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

FINAL EXAMINATION – 2011/2012

Time Allowed: Three Hours

Date: 2012 - 03 - 18 (Sunday) Time: 1400 - 1700 hrs

Answer any Four (04) questions.

Q1.

i.) In this information age **Data, Information and Knowledge**, are key concepts. Discuss these concepts pertaining to a present day **Management Information System** (MIS) with reference to 'Management Levels' at which each becomes significant.

(Marks 08)

ii.) Describe the development of automated **Management Information Systems** of present day with reference to evolution of *four (04)* specific areas in Engineering and Management.

(Marks 08)

iii.) Explain the ways in which an International level highway construction contractor can utilize a customized Management Information System to improve Productivity, Competitive edge and Profit.

(Marks 09)

Q2.

i.) Describe the concepts and principles of Programming Languages in line with the *four (04)* **"Categories"** to which programming instructions are grouped.

(Marks 08)

ii.) Write an explanatory note on the technique known as **"Structured Programming"** and the advantages it offers in system development.

(Marks 08)

iii.) When a new MIS is introduced to an organization, it should not be done in an abrupt manner since every organization has an existing **MIS** in some form or other. The transition or the conversion can be handled in one of the *four (04)* well known methods. Describe these methods.

(Marks 09)

Q3.

i.) Designers of complex and large entities adopt a method known as **"Systems Method"** to address the design needs. Describe in detail the main characteristics of this method.

(Marks 08)

ii.) 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 08)

iii.) 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 09)

Q4.

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.) Describe how e-mail system works in comparison to the regular postal system and useful features available within the system. Further, describe other useful facilities apart from simple mail transfer, available through the e-mail systems.

(Marks 08)

iii.) "Capacities, efficiencies and reliability of data storage media for computer applications have progressed in a very rapid pace during the past decade". In the light of this statement discuss the physical types, interface technologies and capacities of currently popular storage media for use with microcomputers.

(Marks 09)

Q5

i.) 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)

ii.) Recent trend in communication between computing and communication devices has shifted from Cables to Wire-less technologies. Describe *two (02)* such wire-less technologies popular in the present day.

(Marks 08)

iii 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)

Q6.

i.) Describe the functions expected of an "Operating System" for a microcomputer and present an account of the development of operating systems to the sophistication of present day, indicating levels of utility and user-friendliness of these systems at each stage.

(Marks 08)

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

(Marks 08)

iii.) Engineering applications often require data handling through multiple stages of calculations. One of the very versatile tools made available to the Engineer from the early days of computers is an application software called a "Spread Sheet", which are designed to manipulate data on a two dimensional plane. After describing the salient features that should be present in such a software package, establish the steps involved in the development of a computer based tool for extracting quantities from Structural & Layout drawings for a housing project and preparing the Bill of Quantities (BOQ).

(Marks 09)

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CEX7113 – Real Estate & Property Development

FINAL EXAMINATION – 2011/2012

Time Allowed: Three Hours

Date: 2012 - 03 – 17 (Saturday) Time: 1400 - 1700 hrs

Answer Five (05) questions with at least One (01) from each section.

Section A – Valuation of Property

Q1.
Four main stages can be identified in the process of property development. Briefly describe these four stages related to the development of a condominium property. (20 Marks)

Q2.
Distinguish between 'value', 'market value', 'cost' and 'price' pertaining to a property giving examples where necessary. (20 marks)

Section B – Finance for Property Development

Q3.
Discuss the key aspects taken into consideration by lending institutions in granting long term housing loans to individual house builders. (20 marks)

Q4.
Discuss the role the government can play to motivate private sector housing developers. (20 marks)

Section C – Property Law and Acts

Q5.
There are various methods by which property could be acquired. Describe the following methods,

(i). Accession (10 Marks)
(ii). Prescription (10 Marks)

Q6.
Discuss the 'common elements' as defined in the Condominium Property Law No. 11 of 1973 and briefly describe the duties of the owners and occupiers of a condominium property in relation to these common elements. (20 Marks)

Section D – Town Planning

Q7.

'Garden City Concept' in town and country planning was proposed for the region of Greater Colombo by Prof. Patrick Geddas. Briefly describe the concept of Prof. Geddas. Discuss the suggestions made by him and explain why his proposal could not be implemented. (20 marks)

Q8.

Explain the following terms in the context of 'UDA Planning and Building Regulations'.

(i). Building Permit (5 Marks)

(ii). Certificate of Conformity (5 Marks)

(iii). Standard Light Plane (5 Marks)

(iv). Floor Area Ratio (5 Marks)