

BORABU- MASABA NORTH DISTRICTS JOINT EVALUATION TEST - 2010

451/1

COMPUTER STUDIES

PAPER 1

MARKING SCHEME

1. Accept logical files as way files viewed in terms of its contents and processing to be carried upon them.
- Where as physical files is the actual arrangement of the file content in storage media. 1mk each

2. Uses of computer in
 - (a) Financial institution
 - Payroll system
 - Accounting system
 - Banking systemAward each ½ mk
 - (b) Transport system
 - Accept air traffic control
 - Shipping control
 - Automobile traffic control award each ½ mk

3. Techniques of using a mouse
Accept
 - Clicking
 - Double clicking
 - Right clicking
 - Drag and drop award each ½ mk

4. (a) Virtual reality
 - Condition in which a person is psychologically immersed in an artificial environment generated by a computer system award 1mk(b) Sensory devices
 - Head gear/head mounted display
 - Gloves
 - Body suit
 - Virtual reality software award ½ mk each

5. (a) Advantages of USB
Accept – It supports wide range/variety of peripheral devices
 - Faster in data signal transmission
 - Provide quality data transmission over long distance award 1mk each(b) Parallel cables faster than serial
 - Reasons – they use a set of many conductors than serial award 1mk

6. (a) Difference between MAN and WAN
Accept
WAN
 - Cover unlimited geographical area MAN cover limited area
 - It is expensive to set up unlike MAN
 - It is difficult to install than MAN
 - It is slow in data transmission than MAN award 1mk each

(b) Components of LAN

Accept.

- Data communication media/cables
- Communication device/NIC/modem
- Network software/network o/s/ network protocol award ½ mk each

7. Peripheral devices for Ps/2 prot

Accept – Mouse

- Key board award ½ mk each

8. Careers of computer hardware

Accept – technician

- hardware engineer award 1mk each

9. Restriction to illegal entry

Accept

- use buglar proof doors
- grill windows
- restriction to strangers
- alarms
- security personnel award 1mk each

10, (a) Keyboard key under state of ON/OFF

Accept

- CAPSLOCK
- NUMSLOCK
- SCROLL
- INSERT award ½ mk each

(b) Precautions when connecting a hard disk.

Accept

- The power cables is off/disconnected to computer
- Wear antistatic material to discharge any static charge of the body
- Connect power supply cable to the drive.
- Connect drive to another board award 1mk each

11. (a) Accept

- Computer crime are complex to detect
- It is not easy to find clear evidence
- There are no witness
- Few people know the management of computers crime award 1mk each

(b) Autocorrect – automatically correct wrong spelt words and replace with correct one.

Auto complex – display a word when typing for characters.

12. (a) (i) Search engine – program

Accept

- Searches a document for specified keywords and returns a list of documents where the keywords were found. Award 1mk

(ii) System entropy – decay of system with time award 1mk

(b) Example of search engine.

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- Google
- Yahoo
- Hotmail award ½ mk

13. (a) Real time – process of data immediately as it arrives award 1mk
 (b) Distributed data processing – processing of data to two or more computer physically located at separate sites but connected to central processing unlike real time.

14. (a) Disadvantages of monoe lithic system
 Accept
- Difficult to debug
 - It is not easy to learn
 - It is not flexible
 - It is not easy to modify. Award 1mk each

(b) Uses of

(i) Master pages

- Designs providing for general layout applied to all other pages of publication award 1mk

(ii) Tracking – used to change the visual denseness or openness of characters in a line. Award 1mk

15. (a) (i) $A = 10 \times 2 = 20$
 Year = $1 + 2 = 3$ ½ mk (award 1mk)
 A = 20 ½
- (ii) $A = 20 \times 2 = 40$
 Year = $3 + 2 = 5$ ½ mk
 A = 40 ½ mk
- (iii) $A = 40 \times 2 = 80$
 Year = $5 + 2 = 7$ ½ mk
 A = 80 ½ mk
- (iv) $A = 80 \times 2 = 160$
 Year = $7 + 2 = 9$ ½ mk
 A = 160 ½ mk
 P = $160 \times 9 = 1440$ 1mk

Pseudo code for flow chart

(b) Start

Initialize year, profit and amount (A)

Repeat

A = A x profit

Year = year x 2

Output A

Until year > 7

P = A x year

Output P

Stop

Award ½ mk each step overall sequence flow 2mks

Award each 1 mk any two

(c) Advantages of high level languages.

- Are portable (not machine dependant)
- Are user friendly

- Flexible
- Easy to debug
- Better documentation
- Fast to code

Disadvantages

- Program execution is slow
- Require memory for compilation
- Require language translator to machine readable form.

16. (a) (i) R – crop tool
 (ii) Q – Text tool award 1mk each
 (b) methods of transforming objects

- Accept – rotate
- skew
 - reflection award ½ mk each

- (c) (i) 10111.111

$$\begin{array}{r} \underline{111.011} + \\ 11111.010 \end{array} \quad \text{award 1mk}$$

$$= (2^4 \times 1) + (2^3 \times 1) + (2^2 \times 1) + (2^1 \times 1) + (2^0 \times 1) = 31 \quad \text{award 1mk}$$

$$16 + 8 + 4 + 2 + 1 = 31$$

$$\begin{array}{r} 010 \\ (2^{-1} \times 0) + (2^{-2} \times 1) + (2^{-3} \times 0) \\ 0 + 25 + 0 \\ = (31.25)_{10} \end{array} \quad \text{award 1mk}$$

- (ii) 1111.01 -

$$\begin{array}{r} \underline{111.11} \\ 111.10 \end{array} \quad \text{award 1mk}$$

$$(2^2 \times 1) + (2^1 \times 1) + (2^0 \times 1)$$

$$4 + 2 + 1 = 7 \quad \text{award } \frac{1}{2} \text{ mk}$$

$$(2^{-1} \times 1) + (2^{-2} \times 0)$$

$$0.5 + 0$$

$$= (7.5)_{10} \quad \text{award 1mk}$$

- (d) Ways of various invasion computer

- computer hang often
- takes long to boot

- (e) (i) – Compose your e-mail

- Click insert menu/file attachment
- Select file to attach and click attach button
- Click send.

- (ii) Check E-mail

- Upon e-mail account/username/password
- E –mail account click inbox command button and click link list to view message.

17. (a) (i) Expert system – is software that stores the knowledge of human experts and is then used as consultant in a particular field.

- (ii) Components of expert system

- Knowledge base – database of particular field having procedures for solving a problem.

- Inference engine – software that applies the rule from knowledge base provided by the to draw conclusion
- (iii) User interface – screen that enables user interface with the system. Award each 1mk

(b) Impact of ICT in

(i) Environment

Accept

- Energy consumption
- Radiation/emission of harmful rays
- Pollution – toxic substances/catridges/ laptops award any two mks each

(iii) Employment – creating new opportunities/ job replacement

- Shifting from one department to another
- Job displacement. Award 1 mk each

(c) (i) Partitioning – dividing a disk into two logic drive to store data for security /safety ground award 1mk

(ii) Reason of partitioning disk

Accept

- To avoid loss of all data in one drive
 - To provide back up of data to system e.g operating systems stored separately
- Award 1mk each

(d) (i) = product (B2: D2)

(ii) value

(iii) 135

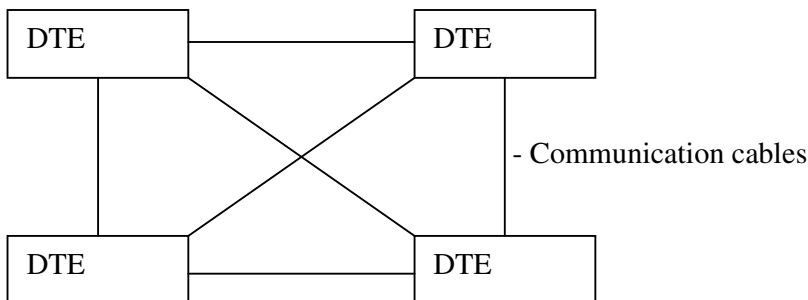
18. (a) (i) Components of satellite

- Transmitter earth station set up uplink to the satellite to transmit data
- Satellite orbit – receiving/ampifies and transpmitte signals to receiving earth station
- Receiving earth station – receive sent signals sent from other side.

Advantages of satellite

- Span large georgraphical area
- Support remote areas
- Medium is flexible without loosing network.

(iii) Mesh topology



Data terminal equipment

Mesh – common topology used in WAN, they have many paths between different locations

(b) (i) Advantages of mesh

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- Network operational even if a node breaks down.
- Network is reliable
- Point to point connections optimizes output of data
- Easy to trouble shoot
- Faster data transmission.

(ii) Example of radio waves

Accept

- HF (high frequency)
- VHF (very high frequency)
- UHF (ultra – high frequency) award 1mk each

(c) Reasons for best choice of optical cables.

- Low alternation
- Very secured untappable interference
- High band width hence carrying high capacity. Award 1mk each

19. (a) (i) M – Operating system

(ii) N – application software programs

(b) Advantages of N in organization

Accept.

- Easy to install and run
- Thoroughly test /few errors
- Readily available in market
- Less expensive
- Easily modified to meet specific need. Award 1mk for any 2

(c) Classification of program M

- No of users
- No of tasks
- User interface award 1mk each

(d) Situations of use of questions

- Sensitive data
- Tense environment
- Area geographically sparsely populated. Award 1mk each

(e) Back ups – files stores data to be used security to restore maginal documents when original is damaged

- Reference files – stores data for future back up pruposes.

(f) – One to one

- One to many
- Many to many
- many to one