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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
KIT 2102 – INFORMATION SYSTEMS FUNDAMENTALS

Date: 12TH April 2024
Time: 8:30AM – 10:30AM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Measuring the success of Information System is an integral part of maintenance, discuss two concepts that are the basis for measuring success of an information system (4 Marks)
- b) As most companies and firms began to do business online. Organizations and firms have started to move the bulk of data to offsite servers or the cloud, this increases the risks and threats to information systems. Discuss any three such risks/threats. (6 Marks)
- c) The internet is a global network of interconnected smart devices that exchange information using the TCP protocol. Discuss how the internet is driving business today. (3 Marks)
- d) The field of Information Systems involves the effective design, delivery, and use of information and communications technologies to solve problems for companies. List any three types of Information Systems. (3 Marks)
- e) An information system is a formal, sociotechnical, organizational system designed to collect, process, store, and distribute information. Discuss any two components that make up an information system? (4 Marks)
- f) An information system (IS) is an interconnected set of components used to collect, store, process and transmit data and digital information. At its core, it is a collection of hardware, software, data, people and processes that work together to transform raw data into useful information. Discuss Decision Support Systems and an Expert System (4 Marks)
- g) A decision-making process is a series of steps one or more individuals take to determine the best option or course of action to address a specific problem. Distinguish between structured and unstructured decisions (4 Marks)
- h) E-commerce (electronic commerce) is the activity of electronically buying or selling products on online services or over the Internet. Highlight any two types of e-Commerce (2 Marks)

QUESTION TWO (20 MARKS)

- a) Telecommunication, often used in its plural form, is the transmission of information by various types of technologies over wire, radio, optical, or other electromagnetic systems. It is also the electronic exchange of any type of data over a variety of information transmitting technologies and systems. Discuss the following concepts in this context.
 - i) Network (2 Marks)
 - ii) Intranet (2 Marks)
 - iii) Extranet (2 Marks)
 - iv) Enterprise Collaboration Systems (2 Marks)
- b) Using a diagram illustrate the components an *Information System* (4 Marks)

- c) Information systems are commonly divided into two broad categories: systems that support an organization's business activities and systems that support managerial decision making. Operations information systems are generally concerned with process control, transaction processing, communications (internal and external) and productivity. Management information systems provide feedback on organizational activities and help to support managerial decision making. Managerial decision making can occur at the Operational, tactical and strategic levels of an organization.
- i) Discuss two Operational Information Systems (4 Marks)
 - ii) Discuss any two Management Information Systems (4 Marks)

QUESTION THREE (20 MARKS)

- a) Every year, new trends emerge in the dynamic Information Technology industry, and it is significant for professionals to be informed of these recent emerging trends and all that they entail. The ability to understand these concepts and notions can help an IT expert improve their professional standing in the field they work in and assist them with understanding what potential upgrades there are for their industry. Expound on any three trends. (6 Marks)
- b) Ecommerce is a method of buying and selling goods and services online. The definition of ecommerce business can also include tactics like affiliate marketing. You can use ecommerce channels such as your own website, an established selling website like Amazon, or social media to drive online sales. Discuss the four merits of e-Commerce. (8 Marks)
- c) The file system is basically a way of arranging the files in a storage medium like a hard disk. The file system organizes the files and helps in the retrieval of files when they are required. File systems consist of different files which are grouped into directories. The directories further contain other folders and files. Highlight three concerns with files systems that paved way for Database Management Systems - DBMS. (6 Marks)

QUESTION FOUR (20 MARKS)

- a) If you think of software as being in layers, the system software is the bottom layer: it sits between the hardware and the application software. Expound on four services provided by the Operating System. (8 Marks)
- b) Ethics is defined as principles of right and wrong that can be used by individuals acting as free moral agents to make choices to guide their behavior. Ethical issues confront individuals who must choose a course of action, often in a situation in which two or more ethical principles are in conflict. Outline four ethical issues that may arise from the use of Information Systems in an organization. (8 Marks)
- c) Discuss any two characteristics of cloud computing. (4 Marks)

QUESTION FIVE (20 MARKS)

- a) Cloud computing: Refers storing and accessing the data and programs on remote servers that are hosted on the internet instead of the computer's hard drive or local server. Discuss two cloud deployment models. (4 Marks)
- b) Describe the two most common cloud computing services Infrastructure as a service - IaaS and Software as a service – SaaS. (4 Marks)
- c) An information systems development methodology can be defined as a collection of procedures, techniques, tools and documentation aids that will help the systems developers in their efforts to implement a new information system. A methodology will consist of phases, themselves consisting of sub-phases, which will guide the systems developers in their choice of techniques that might be appropriate at each stage of the project and also help them plan, manage, control and evaluate IS projects. Discuss any four stages/phase of developing an Information System. (8 Marks)
- d) Enterprise resource planning (ERP) is software used by a company to manage key parts of operations. Discuss Enterprise Resource Planning operations support System. (4 Marks)