

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY  
FACULTY OF APPLIED SCIENCE  
COMPUTER SCIENCE DEPARTMENT  
MAY EXAMINATIONS 2002**

**SUBJECT: INTRODUCTION TO COMPUTER SCIENCE – ENGINEERING STUDENTS**  
**CODE: SCS 1007**

**INSTRUCTION TO CANDIDATES**

1. Answer any **FIVE FULL** questions
2. All Questions carry equal marks

**Time: 3 hours**

**QUESTION 1**

- a) Explain the difference between the different types of operating systems. [5]
- b) What is the difference between a single-user and a multi-user operating system? [2]
- c) What is the purpose and syntax of the following MS-DOS commands? Dir, CD, Copy, Del, Type, Attrib. [10]
- d) What is a computer virus? How do you prevent or eliminate computer viruses? [3]

**QUESTION 2**

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- a) Briefly outline the history of computer development. [8]
- b) Define the following terms and give at least two examples of each:  
i) Machine Level Language    ii) Assembler Level Language  
iii) Software                      v) Memory [8]
- c) What are the applications of Computers? Explain any two of these in detail. [4]

**QUESTION 3**

- a) Use a block diagram to explain the working of a digital computer. [8]
- b) What is the meaning of ROM and RAM? Do all digital computers require ROM and RAM? Justify your comments. [6]
- c) What does Booting mean? Explain the different types of booting? [6]

**QUESTION 4**

- a) Explain what an Assembler, Interpreter and Compiler are. Compare and contrast them. [8]
- b) How are computers classified? Name and explain each class. [8]
- c) What is meant by a primary memory and a secondary memory? Give at least three examples of each. [6]

**QUESTION 5**

- a) What is an algorithm? What are its characteristics? [6]
- b) What are the different types of statements supported by C. Give one example for each. [8]
- c) Write a flowchart and a program to find the largest of three numbers using C. [6]

**QUESTION 6**

- a) What is an array? Give an example of a C array. [4]
- b) Write a C program to find the smallest number in an array. [8]
- c) Write a C program to subtract one matrix from another. [8]

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**QUESTION 7**

a) Explain the `getchar()` and `putchar()` functions, using examples to illustrate? [6]

b) Explain the Relational and Logical Operators used in C [6]

c) Correct the errors in the following program and provide the output.

```
#include ,stdio.h.  
#include <math.h>
```

```
main()
```

```
{  
    int a = 5, b = 9, c = 11;  
    printf("a*b/c*d = %d\n", a*b//c*d);  
    printf("b % a = ", b % a);  
    printf("(a*b+c)-11/c = %d", (a*b+c)-11/c);  
    printf("(a+b)*c/(b+c) = %d\n", (a+b)*c/b+c);  
}
```

[8]

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**END OF QUESTION PAPER**

**GOD LUCK!**