Surname		Centre Number	Candidate Number
Other Names			2

GCE AS/A LEVEL – NEW

wjec cbac

2530U10-1

TUESDAY, 21 MAY 2019 – MORNING

INFORMATION AND COMMUNICATION TECHNOLOGY – AS unit 1
Information Systems

2 hours 15 minutes

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	6	
2.	6	
3.	4	
4.	6	
5.	8	
6.	6	
7.	6	
8.	18	
9.	4	
10.	4	
11.	12	
Total	80	

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Answers should be written in the spaces provided. If you run out of space, use the continuation page at the back of the booklet taking care to number the question(s) correctly.

The intended marks for questions or part-questions are given in brackets [ ]. You are advised to divide your time accordingly. The total number of marks available is 80.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

Quality of written communication will be assessed in question **8**.

Make sure you hand in your spreadsheet with this booklet at the end of the examination.

SECTION A

*Answer **all** questions.*

1. Explain what is meant by the terms *data* and *knowledge*. Use **two** different examples to further illustrate this relationship. [6]

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2. Using good, reliable information improves the quality of decision making. Two of the features of reliable information are *accuracy* and being *understandable*. Discuss, using examples, **three** other factors of reliable information. [3 × 2]

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3. Multiple validation methods may be applied to data. In an online banking system many validation methods might be applied to account numbers.

    (a)   Describe **three** possible validation methods which could be applied to this data.   [3]

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    (b)   Describe, giving a reason, the validation method which would be used by banks for this data.   [1]

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4. Other than *accuracy, speed of processing and repetitive processing*, describe **three** different advantages of ICT over manual methods of data processing.   [3 × 2]

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5. The internet, as a worldwide communication network has brought many benefits to working practices. Discuss how the use of internet-based communication services and storage facilities has been of benefit to business and impacted upon working practices. [8]

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6. The Internet of Things (IoT) has brought many developments to healthcare. Using examples describe **two** of these developments. [2 × 3]

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7. Online gaming can be done as both:

- Remote gaming
- Multiplayer gaming.

Discuss these **two** different types of gaming and the different advantages and disadvantages of each. [6]

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8. Two types of codes are now commonly used to access information and can be scanned in many locations such as shops, train stations, airports and online.

(a) (i) Explain in detail what is meant by both a barcode and a QR code. [4]

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(ii) Give **one** advantage and **one** disadvantage of QR codes. [2]

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(b) (i) After an item has been scanned describe the **four** main stages in the 'Just in Time' automatic stock control system. [4]

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(ii) Discuss the advantages and disadvantages that 'Just in Time' stock control offers a company. [4]

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(c) (i) One of the latest developments in computer based shopping systems is Near-Field Communication (NFC) payment. Explain what is meant by NFC payment. [2]

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(ii) Give **one** advantage and **one** disadvantage of NFC payment. [2]

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SECTION B

*Answer **all** questions.*

9. Car crash analysis is an area which has made great use of simulation modelling. *Other than cost*, give **two** advantages and **two** disadvantages of using simulation modelling for crash analysis. [4]

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10. Goal seek is a common use for a spreadsheet. Explain what is meant by the term *goal seek*. Give an example of how it might be used and give an advantage it gives the user. [4]

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YOU MUST REFER TO YOUR OWN SPREADSHEET TO ANSWER THE FOLLOWING QUESTION.

IF NO SPREADSHEET EVIDENCE IS SUBMITTED THEN NO MARKS CAN BE AWARDED.

MAKE SURE THAT YOU SHOW IN YOUR ANSWER WHERE THE PROCESSES, FUNCTIONS/FORMULAS CAN BE FOUND IN YOUR SPREADSHEET. FOR EXAMPLE PAGE 6 CELL D4.

11. *(a)* Describe the purpose of **two** functions from the list below, which you have used in your spreadsheet. [2 × 2]

MAX	MIN	AVERAGE	SUM
	COUNT	RAND	

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(b) Describe the purpose of the *startup user interface* you have used in your spreadsheet. [2]

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(c)   Describe the purpose of:

(i)   a sort, you used in your spreadsheet;   [2]

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(ii)   a search, you used in your spreadsheet;   [2]

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(iii)   a lookup function, you used in your spreadsheet.   [2]

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ENSURE YOU ATTACH THE PRINTOUTS OF YOUR SPREADSHEET TO YOUR EXAMINATION ANSWER PAPER.

END OF PAPER

For continuation only.

(2530U10-1)