COSC 0100

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF
DIPLOMA IN COMPUTER SCIENCE**

COSC 0100: INFORMATION TECHNOLOGY AND NATIONAL DEVELOPMENT

STREAMS: DIP. COMP. SCI, CDEV   **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 24/03/2021   **11.30 A.M. – 1.30 P.M**

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO FROM SECTION B

SECTION A {COMPULSORY}

QUESTION ONE [30 MARKS]

a. Differentiate between the following terms

i.	Bitcoin and Block chain	(4 marks)
ii.	Intranet and Extranet	(4 marks)
iii.	Anonymisation and encryption	(4 marks)

b. List two branches of artificial intelligence   (2 marks)

c. state three positive effects of social media in business today   (3 marks)

d. list two signs of a computer infected by viruses   (2 marks)

e. Explain the difference between MDGs and SDGs   (4 marks)

f. list two function of the operating system   (2 marks)

g. list two web browsers   (2 marks)

h. Differentiate between computer hardware and computer software.   (1 mark)

i. List two objectives of the Digitalent program   (2 marks)

SECTION B

QUESTION TWO

    i.   Discuss the Principles of personal data protection as stipulated in the Data Protection ActNo.24 of 2019 (10 marks)

    ii.   with the aid of a diagram discuss the four major components of a computer (10 marks)

QUESTION THREE

    i.   List the three pillars of vision 2030 and explain how Information Technology may play a role in realization of each. (6 marks)

    ii.   What is Data Security? Discuss different ways in which we can ensure data security. (4 marks)

    iii.   Discuss the benefits of having a national information technology policy (10 marks)

QUESTION FOUR

    i.   What are digital villages? (2 marks)

         Discuss the benefits of digital villages to National Development in Kenya (6 marks)

    ii.   Explain four advantages of computer networks (8 marks)

    iii.   Explain the negative effects of social media on education (4 marks)

QUESTION FIVE

    i.   Blockchain technology presents an opportunity to forego costly traditional infrastructure and adopt the world's most cutting-edge and efficient systems. Discus how Kenya would leverage on block chain technology to achieve the big four Agenda (12 marks)

    ii.   Regulatory Approaches Advances in AI have been accompanied by increased scrutiny and debate over whether AI should be regulated in Kenya. Discus four risks associated with the use of Artificial intelligence (8 marks)