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

CEX7112 – Management Information Systems for the Construction Industry
CEP2112/CEE7112 - Management Information Systems

040

FINAL EXAMINATION - 2006

Time Allowed : Three Hours

Date: 2007 - 03 - 29 (Thursday) Time: 0930 - 1230 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 owes 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.) Develop an argument against employing a computer based Management Information System for a construction contractor involved in the rehabilitation of an ancient Dagaba.

(Marks 09)

Q2.

i.) In the development of "Systems" such as a Management Information Systems a common technique employed is the "Systems Development Life Cycle Model". Discuss the *four (04)* stages of this technique in relation to the development of computer based Management Information Systems.

(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.) "Systems Method" is a technique extensively used by developers of comprehensive and complex entities. Describe in detail the main characteristics of this method.

(Marks 09)

Q3.

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

(Marks 08)

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

(Marks 08)

iii.) Write descriptive notes on the following techniques, which are well known techniques adopted in the development of complex information systems;

a.) Decision Tables
b.) Structured walkthrough

(Marks 09)

Q4.

i.) *"Computational speed and data storage capacities of computers have increased in leaps and jumps in recent times, but so has the demand on resources by software, with a net result of insignificant or no progress in the productivity"* Critically discuss this statement.

(Marks 08)

ii.) One of the versatile computer based solutions for data manipulation and complex calculations is provided in the generic form of a "Spread Sheet Software" which is designed to manipulate data on a two dimensional plane. Describe the salient features that should be present in a spreadsheet software package. Further, briefly state the steps involved in the development of a spreadsheet based tool for preparing and easy updating of a BSR (Building Schedule of Rates) by a statutory body.

(Marks 08)

iii.) To utilise the physical capabilities of new generation fast computers to computational requirements of the users, a software interface called an "Operating System" is required. Describe the functions expected of an Operating System for microcomputers, which require to be used in a MIS for an international construction consultant.

(Marks 09)

Q5.

i.) Describe and discuss the main components that should be available in the "System Unit" of a micro-computer with multimedia, networking and communication facilities via telephone lines.

(Marks 08)

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

(Marks 08)

iii.) The recent boom in the digital media which is steadily but surely decimating the once very stable analogue media market, is the substantial advances made in the 'storage media' technologies. Discuss the types, storage technologies and capacities of currently popular storage media for use with A/V appliances and microcomputers.

(Marks 09)

Q6.

i.) Describe the historical development and working concept of "Internet". What are the possibilities available for the construction industry to exploit the worldwide coverage of Internet?

(Marks 09)

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

(Marks 08)

iii.) Distinguish between a Local Area Network (LAN) and a Wide Area Network (WAN) with a discussion on differences in "Topologies" when configuring computer networks on these two types of applications.

(Marks 08)