



GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PREPARATORY EXAM 2015
COMMON EXAM
GRADE 12
MEMORANDUM

SUBJECT	:	IT PAPER 2
TIME	:	3 HOURS
MARKS	:	150

This memorandum consists of 99 pages

QUESTION 1

	Answer	
1.1.	B ✓	(1)
1.2.	B ✓	(1)
1.3.	B ✓	(1)
1.4.	C ✓	(1)
1.5.	C ✓	(1)
1.6.	D ✓	(1)
1.7.	C ✓	(1)
1.8.	A ✓	(1)
1.9.	B ✓	(1)
1.10.	B ✓	(1)

TOTAL: [10]**QUESTION 2**

2.1.	2.1.1.	Software stored on ROM chips. ✓	(1)
	2.1.2.	The program must be bug free because it is more difficult to even change a small part of the software. ✓ It must be small enough to fit on a ROM chip. ✓	(2)
	2.1.3.	The EEPROM is erased electronically. ✓ The new content is written back to EEPROM ✓	(2)
2.2.	2.2.1.	SSD Solid State Drive ✓ HDD Hard Disk Drive ✓	(2)
	2.2.2.	- SSD can store the OS and important programs so that these programs load faster. ✓ - the HDD stores the large amounts of data because you can get higher capacity HDD's for less money. ✓ Any answer that reflects the fact that an SSD is faster than a HDD and that a HDD costs less for a higher capacity.	(2)
	2.2.3.	Any TWO of: ✓ The 3.5" drives need their own power source and the graduates will have to carry this power source along with them The 2.5" drive gets its power from the computer over the USB port Easy to transport, fits into the computer bag	(2)
2.3.	2.3.1.	RAM is where the CPU keeps all the data/instructions it is working on. ✓	(1)

	2.3.2.	Any TWO of: ✓✓ • RAM is volatile (it loses its contents when it has no power). • Data transfer between RAM and CPU is faster than data transfer between storage and CPU. • RAM is electronic and storage is mechanical. • RAM costs more per GB than storage. Not the functions thereof.	(2)
	2.3.3.	Virtual memory is found in the storage ✓	(1)
2.4.	2.4.1.	Any TWO of: ✓✓ • Communication Speed • Number of cores • Amount of memory on graphics card	(2)
	2.4.2.	Software is downloaded and runs on the local machine ✓, but people play online ✓ in a world managed by gaming companies' servers, which you can play if you pay your subscription ✓.	(3)

TOTAL: [20]**QUESTION 3**

3.1.	3.1.1.	Any TWO of: ✓✓ • Mobility • Less planning necessary • Cheaper and you don't need to buy lots of cables	(2)
	3.1.2.	Wireless network interface ✓ adaptor	(1)
	3.1.3.	Only 1 ✓ as they won't need to connect too many devices ✓ OR the range will not be that far since there are only a few people and devices. Accept an answer where they suggest more than 1 wireless access point as long as the answer is correctly justified with reasons such as, the number of devices might exceed the capabilities of the AP.	(2)
	3.1.4.	A person's tablet, laptop and smartphone could be linked ✓ together so that data could be synchronised between them ✓	(2)
	3.1.5.	Because the signal is broadcast, it is easy to intercept the data ✓ and therefore the data, and password, can be accessed.	(1)
3.2.	3.2.1.	To make sure that data doesn't get accidentally deleted or viewed by someone who should not have access to it. (Any answer that indicates that <u>permissions</u> means certain users can or cannot execute or view certain files or folders.) ✓	(1)
	3.2.2.	A receptionist would not need to create new users or reset anyone's passwords. ✓	(1)

3.3.	3.3.1.	The user must be connected to the Internet. ✓ They will connect/log on to the server ✓ by entering a username and password. ✓	(3)
	3.3.2.	The desktop of the remote computer appears as a separate application on his computer ✓ which allows him to work with the computer as if seated in front of the remote computer itself. ✓	(2)
3.4.	3.4.1.	A digital certificate is an electronic document ✓ which includes a digital signature and a public key ✓ to authenticate the identity of an organisation ✓.	(3)
	3.4.2.	A user should not enter banking details into a site that doesn't have a digital certificate, so they would not get any sales through the website ✓.	(1)
	3.4.3.	Any TWO of: ✓✓ - https in the address - a padlock in the address bar - green background in address bar	(2)
3.5.		Any THREE of: ✓✓✓ - An app interface is easier to follow - An app has a dedicated purpose so the user won't be distracted - The user won't have to remember the site's URL - The basic interface will already be on the device so it won't have to be downloaded every time its loaded - An app can notify a user when there are changes or updates to the site - Apps can use other features of a device such as GPS to give a more personalised experience	(3)
3.6.	3.6.1.	Dynamic website is customisable – content changes for each user. ✓ Static – the page is the same for each user. ✓	(2)
	3.6.2.	ONE of: ✓ Any answer that refers to the fact that a dynamic website displays different content to different users. Accept answers such as: Displaying recently viewed items, items that are categorised according to the user's preferences, only show the user items that they are interested in, leaving out other items.	(1)
	3.6.3.	The semantic web is a web which will allow computers to perform automatic searches for information ✓ by allowing the web to have access to all an individuals' data ✓.	(2)
	3.6.4.	The W3C ✓ or the World Wide Web Consortium	(1)

TOTAL: [30]

QUESTION 4

4.1.	Inserting or adding new records ✓ Deleting records that are no longer required ✓ Editing records to ensure correctness of information ✓		(3)
4.2.	4.2.1.	When the same data is repeated in one table or field ✓	(1)
	4.2.2.	They split the data into more than one table ✓	(1)
4.3.	4.3.1.	SELECT Surname, OrderDate, OrderTotal ✓ FROM Details, Orders ✓ WHERE Details.AccountNo = Orders.AccountNo; ✓	(3)
	4.3.2.	UPDATE ✓ Details SET Address2 = "VanderBijlpark" ✓ WHERE Address2="Van der Byl"; ✓	(3)
	4.3.3.	SELECT Surname, Initials, Balance * 1.1 ✓ AS [New Balance] ✓ FROM Details ✓ WHERE [30DaysorMore] = True; ✓	(4)
4.4.	No. ✓ Data validation can only check things like format, range or data type. ✓		(2)
4.5.	4.5.1.	A data warehouse is a central storage place for a kind of "super database" which integrates data from servers all over the world. ✓	(1)
	4.5.2.	Data mining uses algorithms on stored data to discover new information and relationships within the data ✓ Any example that explains how the information could be used, such as sending e-mails about specific categories of items they have viewed or purchased before. ✓	(2)
4.6.	4.6.1	RFID uses radio waves to allow a reader ✓ to identify an object through a tag attached to the object. ✓	(2)
	4.6.2	Any ONE of: ✓ • RFID will be able to track stock levels without physically counting which items have left the warehouse. • More than one tag can be read at once. • Tag doesn't have to be in line of sight • Customers or retailers can interact with the data stored on the tag • Tags can be read even if they are moving quickly	(1)

4.7.	4.7.1.	Any ONE of:✓ • Apps on mobile devices • To send an error report when you have a problem on your computer • Allow your anti-virus to scan your computer and send details of the types of viruses attacking your computer • Credit card or loyalty purchases • Cookies from websites • Facebook	(1)
	4.7.2.	Any example linked to 4.7.1. ✓ • Apps – calls, messages, photos • Error report – Operating system and software installed on the computer • Anti-virus – geographical location, websites visited • Card purchases – Items bought, amount of money you spend • Cookies – types of websites you visit, items you are interested in • Facebook – things you “like”	(1)

TOTAL: [25]

QUESTION 5

5.1.	5.1.1.	A class is a blueprint or plan for what an object looks like ✓ and what it can do. ✓ An object is an instantiation of the class. ✓	(3)
	5.1.2.	Any ONE of: ✓ • Presence check • Check length of ID is 13 • Check that ID only contains digits	(1)
	5.1.3.	a) generateAccNo ✓	(1)
		b) Attributes and some methods are declared under private ✓ so that the form's class cannot directly access them. ✓	(2)
	5.1.4.	Mutator or Set Procedure ✓ E.g.: setDetails ✓	(2)
	5.1.5.	Any ONE of: ✓ getAccount, getBalance	(1)
	5.1.6.	To return the values of all ✓ the attributes as a single, formatted string. ✓	(2)
	5.1.7.	Any ONE of: ✓ Free, destructor	(1)
	5.1.8.	No. ✓ A person's age can be calculated from their ID, so an age field wouldn't be necessary. ✓	(2)
	5.1.9.	AccNo ← Extract first 2 letters of fName. ✓ AccNo ← AccNo ✓ + Use length of surname to copy last character of fSurname ✓ Sum ← 0 ✓ Loop from the length ✓ of the ID number down to the first digit ✓ Join each digit to the AccNo ✓ Sum ← Sum ✓ + converttoint ✓ (ID[Loop]) AccNo ← AccNo + converttostring(Sum). ✓ Delphi code is also acceptable	(10)

TOTAL: [25]

QUESTION 6

6.1.	6.1.1.	a)	IOS ✓ accept any version of iOS	(1)
		b)	Any TWO of: ✓✓ - It provides an interface or GUI which allows a user to interact with the computer and with programs on the computer. - It manages the CPU and which programs can use the CPU and for how long. - It controls how programs use the memory (RAM), by making sure that programs don't try to use the same area of memory at the same time. - It controls which programs receive input from input devices and which programs can use an output device at any given time. - It performs disk and storage management by determining how the data is organised on the storage device and how or when programs access the storage device.	(2)
	6.1.2.		Many devices ✓ are built into one device ✓. The cell phone, camera, GPS, sensor devices such as a compass, barometer, etc., and e-mails, etc. have converged to a smart phone.	(2)
	6.1.3.		Near field communication ✓	(1)
	6.1.4.		Any TWO of: ✓✓ - We want our devices to be small and to operate for long periods before recharging, - But longer operation needs bigger batteries and thus a larger device. - We want devices with more power and features and that means more power consumption. - There is a constant trade-off between computing power and power consumption.	(2)
6.2	6.2.1.		Access files from multiple devices ✓ Share files with others ✓ Can make a duplicate copy off-site ✓	(3)
	6.2.2.		A cloud application's processing is done by computers on the internet, ✓ while a desktop application's processing is done on the local computer. ✓	(2)
	6.2.3.		Encryption is a way of scrambling text or data into a new format ✓ using a specific set of rules called a key ✓.	(2)

6.3.	6.3.1.	Any ONE of:✓ e-mails, text, tweets, Facebook messages, etc.	(1)
	6.3.2.	Any TWO valid motivations. ✓✓ Disadvantage: • The tapping on the wrist can be very distracting when in an important meeting. • Checking a watch all the time in company is rude. • Being more interested in a watch than in the surroundings, can be unsociable and even dangerous . Advantage: • The user is aware of a notification immediately. • The phone is less likely to get stolen if it is out of sight.	(2)
	6.3.3.	Code written for a mobile device✓ to do a simple task such as checking the weather✓.	(2)
	6.3.4.	A built-in app comes with the phone✓ and a third party app is written by a developer. The user can choose and buy a third party app.✓	(2)
6.4.	6.4.1.	A hacker is a person who uses their ICT skills to access a computer system illegally✓. Comex would be a white hat hacker as ✓they have demonstrated what they can do so that it can be prevented.✓	(3)
	6.4.2.	Installing new firmware✓ that removes Apple's restrictions and controls ✓	(2)
6.5.	6.5.1.	A set of rules✓ for encoding and decoding data for transmission across a network.✓	(2)
	6.5.2.	A BitTorrent client program must be installed on your computer✓. The program downloads parts of a file✓ that is split over different computers✓ that are linked together on the internet.✓	(4)
	6.5.3.	Piracy✓ or copyright infringement	(1)
	6.5.4.	A cloud folder containing the files could be shared✓ and a link to the shared folder could be e-mailed to the person being shared with✓.	(2)
6.6.	6.6.1.	He should delete the e-mail✓ because it is a phishing e-mail.✓	(2)
	6.6.2.	Spam is unsolicited advertising emails.✓ It is considered a crime because it clogs up the internet with unnecessary traffic.✓	(2)

TOTAL: [40]**GRAND TOTAL: 150**