THE OPEN UNIVERSITY OF SRI LANKA
Department Of Civil Engineering
Postgraduate Diploma in Technology - Construction Management - Level 7

026

CEX7112 – Management Information Systems for the Construction Industry

FINAL EXAMINATION - 2008

Time Allowed: Three Hours

Date: 2009 - 03 - 24 (Tuesday) Time: 1400 - 1700 hrs

Answer any Four (04) questions.

Q1.

i.) Management Information Systems generally have a structure of **hierarchical nature**. Clearly describe and contrast the differences between the *three (03)* common hierarchical levels found in a Management Information System.

(Marks 08)

ii.) Highly automated and some times intelligent **Management Information Systems** of today owe its rapid evolution to several developments in Engineering, Technology and Management. Clearly identify *four (04)* of these areas and describe the contribution made by each in the evolution.

(Marks 08)

iii.) Assume that you, as a senior Engineer in the field of construction, was invited by a university to deliver a guest lecture on the theme 'Management Information Systems and the Construction Industry' to Engineering undergraduates of the final year. In prelude to the forthcoming lecture, write down in point form the logical flow of your proposed lecture highlights.

(Marks 09)

Q2.

i.) Describe in detail the main characteristics of the **"Systems Method"** used by designers.

(Marks 08)

ii.) In the **"Development Process"** for a system, three (03) major stages are identified. Describe these stages with specific references to **Management Information System** development.

(Marks 08)

iii.) One of the most common techniques adopted in the development of "Systems" such as a Management Information System is **"Systems Development Life Cycle Model"**. Describe the four (04) phases of this technique highlighting the bearing on Management Information System development.

(Marks 09)

Q3.

i.) Write a descriptive note on application of **"Flow Charts"** in the development of Management Information Systems.

(Marks 08)

ii.) Write descriptive notes on the following;

a.) Decision Tables

b.) Structured walkthrough

(Marks 08)

iii.) Describe the concepts and principles of Programming with special reference to the *four (04)* **classifications** to which programming instructions are grouped.

(Marks 09)

Q4.

i.) Presentation of ideas to other people at a lecture or a seminar has lately been influenced b computers with multimedia capabilities. To utilise the full power of the multimedi capabilities of computers for these purposes a category of programs called "Presentatio Software" has evolved. Describe the features expected of such software to be used in th construction industry for conceptual explanations, technical briefings, site meetings, etc.

(Marks 08)

ii.) Discuss the development of operating systems to the sophistication of present day, indicatin levels of utility and user-friendliness of these systems at each stage.

(Marks 08)

iii.) One of the very versatile tools made available to the Engineer from the early days c computers is an application software called a "Spread Sheet", which are designed t manipulate data on a two dimensional plane. After describing the salient features that shoul be present in such a software package, describe how the two-dimensional relationship possible in conventional spreadsheet software is extended to a partial three-dimensiona structure in recent packages.

(Marks 09)

Q5.

i.) E-mail is the personal written communication system that gained wide acceptance in th information age. Describe how e-mail system works and useful features available with th system. Further, describe how large files can be made smaller (such as AutoCAD drawin files, audio or video files), so that they can be sent through e-mail.

(Marks 08)

ii.) "Micro Processors" for computers have evolved tremendously from early 1980s' to th present day. It is one of the major factors that contributed in the information revolutio Describe the chronological evolution of Micro Processors with particular reference to cloc speeds and data bus widths.

(Marks 08)

iii.) One of the reasons for the popularity of microcomputers is the substantial advances made the 'storage media' technologies. Discuss the types, storage technologies and capacities currently popular storage media for use with microcomputers.

(Marks 09)

Q6.

i.) Discuss the conceptual meaning of "Artificial Intelligence" (AI) as applied to computer ar information technology. Use a possible application of AI in the construction industry illustrate the future use of such technology.

(Marks 08)

ii.) Distinguish between a Local Area Network (LAN) and a Wide Area Network (WAN) with discussion on general "Topologies" available in configuring computer networks with desir application types.

(Marks 08)

iii.) Describe the working concept of "Internet". What are the possibilities available for t construction industry to exploit the worldwide coverage of Internet?

(Marks 09)