

SECTION A

QUESTION 1 – MULTIPLE CHOICE QUESTIONS (10)

- 1.1. C ✓
 1.2. D ✓
 1.3. C ✓
 1.4. C ✓
 1.5. A ✓
 1.6. B ✓
 1.7. A ✓
 1.8. D ✓
 1.9. D ✓
 1.10. D ✓

QUESTION 2: MATCHING COLUMNS (10)

- 2.1. D ✓ ✓
 2.2. E ✓ ✓
 2.3. G ✓ ✓
 2.4. D ✓ ✓
 2.5. A ✓ ✓

SECTION B

QUESTION 3 : System Technologies: Hardware [23]

- 3.1 3.0 Ghz ✓ (1)
 3.2 The CPU gets very hot when the computer is on. ✓ Overheating can damage a CPU, so it needs a fan to cool it. ✓ (2)
 3.3 4GB ✓ (1)
 3.4 Refers to the size of the harddisk ✓ which is 1 Terabyte. ✓ (1)
 3.5 Many devices connect to USB ports. More ports allow more devices to be connected and used simultaneously. ✓ (2)
 3.6 keyboard ✓ (1)
 3.7 RAM is the place where the computer stores the programs or data it is working with. ✓ Programs / data needs to be loaded into the RAM before use. (1)
 3.8.1 It is the size of the screen measured in inches ✓ (1)
 3.8.2 It is measured diagonally. ✓ (1)
 3.9.1 HDD ✓ (1)
 3.9.2 DVD ✓ (1)
 3.10 To transfer video from a video camera to your computer. ✓ (1)
 3.11
 a) It is a big circuit board with slots that connect different components of the computer and peripherals. ✓ (2)
 b) It enables all the parts of the computer to communicate with each other. ✓ (2)
 3.12.1 scanning/ copying / faxing. ✓ ✓ (Any 2) (2)
 3.12.2
 - They occupy less space
 - Cheaper than purchasing separate equipment for each function.
 - Cheaper to maintain one device. ✓ (Any 1) (1)
 3.13 A biometric scanner reads and identifies unique identifying characteristics of people, like fingerprints ✓ or the pattern of an iris, for access control systems. ✓ (2)
 3.14
 - Much faster to access and store data.
 - Less likely to be damaged compared to optical discs.
 - They are also smaller in size / easier to carry around. ✓ ✓ (Any 2) (2)

[23]

QUESTION 4 : System Technologies: Software [12]

- 4.1.1 Windows 10 ✓ (1)
- 4.1.2 Office 2016 ✓ (1)
- 4.2 An operating system is system software which controls all activities that take place in a computer. ✓ (1)
- 4.3 Antivirus /driver / compression software / backup ✓ (Any 1) (1)
- 4.4.1 Device drivers are system software that allow an operating system to communicate with and control a hardware device. ✓ (1)
- 4.4.2 From the printer box when purchasing a new printer / download from the internet. ✓ (1)
- 4.5 It uses visual components to represent options and choices for the user, and it lends itself to being used with a pointing device, such as a mouse. ✓ (1)
- 4.6.1 Winzip / WinRAR ✓ (1)
- 4.6.2 Compression software is aimed at reducing the size of a file ✓ so that it takes up less space to store. ✓ (2)
- It is often used to reduce the size of e-mail attachments. (2)
- 4.7 Memory management involves the managing RAM- to control how programs use it ✓ - i.e. make sure that programs don't try to use the same area of memory at the same time and so corrupt each other's data/instructions. ✓ (2)

[12]

QUESTION 5

- 5.1. a. Check – Boolean Type (1)
- b. C – Integer (1)
- 5.2. (1)

Line No.	I/O-Variables		Decisions		Output
	num	check	C	num mod c = 0	
1	7				
2		TRUE			
3			2		
4				F	
5				F	
6			3		
7					F
4				F	
5					F
6			4		
7					
4				F	
5				F	
6			5		
7					
4				F	
5				F	
6			6		
7					F
4				F	
5			7		
6					
7					T
4					
8	✓	✓	✓	✓	✓
					The number num is P

5.3. It is determining if an input is prime or composite. / counts the factors of a number ✓ (1)

5.4. C = Composite ✓ P = Prime ✓ (2)

5.5.1. The number 51 is C ✓ (1)
 5.5.2. The number 83 is P ✓ (1)

5.6.
 1. Enter an input (num) ✓ (1)
 2. $x \leftarrow \text{num div } 1000$; ✓ (1)
 3. $y \leftarrow \text{num mod } 100$; ✓ (1)
 4. $y := y \text{ mod } 10 * 10 + (y \text{ div } 10)$; ✓ (1)
 5. if $x = y$ then Display('is a palindrome') ✓ (1)
 else Display('is not a palindrome'); ✓ (1)

TOTAL = 20 (7)

QUESTION SIX

- 6.1.1 Prolonged use of computer without breaks can lead to Obesity, hypertension (high blood pressure), diabetes and even increases the risk of heart disease. ✓
Uncomfortable posture for many hours can lead to back-ache. ✓ (2)
- 6.1.2 Sit correctly – don't slouch or hunch. ✓
Every once in a while, turn your eyes away from your monitor and focus on something else which is far away. This will help prevent eye strain. ✓
Take regular breaks – don't work for more than an hour at a time without taking at least a small break. {any two} (2)
- 6.2.1 The Digital Divide refers to situations when individuals or groups (even countries) do not have access to ✓, or the ability to make use of, technology, compared to digitally-enabled groups. ✓ (2)
- 6.2.2 A lack of financial resources to purchase or access technology. ✓
Differences in educational levels. ✓
The Age gap where many 'older' people have not had formal training in technology.
Disabled individuals often experience problems in terms of making effective use of ICT due to their sight, hearing or limitations in terms of their cognitive levels or physical mobility.
{any two} (2)
- 6.3.1 The act of stealing ✓ intellectual property. ✓ (2)
- 6.3.2 Distributing illegal copies of software. ✓
Installing single licence software on multiple computers. ✓ (2)
- 6.4.1 Freeware refers to software that can be freely downloaded, copied and used. ✓ for an unlimited period of time ✓ whereas shareware is copyrighted and free usage is allowed for a period of time ✓ on the understanding that it will be paid for once that period expires or the user must discontinue use. ✓ (4)
- 6.4.2 a) Open source (1)
b) adv
 - It is free
 - The code is available for programmers to improve if they have knowledge
 - Contains all the popular software packages
 - Plenty of online support
 - Updates are regularly available and are free.
 - No licensing or renewing of licensing required ✓✓✓ Any 3 (3)
- Disadv: Not compatible with MS Office. ✓ (1)
- 6.5.1 Green Computing ✓ (1)
- 6.5.2)
 - Reduce the use of printing and rather transfer softcopies between secondary storage devices.
 - Maximize energy usage by switching off equipment not in use and use energy saver products
 - Promote recycling by disposing of old equipment in the correct manner and recycle used paper, cartridges etc. ✓✓✓ Any 3 (3)

