



# **MACHAKOS UNIVERSITY**

**University Examinations for 2018/2019**

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

**DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY**

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR**

**BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)**

**SIT 109: INTRODUCTION TO INTERNET TECHNOLOGY**

**DATE: 7/5/2019**

**TIME: 8.30-10.30 AM**

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## **INSTRUCTIONS**

Answer **question ONE** and any other **TWO** questions.

### **QUESTION ONE (30 MARKS)**

- a) Differentiate between Dial-up connection and Direct connection as used with Internet Connectivity (4 marks)
- b) Describe and give two examples of :
  - i. Web Browser
  - ii. E-mail program (4 marks)
- c) Give two examples of software used in Internet browsing. (2 marks)
- d) State what the following abbreviations stand for and explain briefly (4 marks)
  - i. ISDN
  - ii. ISP
- e) Explain the following terminologies as used with internet technology (6 marks)
  - i. Web page
  - ii. Hypertext document
  - iii. Hypermedia document
  - iv. Website
  - v. Web client
  - vi. Web server
- f) Explain the meaning and function of each of the following internet protocols (4 marks)

- i. TCP
- ii. IP
- iii. HTTP
- iv. FTP

g) Write html code to display the following output (6 marks)

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1. IT units
   o BCIT
   o SAD
   o IMIS
2. Programming units
   o visual B
   o visual C+
   o HTML
3. Engineering
   o Computer
   o Networking
   o Repairs

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## QUESTION TWO (20 MARKS)

- a) How can a firewall be used as proxy? What are the advantages of making a proxy server? (5 marks)
- b) What are the differences between the conventional cryptographic systems and the modern cryptographic systems (5 marks)
- c) Explain any TWO ways that search engines use to locate web pages (4 marks)
- d) Write HTML code to generate the output below (6 marks)

### EMPLOYEES Record

| Name  | town     | position      | salary |
|-------|----------|---------------|--------|
| kamau | Nrb      | Accounts      | 60,000 |
| John  | msa      | sales manager | 80,000 |
| Hawah | kakamega | tutor         | 50,000 |

## QUESTION THREE (20 MARKS)

- a) Explain using a diagram the general model of public signature model. Explain how the document is digitally signed by the sender and how the receiver ensures the authenticity and integrity of the document (8 marks)

- b) Explain the salient features of secret key cryptography. What are the shortcomings of secret key cryptography? (4 marks)
- c) Explain any FOUR considerations when choosing an ISP. (8 marks)

#### QUESTION FOUR (20 MARKS)

- a) Write html code to display the output below. (6 marks)

| student | course      | duration |
|---------|-------------|----------|
| mwangi  | IT          | 1yr      |
| mary    | Accounts    | 6 months |
| John    | programming | 6 months |
| Otieno  | Sales       | 1yr      |

- b) Outline features of a java script Language (4 marks)
- c) Write html code to generate the output below (10 marks)

Welcome to

**Machakos University.**

**School of Engineering and Technology**

*Department of Computing and Information Technology*

We offer the following courses

- Bachelor of science in computer science
- Mechanical engineering
- Short courses in driving

Bachelor of Science in computer science

-introduces the learners to concepts of computing

Mechanical Engineering

- introduces the students to the core concept of mechanical engineering

### QUESTION FIVE (20 MARKS)

- a) Write a JavaScript program to compute the net salary given that:- (7 marks)
- Basic salary = 10,000  
House allowance = 4,000  
Medical allowance = 1500  
P.A. Y. E = 2000
- Use variable declaration
- b) Explain any FOUR Javascript syntax elements (8 marks)
- c) Explain requirements for internet connectivity to ISP (5 marks)