment [5 marks]

```
int x = 3000, y = 2000;
long int z = x*y;
```

- c. What is the problem with the following statement? [5 marks]

```
Void main(){
  Printf("Hello World");
  Return 0;
}
```

### Question 4

- a. Explain how modular programming technique can assist you as a programmer to develop a reliable and efficient software [4 marks]

- b. What is the function of this program segment? [3 marks]

```
for (expression1; expression2; expression3) {
  // set of statements
}
```

- c. Develop a C program to compute the perimeter and area of a circle with a radius of 7 meters. [8 marks]

### Question 5

- A. What is the value range of the following datatype?

- i. Unsigned 4-byte integer
- ii. Short
- iii. Unsigned 2-byte short
- iv. Long
- v. Unsigned long

[10 marks]

- B. What do you understand by the term void? And explain the instances that it occurs in C programming [5 marks]

### Question 6

- a. Explain the water fall model with Illustration. [10 marks]

- b. What is the function of the following escape sequence?

- i. \b
- ii. \n
- iii. \t
- iv. \v
- v. \r

[5 marks]

### Question 7

- a. List and describe the logical operators [3 marks]

- b. List and explain the Storage class present in C programming [8 marks]

- c. What is the function of the following program segment? [2 marks]

```
Exp1? Exp2: Exp3;
```

- d. With the aid of a diagram, explain what you understand by loop. [2 marks]