

THE ANIME ZONE



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11/12 test

1a) Write a BASIC program to evaluate present worth of payments P to about 10,000 customers who deposited different sum of money in a given Bank that uses the formula $P = S(1/(1+i)^n)$ for its operations.

1b) give the flowchart for the program

1c) state the four general modes of operation of computer systems and briefly explain any three of them.

1d) (i) Convert 110111101₂ to octal system (ii) Convert 475₈.725613₈ to binary (iii) Convert 10111111011₂ to hexadecimal

1e) Write a FORTRAN assignment statements for the mathematical equations: (i) $Z = \frac{x.s}{4} - \frac{a^2}{2} \log_{10}|x + s|$ (ii) $X = \frac{-b - \sqrt{b^2 - 4ac}}{2a}$

2a) present a critical view on any four possible reasons why we classify computers.

2b) considering your regular attendance to CSC201 lectures, present detailed report that covers the topic "classification of computers based on processing power" suggest very good example to buttress your point.

2c) state the history of computers with quality illustrations. Paying attention to details will boost your score.

2d) write short note on classification of computers based on originality

2e) explain in details, the advantages of window OS over DOS

2f) Differentiate vividly between the two main command categories of disk operating system. Giving five examples of each, with appropriate syntax

2g) in your capacity as a good student other wise, define the following terms/acronyms: Algorithms, pseudocode, source code, booting, ALU, CPU

2h) notwithstanding, the differences in physical appearance, virtually every computer may envisioned as being as being divided into six logical units or sections. Discuss

3a) the discount rate of 7% is given for any purchase made at a supermarket however, if the purchase amount is greater than N15000, a discount rate of 10% is given to the customers. Draw a flowchart that receives a purchase amount and displays the discount rate and the discount.

3b) explain the characteristics of Algorithms.

3c) explain the different functions of an operating system and discuss some ways the operating systems differ from one another.

) differentiate between: (i) command line and graphical user interface (ii) system and application programs.

) discuss the roles of utility programs and outline several duties that

Discuss the roles of utility programs and outline several duties that these programs perform identify the various branches of
ence and explain any two.

(i) it is often said that computer is an electronic idiot. Explain why (ii) what is the initial software that you computer system
acilitate at least two basic functions of the software.

) Give the full meaning of the following acronyms and the functions they do perform in the computer system: (i) BIOS (ii) virus (iv) CAD

) In most Nigerian banks, once you open an account in one branch, you can transact with the bank in any of its branches such as

i) Convert the following numbers from base 2 to base 8: (i) 111011_2 (ii) 10000_2

ii. Write a program that sums the first 50 positive numbers using any approach that involves ‘BASIC/FORTRAN/Flowchart’

iii) Convert $45F3B.69C3_{16} + 76983.4578_8$ to binary equivalent

iv) what is the meaning of the acronym WWW and give one of its importance

v) mention four roles that the internet/ networking has played in the role of computing

differentiate between the terms, computer science, computer system and a computer.

Computer Application 1
 DEPARTMENT OF COMPUTER SCIENCE

HARMATTAN SEMESTER: COMPUTER & APPLICATION (CSC 201) TEST 2012\2013 SESSION

INSTRUCTION: Answer all the Questions Date:
 Name of Student: _____ Reg. No _____
 Department: _____ School: _____
 Time: 1 hr

Convert $45F3B.69C3_{16} + 76603.4577_8$ to binary equivalent. (3mks)

(a) RAM stands forand the computer uses it

What is virtual memory? (1mk)

Differentiate a syntax error from a logical error? (1Mk)

Convert the following algebraic statements into equivalent BASIC statements

i) $W = \left| \frac{m^2 - 3k}{mk} \right|$

ii) $x = \frac{(2 \sin(\alpha+\beta)+(3 \cos(\alpha-\beta)))}{3 \tan(\alpha\beta)}$

iii) $Y = e^{\cos\beta + \sin 4\alpha}$

iv) Subtract 101011 from 11001 using 2's complement. (2Mks)

Briefly explain the following with examples: (1Mk each) =4Mks

Search Engines _____

HTML: _____

VOIP: _____

SMTP: _____

v) Draw the flowchart of FORTRAN program to evaluate present worth of payments P to about 1000 customers who deposited different

sums of money S in a given Bank that uses the formula:

$P = S(1/(1+i)^n)$ for its operations.

Federal University of Technology Owerri Department of Computer Science

Harmattan Semester **TEST, 2013/2014** Session

CSC201: COMPUTER & APPLICATIONS

1) State any two(2) DOS internal commands And two (2) external commands

2) Convert the following numbers to binary, maintaining 2 or 3 binary point places 463.347_8 and $4DA.9F_{16}$ 3) Determine the 2's complement of 1101100011001000_2 and the 1's complement of 110000011111_2 4) Convert $y = \frac{-b + \sqrt[3]{z^2 + \frac{k+2}{w+r}}}{2a+n}$ into basic or Fortran statements

5) State the rules for naming variables in basic or fortran programing language

6) Briefly explain how RAM differ from virtual memory

7) Operating system is the most vital software of the computer, state any four (4) functions of the operating system.

8) Convert $T5T5 = \frac{2-4\cos(2a)}{\tan(a)+\cos(a)}$ to BASIC or FORTRAN equivalent.

9) State the difference between ALGORITHM and PSEUDOCODE

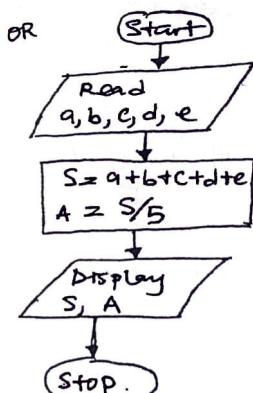
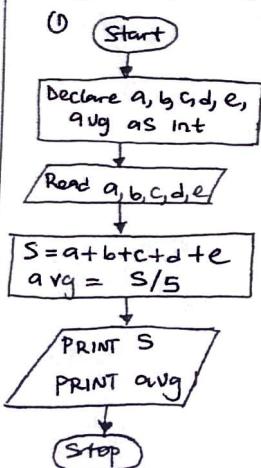
10) The area A of the Triangle is given by ; $A = \frac{1}{2}(\text{base} \times \text{height})$ draw a flow chart to compute it.

1. Draw a flowchart to compute and display the sum and average of any 5 integers.
2. List four (4) rules for naming variables in QBASIC.
3. Distinguish between knowledge base and inference engine as components of expert systems.
4. Convert 1000100110.000101_2 to Hexadecimal.
5. Subtract 356 from 89 using 2's complement.
6. What is the implication of using variable to store integer data without DIM & (%) declaration?
7. Write the BASIC expression for the following Algebraic expressions
 - $x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$
 - $J = \frac{k + (2l + w)}{t^2}$
8. Using BASIC /FORTRAN, Write the sum of all integers between 1 and 10 inclusive.
9. List the features of fifth generation computers for solving real life problems.
10. What is barcode reader?

TOPIC BY TOPIC SOLUTION TO 2015 TEST

FLOW CHART

1. Draw a flowchart to compute and display the sum and average of any 5 integers.



6. What is the implication of using variable to store integer data without DIM & (%) declaration?

The data type will not be recognised

7. Write the BASIC expression for the following Algebraic expressions

- $x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$
- $J = \frac{k + (2l + w)}{t^2}$

i) $x = (-B + (B^2 - 4 * A * C) / 2 * A) / 2 * A$
 ii) $J = (K + (2 * L + W)) / t^2$

8. Using BASIC /FORTRAN, Write the sum of all integers between 1 and 10 inclusive.

10 REM "Program to find the sum of all integers between 1 and 10 inclusive."

10 CLS

20 LET S = 1

40 FOR i = 1 TO 10

50 LET S = S + i

60 NEXT i

70 PRINT "The sum of the numbers is"; S

80 END

BASIC PROGRAMMING

2. List four (4) rules for naming variables in QBASIC.

- 1) A variable can be alphabetic or alphanumeric.
- 2) Variables in QBASIC must not exceed 40 characters.
- 3) Must not contain space, compound name can be joined with underscore (-).
- 4) Cannot be a reserve word.

DATA PROCESSING SYSTEMS AND EXPERT SYSTEM

Distinguish between knowledge base and inference engine as components of expert systems.

The Knowledge base represents facts and rules while the Inference engine applies the rules to the known facts to deduce new facts.

NUMBER SYSTEM

1. Convert 1000100110.000101_2 to Hexadecimal.

$$\begin{array}{r} \text{0010 0010 0110 . 0001 0100} \\ \hline \text{2 2 6 1 4} \\ \hline = 226\cdot14_{16} \end{array}$$

5. Subtract 356 from 89 using 2's complement.

5) Convert them to binary

$$\begin{array}{l} 356 \Rightarrow 101100100 \quad - \text{minuend} \\ 89 \Rightarrow 1011001 \quad - \text{Subtrahend} \\ \text{we will pad the Subtrahend to} \\ \text{make it have equal digits with} \\ \text{the minuend -} \\ \quad = 101100100 \quad - \text{minuend} \\ \quad 001011001 \quad - \text{Subtrahend} \\ \text{we find the } 2^{\text{nd}} \text{ Complement of Subtrahend} \\ \quad = 110100111 \quad \begin{array}{l} \text{(Flip all digits} \\ \text{after the first} \\ \text{one from the right)} \end{array} \end{array}$$

$$\begin{array}{r} 101100100 \\ 110100111 \\ \hline 100001011_2 \end{array}$$

when doing the adding, we ignored the final carry.

CLASSIFICATION OF COMPUTERS

1. List the features of fifth generation computers for solving real life problems.

1. This generation is marked inputs coming from humans in form of speech, natural language, images and pictures.
2. There is also effective processing of such inputs through the use of voice recognition and voice synthesizing circuits, computer vision, as well as pattern recognition strategies.

4. This generation of computers operates at an enormous speed.
5. This generation of computers has the ability to make logical inferences through the use of knowledge base management system.
6. The computers in this generation have emphasis on conversational / interactive processing with suitable man-machine interface.

10. What is barcode reader?

10) This is an electronic device that can read and output printed barcodes to a Computer.

FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI
DEPARTMENT OF COMPUTER SCIENCE
HARMATTAN SEMESTER 2015/2016 SESSION

TEST ON CSC-201: COMPUTER AND APPLICATIONS 1 DATE: 31/03/2016.

IMPORTANT NOTE: Only those that registered for this course are entitled to have their results released.
INSTRUCTIONS: ANSWER ALL QUESTIONS: WRITE YOUR ANSWERS ON THE QUESTION PAPER: USE THE BACK OF YOUR QUESTION PAPER FOR QUESTIONS 9 AND 10

TIME ALLOWED: 2hrs30mins

NAME: **REG NO:-**

DEPT: **SCHOOL:** **LEVEL:**

1. Mention at least two features that made the 5th generation computers most suitable for solving real life problems? (1mark) _____ and _____
2. Four system flowchart symbols are: (2marks) _____
_____ and _____
3. Find the 1's and 2's complement of the binary number 10101100 (2marks)
4. Differentiate between peer-to-peer network and client server network (1mark)
5. Classify the followings based on the type of software: Windows ME, Photoshop, Excel, FoxPro, MS Word, Linux, MS OneNote, Access, RealPlayer, Solitaire, Unix, Windows 10, Android 5.0 (2marks)
(i) _____
(ii) _____
6. (a) Of what purposes are utility programs? (b) Give two examples of utility programs and their functions (3marks)

7. Transaction management is one of the functions of a DBMS which states that all transaction must follow what is called ACID properties. State the full meaning of the ACID acronym (1mark)
8. Suppose a=6, b=5, c=3, i=3, j=2, evaluate the following BASIC expressions
(i) $a + b/c - i*j + a^2$ (1mark)
(ii) $(j + i*(b/c-a^2)) + i$ (1mark)
9. Draw a flowchart to compute the sum of squares of integers from 1 to 50 (3marks)
10. Write a program in BASIC or FORTRAN that will display "Dept. of Computer Science" five times on the screen (3marks).

**TOPIC BY TOPIC SOLUTION OF THIS TEST CAN BE
SEEN IN THE NEXT PAGE**

CLASSIFICATION OF COMPUTERS

1. Mention at least two features that made the 5th generation computers most suitable for solving real life problems? (1mark)

- 1) This generation is marked inputs coming from humans in form of Speech, natural language, images and pictures.
- 2) There is also effective processing of such inputs through the use of voice recognition and voice synthesizing.
- 3) This generation of computers operates at an enormous speed.

COMPUTER SOFTWARE

5. Classify the followings based on the type of software: Windows ME, Photoshop, Excel, FoxPro, MS Word, Linux, MS OneNote, Access, RealPlayer, Solitaire, Unix, Windows 10, Android 5.0 (2marks)

- 5) (i) System Software: Windows ME, Linux, Unix, Windows 10, Android 5.0.
 (ii) Application Software: Photoshop, Excel, FoxPro, MsWord, MsOneNote, Access, Realplayer, Solitaire.

6. (a) Of what purposes are utility programs? (b) Give two examples of utility programs and their functions (3marks)

- 6) Utility programs are system softwares designed to help analyze, configure, optimize or maintain a computer.

- b) Registry cleaners.
 Anti-virus

DATABASE AND STATISTICAL PACKAGES

7. Transaction management is one of the functions of a DBMS which states that all transaction must follow what is called ACID properties. State the full meaning of the ACID acronym (1mark)

7) ACID: Atomicity Consistency
 - Isolation Durability.

NUMBER SYSTEM

3. Find the 1's and 2's complement of the binary number 10101100 (2marks)

$$\text{3) } 10101100$$

The One's complement is the value obtained by inverting all the bits in the binary representation

$$= 01010011$$

Two's Complement is when you flip all the bits after the first one (1) from the right.

$$\begin{array}{r} 10101100 \\ 01010011 \end{array}$$

COMPUTER NETWORKING AND INTERNET

4. Differentiate between peer-to-peer network and client server network (1mark)

4) A peer-to-peer network has no central server. Each workstation on the network shares its files equally with the others. There is no central storage or authentication of users.

In Client/Server Network, there are separate dedicated servers and clients through client workstations, users can access most files which are generally stored on the server.

OR

Peer-to-peer networks are installed in homes or small business where employees interact regularly while Client/Server networks can become as big as you need them. Some can support millions of users.

OR

Peer to peer network has low security while Client/server network has elaborate security.

FLOW CHART

2. Four system flowchart symbols are: (2marks)

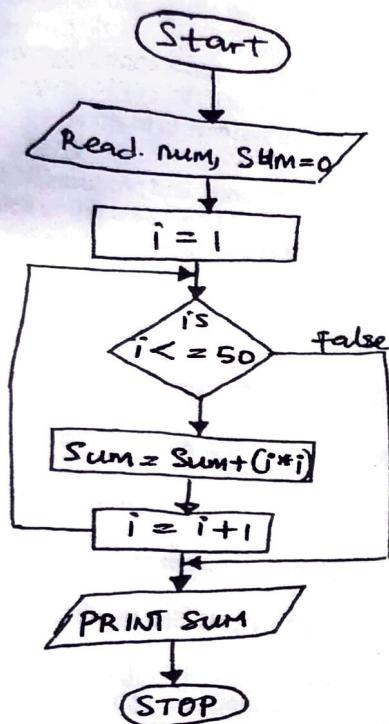
2) (a) The oval: Used to represent the start and end of a process.

(b) The Rectangle: It represents any step in the process.

(c) The Parallelogram: represents input and output.

(d) The Diamond: represents decision

draw a flowchart to compute the sum of squares of integers from 1 to 50 (3marks)



05 CLS

10 REM Program to display Dept of Computer Science five times

15 Name\$ = "Dept of Computer Science"

20 FOR K = 1 To 5

25 PRINT Name \$

30 NEXT K

35 END

BASIC PROGRAMMING

Suppose a=6, b=5, c=3, i=3, j=2, evaluate the following expressions

$$i + b/c - i*j + a^2 \text{ (1mark)}$$

$$j + i*(b/c-a^2) + i \text{ (1mark)}$$

$$8) a = 6, b = 5, c = 3, i = 3, j = 2$$

$$a + b/c - i*j + a^2$$

$$= 6 + \frac{5}{3} - 3*2 + 6^2$$

Using bodmas

$$= 6 + 1.667 - 6 + 36$$

$$= \underline{\underline{37.667}}$$

$$ii) (j + i * (b/c - a^2) + i)$$

$$= (j + i * (\frac{b}{c} - a^2) + i)$$

$$= (2 + 3 * (\frac{5}{3} - 6^2) + 3)$$

$$= (2 + 3 * (1.667 - 36) + 3)$$

$$= \underline{\underline{-98}}$$

iii. Write a program in BASIC or FORTRAN that will display

"Dept. of Computer Science" five times on the screen (3marks).

CSC 201 2020 TEST

HARMATTEAN SEMESTER: 2018/2019 SESSION

Duration: 45 minutes

Date: Tuesday, 6th may 2019

Test on CSC 201: COMPUTER AND APPLICATION 1 SUBJECTIVE QUESTIONS.

1. And Are tools used to represent an algorithm.
2. write the following abbreviations in full: POST..... and EEPROM.....
3. state any 2 functions of an Operating system. i..... ii.....
4. two examples of analogue signals are And
5. why is RAM said to be volatile ?
6. in flowcharting, an input/output and off page connector are represented as and
7. the motherboard contains electrical devices and chips. List any two of such devices. and
8. what is a cache?
9. Receives a signal, cleans it of necessary noise and regenerates and retransmits it at a higher power can cover longer distance without degradation.
10. the following are the types of ROM except APROM, PROM, EPROM, ELPROM, EEPROM.
11. convert 128₈ to decimal.
12. the following are application software except: Windows ME, Photoshop, Excel, FoxPro, MS Word, Linux, MS OneNote, Ac Solitaire, Unix, Windows 10, Android 5.0
13. find the 1's and 2's complement of the binary number 10101100and
14. represent the following arithmetic expressions in Qbasic i. $\frac{x^{n+1}}{n+1}$ ii. $4x^2 - 4x + 5 = 0$
i., ii.
15. write a simple Qbasic program to compute the area and circumference of a rectangle (Use the back page)

ACRONYMS

HTML - HYPERTEXT MARKING LANGUAGE

WWW - WORLD WIDE WEB

HTTP - HYPERTEXT.

FTP FILE TRANSFER PROTOCOL

GUI GRAPHICAL USER INTERFACE

CLI COMMAND LINE INTERFACE

BCD - BINARY CODED DIGITS

SMTP - SIMPLE MAIL TRANSFER PROTOCOL

IO INPUT OUTPUT

FORTRAN - FORMULA TRANSLATION

BASIC - BEGINNERS ALL PURPOSE SYMBOL INSTRUCTION CODE.

VDU - VISUAL DISPLAY UNIT.

ALU - ARITHMETIC AND LOGIC UNIT.

CPU - CENTRAL PROCESSING UNIT.

RAM - RANDOM ACCESS MEMORY.

ROM - " READ ONLY MEMORY.

MODEM - MODULATOR-DEMODULATOR

URL - UNIFORM RESOURCE LOCATOR

CD-ROM - COMPUTER DISK READ ONLY MEMORY

CTRL C - COPY.

CTRL V - PASTE.

CTRL A - COPY ALL .

DIM - DIMENSION (PROGRAMMING)



SOFTWARE ENGINEERING

VALIDATION
AND VERIFICATION

LOW-LEVEL-TEST
HIGH-LEVEL-TEST

PROGRAMMING