WAKISSHA JOINT MOCK EXAMINATIONS
MARKING GUIDE
Uganda Advanced Certificate of Education
UCE August 2017
COMPUTER STUDIES 840/1

SECTION A (20 marks)

1. A
2. A
3. C
4. C
5. A
6. D
7. B
8. D
9. A
10. C
11. C
12. A
13. C
14. B
15. A
16. A
17. D
18. D
19. C
20. A

SECTION B

21. a)

(i) Bit –smallest unit of information in a digital computer system.
(ii) Word length –is the member of bits which can be communicated in the internal component of a computer.
This is the member of bits in a word.

b) i)

- They are bi-slate devices (they can only hold dates in binary codes/forms)
- Easier to develop devices using binary codes.
- Binary codes enables storage of data in different forms,
- Aclous storage of large amount of data in a smaller space.
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(ii).

- Nible is a four bit word whereas abyte is an eight bit word.

- Two Nibles make abyte.
- Half abyte is equivalent to one nibble.
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c)

(i) 1110101_2

$= (1\times2^6)+(2\times2^5)+(1\times2^4)\times(0\times2^3)+(1\times2^2)+(0\times2^1)+(1\times2^0)$

$= 64+32+16+4+1)$

$= \underline{\underline{117_{10}}}$

(ii). 1001 to binary

$100\frac{1}{2} = 500$ R . 1

$\frac{500}{2} = 250$ R 0

$\frac{250}{2} = 125$ R 0

$\frac{125}{2} = 62$ R 1

$\frac{62}{2} = 31$ R 0

$\frac{31}{2} = 15$ R 1

$\frac{15}{2} = 07$ R 1

$\frac{7}{2} = 3$ R 1

$\frac{3}{2} = 1$ R 1

$\frac{1}{2} =$ 0 R 1

$= \underline{1111101001_2}$

22. a)

i) This is the accuracy, time lines, relevance and completeness of data. (2marks)

(ii)
- Accuracy.
- Time liness.
- Relevance.
- Completeners.

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(4marks)

b) - Amount of data to be processed.
- Cost of processing data.
- Speed at which output is expected.
- How up –to –date data need to be.
- Prpcessing equipments available.
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(04 marks)

23. a) i) Source program; is the initial code that the programmer enters in the program editor win down. (1mark).

ii) An object code; is a program code that is already translated in to machine reader form. (1mark)

iii) A translation; is a utility program that converts a souce code into an object code. (1mark)

b)

- Interpreted	- Compiled program
- slower - Occupies less space. - Higer linkedhood of errors (as they are only realised when line is translated).	- Faslier - Occupies more space. - Low ikehood of errors (as most there arrested at the compiling stage)

c)

- Problem recognition.
- Program design.
- Program lesting and debugging.
- Program implementation and maintance.
- Problem defination.
- Program code.
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24. (i) Bridge - Reduces the amount of traffic in LAN (by dividing data into segments and filtering)
- Combins signals using similar protocols for transmison.

(ii) Gateway - Allows access from one network to another (e.g LAN to WAN).
- Combines signal using different protocols for transmission.

b) i)
- Twisted pan cables.
- Coaxial cables.
- Fibre optic cables.
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(3marks)

(ii) Advantages of firbre optic cables.
- More economic for long distance transmission.
- It has large bandwidth.
- Suffers low alienation.
- Fast in data transmission.
- It is secure, (resistant to tapping).
- It's immune to electromagnetic and electrical interference.
- They do not emit electrical signals since they use light in data transmission.
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Disadvantages.
- Expensive over short distance.
- Difficult to install and configure.
- Easily break because they are glass in nature.
- Ends should be highly polished to allow light to pass with little loss.

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25. a)

(i) Patient details table.
(ii) Doctors' details table.
(iii) Drug details table.
(iv) Illness details table.
(v) Perception table.
(vi)
(vii)
(viii)

b) Advantages realized.
(i) Easy update of patients' records.
(ii) Easy access of patients' history.
(iii) Quick retrievals of doctors' record or treatment.
(iv) Patient at risk easily identified (by routine database procedures that automatically flag unit this patient).
(v)
(vi)
(vii)
(viii)
(ix)

c)
(i) A computer technical must be employed.
(ii) Doctors must be computer literate.
(iii) If online (connected to internet) can easily be hacked.
(iv) Not a viable in absence of power (electricity)
(v)
(vi)
(vii)
(viii)

(3 marks)

26. a)

i) - Is a branch of computer science that deals with the development of artifacts with the ability to perform same functions like humans.
- Is the ability of the computer to respond to instructions like humans.

ii) Application areas of artificial intelligence.
- Expert system.
- Natural language processing.
- Robotics/ perception system.
- Artificial neural networks.
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b) Ways how computer help doctors during consultation with patients.
- Storage of data.
- Determined the temperature.
- Online consultation.
- Communication.
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2marks

SECTION C

27. a) A file is collection of related records.

b) Functions of OS
i) Job scheduling.
ii) Resource control/ management.
iii) Error landing.
iv) Interrupt handling.
v) Input/output handling.
vi) Booty computers.
vii)
viii)
ix)
x)

28. a)

i) A label –identification of date in a spreadsheet/ it contains charaters or numeric characters that cannot be manipulated.
ii) Formulae –is user defined mathematical expression that creates relationship between cells to return a new value. It must start with equal sign.

iii) Values –this are character that can be manipulate mathematically they include dots, lines, ……. functions, etc.
iv) Function: -is predefined formulae that is used to perform calculations. It must start with an equal signs, function name and date ray.
v)
vi)
vii)
viii)

b) Advantages of electronic spreadsheets.
i) Has inbuilt formulae.
ii) Utilizes storage space in a computer.
iii) Produces neat output.
iv) Utilizes computer accuracy.
v) Offers large virtual sheet for data entry.
vi) Automatically adjust the results of the formulae.
vii) Utilizes computer speed.
viii)
ix)
x)
xi)
xii)

29. a) Ways how passwords are protected.
i) Not sharing with other people.
ii) By not writing them down.
iii) By changing them frequently.
iv)
v)
vi)
vii)
viii)
ix)

(3marks)

b) Methods used to protect system and data from theft.
i) Used of accers controls.
ii) Use of passwords.
iii) Possed objects application.
iv) Call back system.
v) Encryption techniques.
vi) Use of chains and padlocks.
vii) Installing …….. system.

viii) Using physical access controls.
ix) Backing up all important data.
x) Never leaving them unattended to.
xi) By use of biometeric devices.
xii)
xiii)
xiv)
xv)
xvi)
xvii)

END