



FACULTY OF INFORMATION TECHNOLOGY

ASSIGNMENT 1: BIG DATA AND IOT 600

Name & Surname: \_\_\_\_\_ ICAS / ITS No: \_\_\_\_\_

Qualification: \_\_\_\_\_ Semester: \_\_\_\_\_ Module Name: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

ASSESSMENT CRITERIA	MARK ALLOCATION	EXAMINER MARKS	MODERATOR MARKS
MARKS FOR CONTENT			
SECTION ONE	20		
SECTION TWO	25		
SECTION THREE	25		
SECTION FOUR	20		
TOTAL	90		
MARKS FOR TECHNICAL ASPECTS			
TABLE OF CONTENTS Accurate numbering according to the numbering in text and page numbers.	2		
LAYOUT AND SPELLING Font – Calibri 12 Line Spacing – 1.0 Margins should be justified.	3		
REFERENCES According to the Harvard Method	5		
TOTAL	10		
<b>TOTAL MARKS FOR ASSIGNMENT</b>	<b>100</b>		
Examiner's Comments:			
Moderator's Comments:			
Signature of Examiner:		Signature of Moderator:	

## SECTION 1: SHORT QUESTIONS COMPULSORY

(20 MARKS)

1.1 Describe Data masking and outline its purposes in big data systems.

(5 Marks)

1.2 Using examples describe the Hadoop distributed file system.

(15 Marks)

## SECTION 2: LONG QUESTIONS COMPULSORY

(25 MARKS)

Suppose you are working as an IT specialist at Takealot, and one of your duties is to analyze the online platform to identify the customers who browse certain products and identify customers that are buying for the first time in order to give them discounts.

2.1 What would you do to solve the problem of customers that doesn't identify themselves or login to the system while browsing, and customers that create multiple login details in order to receive discounts every time they shop online.

(10 Marks)

2.2 Discuss four types of analytics that Takealot can use to determine if the business is making money or running at a loss, why did it happen, what will happen at the end of the quarter, and how can they make sure that profit is certain.

(10 Marks)

## SECTION 3: ESSAY QUESTIONS COMPULSORY

(25 MARKS)

### How Big Data Analysis helped increase Walmart's Sales turnover?

With more than 245 million customers visiting 10,900 stores and with 10 active websites across the globe, Walmart is a name to reckon with for business success as it is one of the world's largest retailers when it comes to revenue - operating in multiple countries across the globe. There are several retailers who want to come close to Walmart's success. The big box retailer Walmart has many interesting lessons powered by **big data and Hadoop technology** that retailers can explore. Walmart tells its customers what to buy and its using its huge collection of data to make it a reality prediction.

Source: <https://www.projectpro.io/article/10-best-hadoop-articles-from-2015-that-you-should-read/207>

- 3.1 Discuss how Walmart can benefit from using Hadoop technology and outline the drawbacks they can come across. **(25 Marks)**

**SECTION 4: CASE STUDY QUESTION COMPULSORY (20 MARKS)**

**The Education Industry and The Internet Of Things**

It's impossible to deny that individuals choose online means of communication in science and technology. When it comes to the internet, the Internet of Things (IoT) has taken center stage. It'll soon establish a firm foundation for all of us, and our existence will completely transform. Every object will be linked to the internet in some form through this. Education app development has made everything easier for today's generations connected to IoT.

<https://elearningindustry.com/top-things-you-should-know-about-iot-in-the-education-industry>.

- 4.1 Critically discuss five ways the Education Industry can benefit from using IOT. **(10 Marks)**
- 4.2 Discuss five Security risks associated with IOT in the Education industry. **(10 Marks)**

**END OF QUESTION PAPER**