



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA  
SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY  
DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

SECOND SEMESTER 2014/2015 EXAMINATION

**COURSE CODE:** IMT 321  
**COURSE TITLE:** SYSTEMS PROGRAMMING  
**CREDIT UNITS:** 3  
**TIME ALLOWED:** 2¼ HOURS  
**COURSE LECTURER(S):** MR. S.O. GANIYU AND MR. M.E. BIMA  
**NUMBER OF QUESTIONS:** 26 OBJECTIVES AND 5 THEORIES  
**NUMBER OF PAGES:** 4

**INSTRUCTIONS**

- Answer all questions
- Do not use red pen
- Please use a clear handwriting
- This exam is closed book, closed notes, closed laptop and closed cell phone
- Please use non-programmable calculators only



17. "wq" is used UNIX text editor to \_\_\_. (1 mark)

- (A) delete a word      (B) open a file      (C) close a file      (D) delete a letter

### Section C: Theory

1. Imt321.txt is a file on a UNIX system with file permissions rw-r---x. Using the symbolic method, modify the permissions of the file to r--rwxrw-. (5 marks)
2. Differentiate between Relative and Absolute filename. And provide examples of each. (5 marks)
3. Write the commands in the right order to carry out the following functions. (5 marks)
  - a. Display current working directory
  - b. Change directory to /home/documents  
Create a directory called imt\_300\_level
  - c. Create a text file using the vi text editor
  - d. Type in the text "I am an IMT Student"

## PART B

### Section A: Fill in the Gap

1. The appropriate file extension for Bourne shell script is \_\_\_. (1 mark)
2. Which command will you run at command prompt to know your current shell? (1 mark)
3. \_\_\_ character is used to mark a line as comment in Bourne shell. (1 mark)
4. The command to remove a variable from memory is \_\_\_. (1 mark)
5. Which built-in variable can be used to know the current process ID in Bourne script? (1 mark)
6. The relational operator for "less than" is represented with \_\_\_. (1 mark)
7. \_\_\_ operator is used to check if a file exists in Bourne script. (1 mark)
8. \_\_\_ command can be used to delete a character in vi editor. (1 mark)
9. User defined variable can be \_\_\_ or \_\_\_. (2 marks)

### Section B: Theory

1. (a) Explain what gcc cit321.c -o cit321Prog will do when it executes at command line. (2 marks)





- (b) Write the syntax for while statement. (2 marks)
- (c) List four (4) of the activities that Bourne script can automate in UNIX environment. (4 marks)
2. (a) What will be the output of the Bourne snippet below; (2 marks)

```
for HIK in abd1 fir toy ; do
if test $HIK != fir ; then
continue
fi
echo $HIK
done
```

- (b) Write a Bourne shell script to *add two numbers* and display the result. The script should declare a function named *ADDER* to implement the addition of these numbers and it should return the result of the addition when invoked/called in same script. In order to invoke the function, the two numbers (use 12 and 45) should be passed as parameters. (5 marks)

*Best of luck.*