

GAUTENG DEPARTMENT OF EDUCATION

SENIOR CERTIFICATE EXAMINATION

COMPUTER STUDIES SG
(Second Paper: Theory)**POSSIBLE ANSWERS / MOONTLIKE ANTWOORDE SUPP 2007****MEMORANDUM**
COMPUTER STUDIES STANDARD GRADE
PAPER 2: THEORY**QUESTION 1**
BINARY LOGIC

- | | | |
|-------|--|-------------|
| 1.1.1 | $X + 1 = 1$ | (1) |
| 1.1.2 | $X.X' = 0$ | (1) |
| 1.2.1 | $(1.0)' . 1'$ $= (0)' . 0$ $= 1.0$ $= 0$ ü (no part marks) | |
| 1.2.2 | $(0' + 0)'$ $= (1 + 0)'$ ü $= (1)'$ $= 0$ ü (no part marks) | (2) |
| 1.3.1 | A | (2) |
| 1.3.2 | B | (2) |
| | | [10] |

QUESTION 2
COMPUTER ARCHITECTURE

- | | | |
|-------|-------|------|
| 2.1.1 | A | |
| 2.1.2 | C | |
| 2.1.3 | F | |
| 2.1.4 | C | |
| 2.1.5 | D | |
| 2.1.6 | G | |
| 2.1.7 | B | |
| 2.1.8 | G | |
| 2.1.9 | D & E | (10) |

2.2 data and instructions which are likely to be needed next (2)

2.3 any two of:

| Column A | Column B |
|------------|--------------------|
| CD | light |
| Flash disk | electrical charges |
| DVD | light |
| other..... | |

2.4.1 B

2.4.2 D

2.4.3 A

2.4.4 E

(4)

2.5.1 TRUE

2.5.2 TRUE

2.5.3 FALSE

2.5.4 TRUE

2.5.5 TRUE

2.5.6 FALSE

(6)

2.6 PS/2, COM, USB

(3)

2.7 any two of:

§ uses serial rather than parallel lines

§ acts as a switch when transferring data

§ used to transfer data within the computer OR acts as both an internal bus and an external bus

(2)

[31]

QUESTION 3 SYSTEM SOFTWARE

3.1 any three of the following:

- process management
- device I/O management
- file I/O management
- security management
- management of primary memory

(3)

3.2.1 any two of: Linux, Linspire (Lindows), Apple Mac OS

(2)

3.2.2 scans the hard disk (P) for errors (damaged or lost clusters)

(P)

(2)

3.2.3 No (P), there must be only one (P) anti-virus program installed on a computer

(2)

- 3.2.4 In multi-tasking it seems as if more than one process is executed on the computer at the same time. (1)
- (Note to markers: do not give a mark if the learner indicates that more than one instruction is performed in the CPU at the same time)
- 3.2.5 It is an operating system (P) for use on a PDA (P) (2)
- 3.3.1 C
- 3.3.2 F
- 3.3.3 E
- 3.3.4 G
- 3.3.5 B
- 3.3.6 A
- 3.3.7 D (7)
- [19]**

QUESTION 4

DATA COMMUNICATION

- 4.1.1 ring (1)
- 4.1.2 star (1)
- 4.2.1 any one of the following facts:
 § easy to install
 § sensitive to EMI
 § sensitive to eavesdropping
 § high attenuation
 § cheap
 § slow data transfer rate (1)
- 4.2.2 coaxial, fibre optic (2)
- 4.2.3 CSMA/CD (1)
- 4.3 regenerates and amplifies the signal
 chooses the device which must receive the message (2)
- 4.4.1 CSMA/CD
- 4.4.2 token passing
- 4.4.3 token passing (3)

4.5 any two of the following

| Cable problem | Description |
|-------------------------------------|--|
| crosstalk | data interference caused by two wires close to one another |
| EMI (electro magnetic interference) | data interference caused by electronic signals |
| eavesdropping | detection of signals on a data cable |

(4)

4.6.1 infrared

4.6.2 terrestrial microwave

4.6.3 satellite microwave

(3)

4.7.1 the signal is lost if there is an obstruction between one node in the network and another

4.7.2 one of: difficult to install, moderately expensive, susceptible to attenuation, susceptible to EMI, susceptible to eavesdropping

4.7.3 one of: expensive, difficult to install, susceptible to attenuation, susceptible to EMI, susceptible to eavesdropping, obstructions

(3)

4.8.1 B

4.8.2 D

4.8.3 C

4.8.4 A

(4)

4.9.1 N circuit switching (also accept "line switching")

4.9.2 K packet switching

4.9.3 M cell switching

(3)

4.10 any four of the following:

§ fit UPS (uninterrupted power supply), so that data is not lost when there is a power cut

§ make regular backups

§ install anti-virus programs

§ use RAID

§ install a firewall on the network

§ make use of encryption

§ make sure that servers are securely locked up

(4)

- 4.11.1 TRUE
 4.11.2 FALSE
 4.11.3 TRUE

(3)
[35]

QUESTION 5
INTERNET AND NEW TECHNOLOGY

- 5.1 any two of the following:
 § Internet Explorer
 § Netscape Navigator
 § Opera
 § Firefox
 § Mozilla (2)
- 5.2.1 E
 5.2.2 C
 5.2.3 D
 5.2.4 B
 5.2.5 A (5)
- 5.3 Google (1)
- 5.4 text or image which loads another web page when you click on it (1)
- 5.5.1 thandi@grs.gov.za (1)
 5.5.2 tiscali and mweb (2)
- 5.6 radio (1)
- 5.7 a websiteü where people exchange opinions on a specific topicü (2)
- 5.8 any one of the following:
 § use a cable to transfer data (or cradle)
 § transfer using USB Flash disk
 § transfer using infrared technology
 § ...add more (1)

- 5.9 any three of the following:
- § store addresses and telephone numbers
 - § keep a calendar
 - § store photographs
 - § store videos
 - § do word-processing tasks
 - § do spreadsheet tasks
 - § play MP3s
 - § send e-mail
 - § browse Internet
 - § make phone calls

(3)
[19]

QUESTION 6 SOCIAL IMPLICATIONS

- 6.1 any two of the following:
- § news of disaster reaches more people than before
 - § news of disaster spreads quicker than before
 - § websites are set up on Internet where people can contribute funds to the disaster
 - § easy to see images of disaster via Internet
 - § can access many different sources on the Internet to read more about the disaster

(2)

- 6.2 any two of the following:
- § businesses have to spend money on anti-virus programs, to keep their computers and data protected
 - § when a business is hit by a virus, it costs them in terms of lost turnover
 - § when a business is hit by a virus, it costs them extra to have virus removed, data recovered, and systems set up again
 - § accept other correct answers

(2)

- 6.3 any two of the following:
- § software piracy
 - § stealing data
 - § unauthorized altering of data
 - § hacking
 - § ...add more

(2)

- 6.4 any two of the following:
- § communication sent by e-mail reaches the other party on the same day (saving in time)
 - § it is cheaper to send communication to many by e-mail than by snail mail (saving cost)
 - § sending communication by e-mail means that one has a copy of the letter on one's own computer
 - § can advertise to their customers by means of e-mail
- ... add more (2)
- 6.5.1 e-commerce: trading (P) by means of the Internet (P) (2)
- 6.5.2 spyware: software which is installed on a computer without the knowledge of the user (P), and which gathers information about the user (P) (2)
- 6.5.3 spam: e-mail (P) which is unsolicited (P) (2)
- 6.6.1 any one of the following:
- § saves the cost of traveling to work
 - § can work flexi-time
 - § saves cost of setting up an office
 - §add more (1)
- 6.6.2 any one of the following:
- § less interaction with other people
 - § not the same visibility as having an office in a business district where many people can see the office/shop (1)
- [16]**

QUESTION 7

APPLICATIONS AND PACKAGES

- 7.1.1 A
- 7.1.2 A
- 7.1.3 S
- 7.1.4 S (4)
- 7.2 any one of the following:
- § cannot insert images
 - § cannot use bullets
 - § cannot use numbering
 - §etc (1)

| | | |
|-------|--|-------------|
| 7.3.1 | columns E and F | |
| 7.3.2 | any of: C3, C4, C5, C6 | |
| 7.3.3 | A1 to D1 | |
| 7.3.4 | the text "tables" in those cells means that Excel will treat these cells as "text" and not numbers | |
| 7.3.5 | =today() | |
| 7.3.6 | column D | (6) |
| 7.4.1 | table | |
| 7.4.2 | number | |
| 7.4.3 | record | |
| 7.4.4 | query | |
| 7.4.5 | field | (5) |
| 7.5.1 | B | |
| 7.5.2 | A | |
| 7.5.3 | E | |
| 7.5.4 | D | (4) |
| | | [20] |