**UNIVERSITY EXAMINATION 2017/2018**

**SCHOOL OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**DBIT/DIT**

**REGULAR**

**UNIT CODE :DIT1302 UNIT TITLE:INTRODUCTION TO STRUCTURED PROGRAMMING AND**

**ALGORITHM**

**MAIN EXAM TIME:2HRS**

 **INSTRUCTIONS:ANSWER ALL QUESTIONS IN SECTION A AND ANY OTHER TWO IN SECTION B**

**SECTION A(COMPULSORY-30MARKS)**

**Question one**

1. A class of diploma in information technology students has 10 students. Write aprogram to input their marks for a certain programming paper calculate their total and average mark and then display the result on the screen.
2. State any five variable naming conventions. (4marks)
3. Define the following terms: (6marks)
4. Compiler
5. Source code
6. Object code
7. Explain the steps followed while creating a program in structured programming (8marks)
8. Write a C program that calculates for sum of numbers between 1 and 15. Use the for loop

 .(6marks)

 **SECTION B**

 **Question two**

1. Explain the various stages of program development process. (12marks)
2. Explain two program development approaches (4marks)
3. Define the term pointers as used in C, give an example of pointer declaration (4marks)

 **Question three**

1. Explain the following concepts :
2. Algorithms
3. Pseudo code
4. Programming languages
5. Programming
6. Modules
7. Write a C program that calculates for sum of odd numbers between 1 and 18. Use the while loop. (6marks)
8. Define the term pointers as used in C, give an example of pointer declaration (4marks)

 **Question four**

1. Briefly discuss: (6marks)
2. Low level programming languages
3. High level programming languages
4. Assembly languages
5. Design a flow chart for a program that allows the user to key in a number of a from the keyboard and outputs an appropriate message based on; (6marks)

 **• If**(number % 2 == 0)

 Print “EVEN”

 **else**

 print “ODD”

 c)convert the above flow chart into a C program (8marks)