higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

INTRODUCTION TO INFORMATION SYSTEMS
NQF LEVEL 2

8 December 2020

This marking guideline consists of 8 pages.

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SECTION A

QUESTION 1

1.1	1.1.1	C		
	1.1.2	C		
	1.1.3	A		
	1.1.4	C		
	1.1.5	D		
	1.1.6	B		
	1.1.7	B		
	1.1.8	C		
	1.1.9	B		
	1.1.10	D		
			(10 × 1)	(10)
1.2	1.2.1	survey		
	1.2.2	users		
	1.2.3	operations		
	1.2.4	Viruses		
	1.2.5	transact		
	1.2.6	retrieval		
	1.2.7	computer		
	1.2.8	Input		
	1.2.9	optical		
	1.2.10	smart		
			(10 × 1)	(10)
1.3	1.3.1	True		
	1.3.2	True		
	1.3.3	False		
	1.3.4	True		
	1.3.5	False		
	1.3.6	True		
	1.3.7	True		
	1.3.8	True		
	1.3.9	False		
	1.3.10	True		
			(10 × 1)	(10)
1.4	1.4.1	J		
	1.4.2	H		
	1.4.3	A		
	1.4.4	B		
	1.4.5	F		
	1.4.6	C		
	1.4.7	D		
	1.4.8	G		
	1.4.9	I		
	1.4.10	E		
			(10 × 1)	(10)

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1.5 1.5.1 Human resources
1.5.2 Information technology
1.5.3 Artificial intelligence
1.5.4 Mandatory access control
1.5.5 Discretionary access control
1.5.6 World wide web
1.5.7 Dynamic random access memory
1.5.8 Multifunction printer
1.5.9 Cathode ray tube
1.5.10 Graphics processing unit

(10 × 1) (10)
[50]

TOTAL SECTION A: 50

SECTION B

QUESTION 2

2.1
- Core function refers to the activities designed to achieve the organisation's mission.
- Core function is the main form of business for an organisation.
- Core function refers to the reason the organisation exists, their primary focus. (Any 1 × 2) (2)

2.2
- The core function is teaching and learning.
- The core function is to deliver quality education and transfer skills to students.
- The core function is to ensure development of students. (Any 1 × 2) (2)

2.3
- Marketing
- Finance
- Administration
- Human resources
- Procurement
- Information technology (Any 3 × 2) (6)

2.4
- Planning
- Organising
- Staffing
- Directing
- Coordinating
- Controlling
- Leading (Any 2 × 2) (4)

2.5
- Ensure that there is sufficient stock of resources.
- Allocate tasks to employees.
- Resolve conflict on campus.
- Motivate employees to do their tasks efficiently and effectively.
- Communicate higher-level goals to staff. (Any 2 × 2) (4)

2.6
- When a manager is faced with making a decision, he/she can refer to a similar situation from the past.✓✓
- The manager can rely on his/her decisions made in the past to make his/her current decisions.✓✓ (4)

[22]

QUESTION 3

3.1
- When data is given meaning, it becomes information.✓✓
- Knowledge is gained when the user understands the information and is able to use it appropriately.✓✓ (4)

3.2
- Employees can use the knowledge base to access company policy and procedures when required.
- The knowledge base can assist new employees with training materials.
- The knowledge base can offer online support to customers with queries, thereby making queries easier to deal with. (Any 2 × 2) (4)

3.3
- Hardware needs software to be functional.
- Applications are software based.
- Employees carry out tasks using specialised software.
- The system will not run without system software. (Any 2 × 2) (4)

3.4
- People
- Hardware
- Procedures
- Networks
- Data/database (5)

3.5
- Take the user skill level into consideration.
- Make the screen layout simple or uncluttered.
- Make it easy for users to find information.
- To minimise errors, give users the option to select information instead of having to type information.
- Give the users an option to undo actions.
- Give the users the option to exit a screen. (Any 2 × 2) (4)

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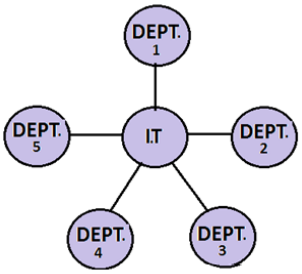
3.6
- Supports business processes by keeping track of productivity.
- Supports operations by keeping a track of resources.
- Assists with communication and information sharing within the organisation.
- Supports decision-making by providing managers with information to base their decision on.
- Supports competitive strategies by providing information to compare oneself with competitors. (Any 1 × 2) (2)

[23]

QUESTION 4

4.1



- Use of shapes to denote various departments✓✓
- Configuration is centralised✓✓
- Labels applied✓✓

(6)

4.2
- It will be able to store the organisation's operational data.
- It will ensure accuracy of data for each department.
- It will support managers with decision-making.
- It will be able to filter information, providing the user with only the information they need.
- It will assist the organisation in gaining a competitive advantage by tracking products. (Any 2 × 2) (4)

4.3
- Set up a firewall.
- Install an antivirus system.
- Avoid downloading software from unofficial sites.
- Use strong passwords.
- Encrypt data.
- Assess the network for vulnerabilities (Any 2 × 2) (4)

4.4
- Intentional threats✓✓
- Unintentional threats✓✓ (4)

4.5
- When a flash disk is used on an infected computer, it can contact the virus.✓✓
- When the flash disk is inserted into another computer, the virus is released onto that computer, infecting it.✓✓ (4)

4.6
- www.zando.co.za
- www.game.co.za
- www.makro.co.za
- www.gumtree.co.za
- www.olx.co.za
- www.loot.co.za (Any 2 × 2) (4)

4.7
- Create awareness about software piracy.
- Do not download software illegally.
- Do not copy software illegally.
- Do not use websites that promote illegal downloads. (Any 2 × 2) (4)

[30]

QUESTION 5

5.1
- The corresponding number of beads would be moved across the abacus.✓✓
- The user would then sum up the total.✓✓ (4)

5.2 An electromechanical device is a device that uses electricity to move mechanical parts.✓✓ (2)

5.3
- Electronic typewriter
- Sewing machine
- Mechanical calculator (Any 1 × 2) (2)

5.4
- Smartphone
- Smart watch
- Electronic tablet
- Laptop (Any 3 × 1) (3)

5.5
- First generation used basic machine language programming, second generation used assembly language.
- First generation used a lot of electricity, second generation did not use as much electricity.
- First generation did not allow for multiprogramming operations, second generation allowed for multiprogramming operations.
- First generation used vacuum tubes, second generation used transistors.
- First generation was programmed in binary, second generation was programmed in COBOL or FORTRAN. (Any 2 × 2) (4)

5.6
- Price scanner
- Weighing machine
- Information kiosk
- Motion detector
- Temperature sensors (Any 2 × 2) (4)

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5.7
- WhatsApp messenger
- Facebook messenger
- WeChat messenger
- Viber messenger
- Skype messenger
- Google hangouts
- BBM messenger (4)

[23]

QUESTION 6

6.1

ADVANTAGES	DISADVANTAGES
• Faster than traditional methods. • Information all stored in one place. • Internet allows for communication. • Useful educational tool.	• If data is inaccurate, output will be inaccurate. • If one component breaks, the entire machine will not work. • Computers are expensive. • Computers require users to be knowledgeable.
(Any 2 × 2 advantages 4)	(Any 2 × 2 disadvantages 4)

(8)

6.2 A – PS2 Mouse port✓✓
B – Parallel port connector✓✓
C – Audio jacks✓✓
D – USB ports✓✓
E – VGA display connector✓✓
F – PS2 keyboard port✓✓ (12)

6.3
- The central processing unit is able to store data at a specific address in memory.✓✓
- The central processing unit can then fetch the data from that location when needed.✓✓ (4)

6.4 QWERTY keyboard (2)

6.5
- A Bluetooth keyboard
- A USB keyboard (2)

6.6 Shift + 5✓✓ (2)

6.7
- Programs used for data input can include instructions to users in the program.
- Input software can check the validity of data practically.
- Software can check the sequence of data being entered.
- Software can check for spelling errors.
- Software can ensure only valid data types being entered.
- Implement security codes to protect sensitive information from being changed. (Any 2 × 2) (4)

6.8
- Daisy-wheel printer
- Drum printer
- Dot-matrix printer (Any 2 × 2) (4)

6.9
- Character fonts can be changed.
- Printer is cheaper to purchase than a laser printer.
- High speed per volume of prints.
- Cheaper to print per page than laser. (Any 1 × 2) (2)

6.10
- VR headsets will allow students to do tasks practically.
- VR provides a safe environment to carry out sometimes dangerous tasks.
- VR provides an alternative to theory learning.
- Saves the cost of buying tools or equipment to do tasks in reality.
- The same VR headset can be used for multiple programs. (6)

6.11 Data projector (2)

6.12
- Write/rewrite/read music
- Write/rewrite/read movies
- Write/rewrite/read software
- Write/rewrite/read photos (Any 2 × 2) (4)

[52]

TOTAL SECTION B: 150
GRAND TOTAL: 200

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