Machakos University College

(A Constituent College of Kenyatta University)

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

**FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR A DEGREE OF
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

SIT109: INTERNET TECHNOLOGIES

DATE: **10/12/2014**   **Time: 8.30-10.30 AM**

INSTRUCTIONS

- *This paper consists of FIVE questions*
- *Answer* **question one** *and other* **two questions** *in this paper*

1.   (a)   (i)   Define each of the following terms as used in Internet.
                  I.   intranet;
                  II.   extranet.   (4 marks)

          (ii)   Explain **two** uses of Internet in an organization.   (4 marks)

     (b)   A computer science student created a communication network using the OSI seven layer
           reference model. Explain **three** of the layers in the model.   (6 marks)

     (c)   Assume that you have been hired by a certain university to develop their website. Explain
           three phases you would undertake in order to achieve this objective.   (6 marks)

     (d)   (i)   Explain the term *address resolution* as used in Internet Technologies.   (2 marks)

          (ii)   Describe the methods through which address resolution may be achieved.
                                                                                 (6 marks)
          (iii) Suggest the most appropriate address resolution method. Justify your answer.
                                                                                 (2 marks)

2.   (a)   Explain each of the following terms as used in Internet Technologies.
          (i)   Encapsulation;
          (ii)   Reassembly.   (4 marks)

     (b)   Outline **two** circumstances under which the error message *Time Exceeded* may be displayed.
                                                                                 (2 marks)

     (c)   Distinguish between *static* and *dynamic* pages as used in internet. (4 marks)

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(d) (i) Identify **five** cyber crimes that could be perpetuated through the use of internet.

(ii) Suggest a prevention measure for each of the crimes identified in (i)

(10 marks)

3. (a) With the aid of a diagram, describe the movement of data through the TCP/IP layers.

(4 marks)

(b) List the classes used when creating IP addresses.   (3 marks)

(c) (i) Identify HTML tags that may be used to carry out each of the following in Web development.
    I. Increase or reduce size of text;
    II. Underline text;
    III. Cause text to scroll on the web page.   (3 marks)

(ii) Figure 1 shows a web page. Use it to answer the question that follows.

University Library
User Details
Reg/PF Number: J77/0000/2014
Name: First User
Type of User:

☐ Student

☐ Staff

Borrowed Books:

1. Introduction to Internet Technologies
2. Fundamentals of Programming
3. System Analysis and Design

OK   Cancel

Write HTML code that could display the page when run on a web browser.

(10 marks)

4. (a) Outline **two** disadvantages of using data driven structure when creating a web site.

(2 marks)

(b) Distinguish between *user* and *organization* centered objective of web development.

(4 marks)

(c) (i) Explain each of the following terms as used in Internet Technologies.
    I. e-marketing;
    II. e-commerce.   (4 marks)

(ii) Describe **three** e-business models.   (6 marks)

(d) The implementation of e-business requires availability of secure payment modes. Identify four such payment modes.   (4 marks)

5. (a) (i) Outline **four** ethical issues associated with the use of Internet. (4 marks)

   (ii) The use of internet among Kenyan youths has increased tremendously leading to the development of negative impacts. Name **four** such impacts among the youth.

   (4 marks)

   (b) (i) The Internet has led to the growth of the world into a global village. Explain **two** aspects that points to the world being a global village. (4 marks)

   (ii) Outline **two** measures that can be taken to improve on the security of data shared through the Internet. (2 marks)

   (c) Figure 2 shows information displayed in a web browser. Use it to answer the question that follows.

Student Enrolment at Technical University College

School	Department	Population		Total
Education		Male	Female	
	Educational Foundations	562	254	816
	Curriculum Studies	154	235	389
Engineering	Info. Comm Technology	56	21	77
	Electrical & Electronics	45	10	55
Total		**817**	**520**	**1337**

Write HTML code that could generate the table when run a web browser. (6 marks)