

ADDENDUM A (2016)

PRACTICAL EXAMINATIONS IN COMPUTER APPLICATIONS TECHNOLOGY (CAT) AND INFORMATION TECHNOLOGY (IT)

Requirements for offering CAT and IT

1. This section provides schools with guidelines to meet the demands of teaching, learning and assessment in CAT and IT.
2. To meet the demands of teaching, learning and assessment in CAT and IT, schools must meet the following requirements:
 - 2.1 Each candidate must have access to his or her own computer during each period allocated for CAT and IT, and for the full duration of the allocated time (i.e. 4 hours per week).
 - 2.2 Software requirements (The latest version of software is recommended).
 - 2.2.1 Any operating system or a specific operating system.
 - 2.2.2 Integrated office suite: Word processing program, spreadsheet program, database program, presentations or Web-authoring program.
 - 2.3 The latest three versions of MS Office will be allowed for examination purposes. (For 2016 these will be MSO 2010, 2013 and 2016).
 - 2.4 Additional software for Information Technology.
 - 2.4.1 Programming language software: Java (Netbeans 7.3.1, JDK 1.7 u25 Java dB 10.8.2.2) or Delphi/Turbo Delphi.
 - 2.5 Hardware.
 - 2.5.1 PCs – networked.
 - 2.5.2 Printer (high speed).
 - 2.5.3 Data projector.
 - 2.5.4 Scanner.
 - 2.6 Specifications to meet the requirements of the software (minimum 2 GHz; 512 MB RAM – recommended; 1 GB RAM).
 - 2.7 Internet access.
 - 2.8 Technical support for servicing and maintenance of computers so that the number of working computers is never less than the number of candidates per class.
 - 2.9 Security measures to prevent computers from being stolen.
 - 2.10 Insurance to replace equipment that is stolen.

ADDENDUM B (2016)

ROLES AND RESPONSIBILITIES

The roles and responsibilities below must be read in conjunction with the instructions and procedures indicated in Addendum C: Checklists.

1. Responsibilities of the principal

Principals are the **chief examination officers** of the school. In addition to drawing their attention to the security measures mentioned in this minute and addenda, principals are reminded of the following:

- 1.1 The principal must be familiar with the roles and responsibilities set out in this minute and ensure that all the procedures are meticulously followed.
- 1.2 The principal must inform the local authorities of the school's examination dates and times so as to prevent electricity load shedding affecting the examination.
- 1.3 All equipment must be inspected to ensure that it is in good condition and that the electricity cables and wall connections are in good working order.
- 1.4 The principal must ensure that the CD containing the data files is handed over to the teacher or network administrator responsible for the preparation of the centre 2 days before the conducting of the examination. The said teacher or network administrator must prepare the network and/or workstations on the day of receiving the CD.
- 1.5 The principal must collect the CD containing the data files immediately after the computer centre has been prepared and keep it in the school's strongroom.
- 1.6 The principal must ensure that no staff member or learner has access to the computer centre after the data files have been copied and the network and/or workstations have been set up.
- 1.7 Prior to the commencement of the examination, all candidates must be informed by way of a general announcement that, **if they are found copying files or saving files to places other than those indicated by the invigilator, they could have their results for the subject declared null and void and be barred from re-writing the subject for a period of THREE years.**
- 1.8 The principal must be present in the examination room when the final CDs are written and must complete, sign and submit the checklist (Addendum C).

2. Responsibilities of the chief invigilator

Invigilators play a vital role in ensuring that candidates, whilst writing the examination, do not copy from one another or are not assisted by their colleagues or their teacher. It is, therefore, crucial that supervisory requirements are strictly adhered to.

- 2.1 The chief invigilator **MUST** be present when the data files are **loaded to** and **copied from** the stand-alone computers and/or networked server, **as well** as when the folders are written to the final CD.
- 2.2 The chief invigilator **MUST** be present in the examination room when the teacher takes the candidates through the log-on process, and must collect the completed labels (stickers) with the access codes and examination numbers from candidates immediately after log-on.
- 2.3 Should there be any technical queries to be dealt with, the invigilator must act as the agent through whom the teacher communicates with the candidates.
- 2.4 Invigilators must remind candidates to check if all files are saved in the examination folder.
- 2.5 The chief invigilator must be present in the examination room until the final CDs are written and the checklists (Addendum C) has been completed, signed and submitted.

3. Responsibilities of the teacher

The Computer Applications Technology or Information Technology teacher or the network administrator (hereinafter referred to as '**the teacher**') plays a vital role in ensuring that the integrity of the practical examination is not compromised.

3.1 Before the examination

- 3.1.1 The teacher must check hardware and software configurations to prevent failure and to ensure the correct software versions are used. All networks must be checked to verify stability.
- 3.1.2 The teacher must create user profiles (accounts) and access cards for users to log on to these accounts.
- 3.1.3 Anti-virus definitions must be **updated** and **deployed** to each workstation.
- 3.1.4 The teacher will transfer the Exam Data folder first to a location on the server and ensure that the 'Read-only' attribute is removed.
- 3.1.5 The Exam Data folder must then be copied to each candidate's user profile/folder.
- 3.1.6 The log-on profiles must then be verified, the teacher will log on to the workstations to verify if the data has been correctly transferred.
- 3.1.7 The Internet and e-mail messaging systems must be **deactivated**.
- 3.1.8 The **system date and time** must be set correctly for the server and workstations.

3.2 On the day of the examination

- 3.2.1 The teacher will take the candidates through the log-on process at the beginning

of the session, **before** the question paper is handed to the candidates. (Refer to checklist for log-on process as part of Addendum C)

- 3.2.2 The teacher must remain in the examination room for the duration of the examination in order to resolve any technical inquiries that may arise. The invigilator must accompany the teacher at all times when the teacher is called upon to assist any candidate.

3.3 **At the end of the examination**

- 3.3.1 The candidates must be instructed NOT to log off or shut down the workstations.
- 3.3.2 The teacher will, in the presence of the chief invigilator, start with collating the candidates' data folders.
- 3.3.3 The teacher must check that the contents of each candidate's folder correspond with the information on the candidate's Information Sheet AND append his or her signature on the candidate's Information Sheet as proof of verification.
- 3.3.4 The teacher must create a new data folder with the **centre number** and copy each candidate's examination folder to this folder.
- 3.3.5 The teacher must verify whether the data folders match the number of candidates and that there are no short cuts, damaged, .tmp or missing files.
- 3.3.6 The teacher must run the Examination Scanner programme after all data folders are copied to the central folder.
- 3.3.7 Only when the teacher is absolutely sure that all data is accounted for, can a final CD be written, together with a back-up copy to be kept in the school's strongroom.

4. **Responsibilities of the candidates**

- 4.1 When instructed to do so by the teacher during the log-on process, each candidate must rename the examination folder to a folder with his or her examination number.
- 4.2 Candidates must add their examination number on the access card before returning it to the invigilator.
- 4.3 Candidates must save their files in the appropriate folder, as indicated by the teacher and/or per the question paper. No marks will be allocated for work that has been incorrectly saved and where there is **no evidence** of work completed.
- 4.4 Candidates must check whether all the files submitted for marking can be opened.
- 4.5 Candidates must complete and submit the Information Sheet provided and remain seated until all the files were checked by the teacher.

**ADDENDUM C (2016)
CHECKLISTS**

EXAMINATION CENTRE NUMBER:

This section provides the steps to be followed for the preparation and finalisation of practical examinations in CAT and IT, and should be read against the roles and responsibilities in Addendum B. The **completed and signed** copy of this Addendum C must be couriered together with the data CDs.

To ensure the integrity of the national examinations, the procedures listed below **MUST** be followed in the preparation of the computer laboratories and the retrieval of the data of all candidates:

TWO WEEKS BEFORE THE EXAMINATIONS

	Procedure	Reason	Yes/No
1	Local authorities informed of the examination dates and times.	To prevent load shedding or power cuts affecting examination.	
2	All equipment inspected to ensure that it is in a good condition and that the electricity cables and wall connections are in good working order.	To prevent power failure caused by defective equipment.	
3	Hardware and software configurations checked.	To prevent hardware and software failure during exams and to use the correct software.	
4	Workstations prepared in stand-alone mode.	To enable candidates to continue in the event of network failure.	
5	Workstations are numbered.	To complete access cards and information sheets.	
6	The CD-writer(s) and software for writing CDs installed and function properly. Please note: Do install CD burning software that will write individual files' modified time differently. The resident Windows CD burning software writes all files' modified times as they were when the CDs were written. This is unacceptable.	To be able to write CDs at end of session with each file's modified time as different.	
7	Printers/printer drivers installed on each computer.	To allow candidates to preview documents and work with spreadsheet and database objects.	

	Procedure	Reason	Yes/No
8	Separate IDs and passwords created for candidates (they must be different from the ones they use in the normal course of their work).	To prevent candidates from accessing illegal folders/files and one another's work.	
9	Where two sessions have to take place, candidates are divided into two groups. Parents and candidates are informed in writing about the respective times of their session.	To conduct two sessions in an organised and secure fashion. Candidates of the second session must report ONE HOUR BEFORE THE END of the first session.	

TWO DAYS BEFORE THE EXAMINATIONS

	Procedure	Reason	Yes/No
10	Anti-virus software updated and deployed to all workstations on the network.	To prevent files from being infected, deleted or damaged during exams or at marking centres.	
11	Internet and e-mail messaging systems deactivated.	To prevent candidates accessing one another's folders and files.	
12	Flash drive capabilities in Windows disabled for the duration of the writing session.	To prevent candidates from swapping flash drives containing answers during writing session.	
13	The following settings for each computer and server are correct: <ul style="list-style-type: none"> • Date and time • Regional settings (South Africa) (decimal point and comma as a separator in numbers) 	To comply with question paper and security.	
14	Computers 'cleaned' (Back-up and remove or prevent access to all visible or hidden examples, documents, files and programs that are not allowed during examinations.).	To prevent candidates from accessing illegal folders/files and one another's work.	
15	Data disk received from Examinations Administration office: <ul style="list-style-type: none"> • Data disk checked. Files can open. • Read-only attributes removed from data files, where applicable 	For candidates to use during exams. Candidates will be able to access and open data files. Candidates will be able to edit and save data files Each candidate will have his or her own set of data files to work from.	

	Procedure	Reason	Yes/No
16	At least 2 blank CDs have been received from the Examinations Directorate. (If stand-alone, schools to provide flash to transfer data).	For saving each candidate's folders with files to be sent to marking centre and to make back-up copies.	
17	Peer-to-peer networks disconnected.	Security cannot be guaranteed on peer-to-peer networks.	
18	Back-up computers (at least 2) and printer available (for each session).	Back-up in case of hardware or software failures during session.	
19	Examination folders created for each candidate. Data files copied to candidates' folders on hard disk/server and stand-alone work stations.	Candidates to save their work in one central place during the writing session.	
20	Dividers placed between workstations where there is visible access to adjacent workstations.	To prevent candidates to view work on adjacent workstations.	

ON THE DAY OF THE EXAMINATION

Log-on process

	Procedure	Reason	Yes/No
1	Candidates issued with access cards and randomly placed at computers.	To comply with security.	
2	Candidates taken through entering their user IDs and passwords (logging on).	To ensure smooth log-on.	
3	Contents of candidates' data folders verified against the content indicated on the question paper (Teacher to read contents from examination paper).	To verify that all data files are correctly copied to all profiles. Learners are not handed papers yet in case of problems with log-ins.	
4	Files checked for accessibility.	To see if files can open.	
5	Candidates instructed to rename their examination folders to their respective EXAMINATION number (NOT centre number). Folder name MUST ONLY reflect candidate's examination number.	To ensure that folders are correctly named and to ensure correct copying to the final CD.	
6	Candidates fill in exam numbers on access cards and hand completed access cards back to the invigilator immediately after log-on.	Compliance with security.	

	Procedure	Reason	Yes/No
7	Candidates reminded to save their work frequently and correctly.	No marks will be awarded where files are incorrectly saved and if there is no evidence of work completed.	
8	Candidates reminded not to log off or shut down their respective workstations.	To ensure successful retrieval of data.	
9	Examination papers ONLY issued if all candidates' login- process completed.	To ensure all candidates start at the same time.	
10	Candidates reminded to place a bar-coded sticker on the Information sheet when paper is received.	So that Information sheet can be scanned as verification of attendance register.	

Preparations for second session (where necessary)

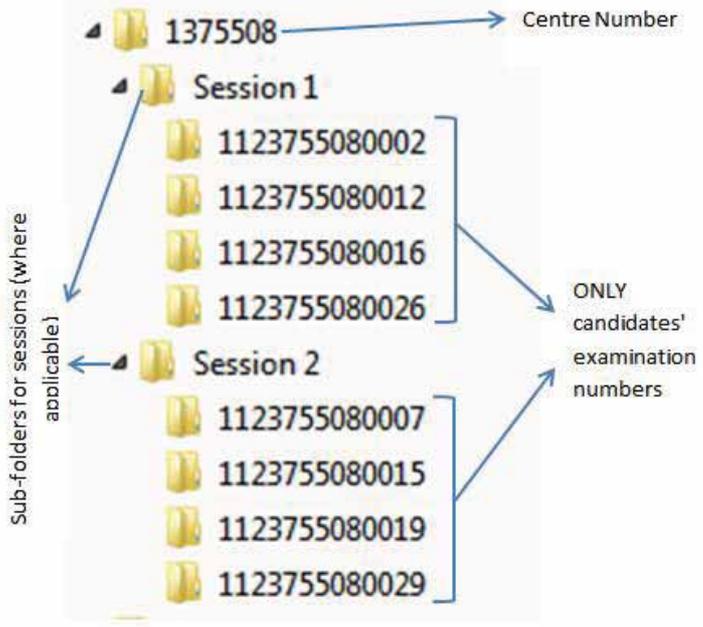
	Procedure	Reason	Yes/No
1	Candidates writing the 1st session kept in the examination room for the full DURATION of the session.	To prevent candidates from contacting others.	
2	Candidates for second session invigilated in secure place ONE HOUR BEFORE THE END of the first session.	To prevent contact with candidates from first session.	
3	Candidates for second session not allowed to have cell phones or other communication tools (such as Internet) in the room.	To prevent candidates from contacting others.	
4	All candidates' (from first session) folders and files retrieved to one central point.	To be written to CD.	
5	All candidates' (from first session) folders and files checked for completeness and accessibility.	To ensure that no folders or files are left behind and are deleted.	
6	Folders and files from first session removed or accounts disabled. Computers 'cleaned' if used in stand-alone mode after the first session as well as Recycle bin emptied on each computer.	To ensure that no examples or completed answers are left for second session and which can be copied/edited by second session candidates.	
7	Where applicable, exam folders for each candidate for the second session are created (stand-alone only).	To ensure each candidate write in his/her own exam folder. No access to folders of first session.	

	Procedure	Reason	Yes/No
8	Data files copied to candidates' folders.	To ensure each candidate will have his or her own set of data files to work from.	

End of session

The following procedures must be followed during and at the end of the examination to ensure that candidates' work reaches marking centres intact:

	Procedure	Yes/No
Candidates		
1	Each candidate has labelled his or her exam folder using his or her exam number.	
2	Each candidate has checked that all the files submitted for marking are stored within his or her exam folder. NO files must be outside the folder.	
3	Each candidate has checked that the files submitted for marking can open (no short cuts, .tmp files, etc.).	
4	Each candidate has completed and submitted the Information Sheet provided. (Bar-coded sticker attached)	
CAT/IT Teacher/ Invigilator(s)		
5	CAT/IT teacher has checked that the contents of each folder correspond with the information on the candidate's Information Sheet and that no files were saved outside the exam folder (no short cuts, .tmp files, etc.).	
6	CAT/IT teacher has checked that he or she has retrieved/collected all candidates' folders to a central computer.	
7	Invigilator(s) has/have collected all candidates' Information Sheets.	
8	CAT/IT teacher has checked that all candidates' files can open from central computer/folder (no short cuts, .tmp, damaged or missing files).	
9	The Exam Scanner program has been run on the central folder to check for any irregularities. In the event of two sessions, two separate folders, marked 'Session 1' and 'Session 2' must be scanned separately in the central folder on hard drive.	
10	Where necessary, the irregularities shown in the Exam Scanner report have been rectified and the latest program report has been saved. Only after addressing all problems identified by the program, the final CD is written.	
11	Final CD is written and contains all candidates' folders and files (with modified dates different) . The folder is renamed, using the centre number, and must contain the sub-folders of the candidates which were renamed, using candidates' exam numbers. In the event of two sessions, the folders must be renamed as 'Session 1' and 'Session 2' and saved within a folder named with the centre number.	

	Procedure	Yes/No
		
12	Final CD is checked for completeness and accessibility, the Exam Scanner run and final Exam Scanner report printed. The centre number (NOT the centre name) must be clearly marked, with no stickers on the CD.	
13	Back-up CD is written.	
14	CDs, Information Sheets and reports are packaged according to instructions.	
15	An irregularity report on any technical glitches/irregularities or deviation from instructions is completed and submitted (if applicable).	
16	Checklists are signed by Teacher, Chief Invigilator and Principal and submitted.	

Incident reports

Please provide the following information:

	Description	Information
1	Starting and finishing times	
1.1	One session	
a.	Time candidates started working	
b.	Time candidates finished working	
c.	Time last candidate finished working	
d.	Give reason(s) if candidates did not start on time (09:00).	
2	Two sessions:	
2.1	Session 1:	
a.	Time candidates started working	
b.	Time candidates finished working	
c.	Time last candidate finished working	
d.	Give reason(s) if candidates did not start on time (08h00).	
2.2	Session 2:	
a.	Time candidates started working	
b.	Time candidates finished working	
c.	Time last candidate finished working	
d.	Give reason(s) if candidates did not start on time (13:00).	
3	Workstation failure (if any) If a candidate or candidates had to be moved to another workstation, please complete the information below for each candidate.	
a.	Examination number: Original workstation: Time stopped: Reason for move:	New workstation: Time resumed: Additional remarks:
b.	Examination number: Time stopped: Reason for move:	New workstation: Time resumed: Additional remarks:
c.	Examination number: Original workstation: Time stopped: Reason for move:	New workstation: Time resumed: Additional Remarks:

The instructions provided in the attached minute and addenda have been read and communicated to the chief invigilator, the teacher setting up the network for the examination, and the candidates.

Centre Number:

Signatures:

1. **Principal**

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Date:

2. **Teacher**

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Date:

3. **Chief Invigilator**

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Date:

The completed and signed copy of Addendum C (Labelled "**For attention: Ms . M . Hollenbach**") must be couriered, together with the

- Data CD
- Exam scanner report
- Reports of irregularities (if any)
- Candidates' information sheets
- Attendance registers
- Seating plan
- Mark sheets

to Mr AP Clausen, Director: Examinations Administration.