Year 9

Term 3 Assessment

Computing

Time limit: 45 mins

No of Questions: 20
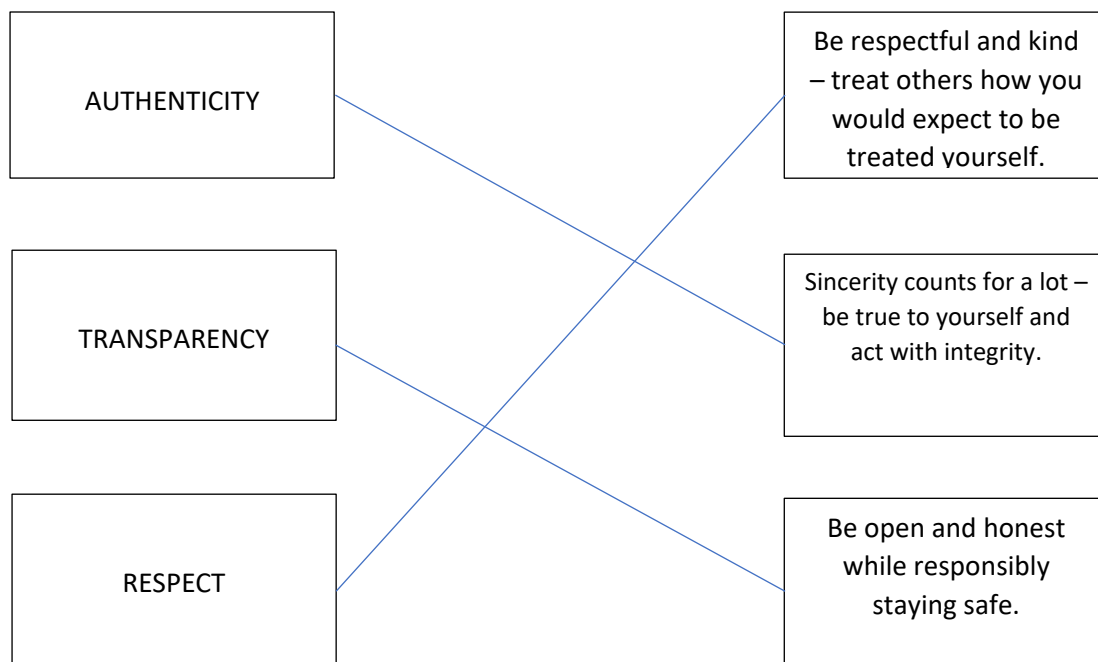
Section A Total Marks: 20

Section B Total Marks: 20

Overall Total Marks: 40

Section A – ICT and Digital Literacy - 20 marks

1) Define the term Respect (2 marks)
   - **Treat others how you would expect to be treated yourself**

2) What term is used to describe being open and honest? (1 mark)
   - **Transparency**

3) Match the definition to the key term (3 marks)

AUTHENTICITY	Be respectful and kind – treat others how you would expect to be treated yourself.
TRANSPARENCY	Sincerity counts for a lot – be true to yourself and act with integrity.
RESPECT	Be open and honest while responsibly staying safe.

4) What does Online Reputation mean? (1 mark)
   - **How you appear online to other people**
   - **The reputation of a person / company based on their online activity / posts**
   - **How other people perceive you to be, based on your online activity / social media posts**

5) Give two examples of how you can defend your online reputation? (2 marks)
   - **Be mindful of what you post and share online**
   - **Respond respectfully to other people's posts (inc negative responses)**
   - **Proactively monitor you own online presence**

6) What does AI stand for? (1 mark)

   Artificial Intelligence

7) What is the name of the test, created by Alan Turing, used to test the intelligence of a computer? (2 marks)

   Turing Test

8) Name 3 different websites which, may use an algorithm to decide what content you see (3 marks)
   - **Any website that uses your data to customise the content you see i.e. Ads/content**
        i. **YouTube, Facebook, Instagram, TikTok**
        ii. **Amazon, eBay, other online shopping sites**
        iii. **Any other reasonable example**

9) What is the name of the field of AI that is used to train computers to identify objects from an image? (1 mark)

   Computer Vision

10) What AI system uses huge amounts of data to train a computer to make decisions? (1 mark)

   Machine Learning

11) Tick **ONE** box on each row to match the definition to the key term (3 marks)

Definition	Reinforcement Learning	Unsupervised Learning	Supervised Learning
AI model learns from **labelled data** to predict outputs for new, unseen data			X
AI model learns patterns and structures from **unlabelled data** without guidance		X	
AI model carries out actions and receives feedback in the form of **rewards** or **penalties**.	X		

12) Convert the denary value 213 into 8-bit binary (2 marks)

128	64	32	16	8	4	2	1
1	1	0	1	0	1	0	1

13) Complete the following 8-bit binary addition (2 marks)

	1	1	0	1	1	1	1	0	
	1	1	0	0	1	0	1	1	+
1	1	0	1	0	1	0	0	1	Sum
	1		1	1	1	1			Carry

- **One mark for Sum line (inc Overflow bit)**
- **One mark for Carry line**

14) An overflow error has occurred in the previous question. Describe what is meant by an overflow error (2 marks)
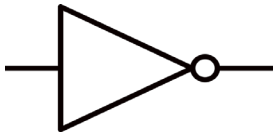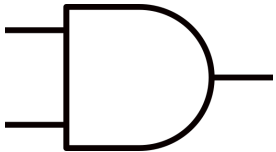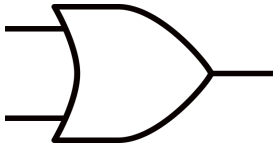
- **The value does not fit within the number of bits available.**
- **The bit is ignored.**
- **Creates inaccuracy in the answer**

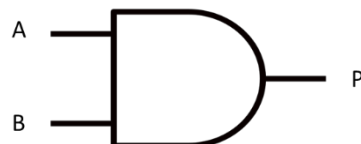15) Convert the denary value 47 into Hexadecimal (2 marks)

8	4	2	1	8	4	2	1
0	0	1	0	1	1	1	1

- **2 F   (One mark for each hex value)**

16) Tick **ONE** box on each row to identify the correct Logic Gate (3 marks)

Logic Gates	AND Gate	OR Gate	NOT Gate
			X
	X		
		X	

17) Complete the Truth Table for the AND Logic Gate (2 marks)

Input A	Input B	Output P
0	0	0
0	1	0
1	0	0
1	1	1

- **One mark for first two rows**
- **One mark for second two rows**

18) Name two key elements to Computational Thinking (2 marks)
- **Abstraction**
- **Decomposition**
- **Pattern recognition**
- **Algorithms**

19) Match the definition to the key term (3 marks)

Abstraction		Being able to spot similarities in data.
Decomposition		Focus on the important parts of something and ignore the irrelevant.
Pattern Recognition		Breaking a problem down into more manageable parts.

Abstraction → Focus on the important parts of something and ignore the irrelevant.
Decomposition → Breaking a problem down into more manageable parts.
Pattern Recognition → Being able to spot similarities in data.

20) Define what the term Sub Program means (2 marks)

- **A small "mini" program within the main program**
- **Used to perform a specific part of the algorithm**
- **Able to be reused within the running of the program**
- **Saves on re-writing multiple lines of code.**