



CEX7112 - Management Information Systems for the Construction Industry

FINAL EXAMINATION - 2007

023

Time Allowed : Three Hours

Date: 2008 - 04 - 24 (Thursday)

Time: 0930 - 1230 hrs

Answer any Four (04) questions.

Q1.

i.) Describe the development of automated and some times intelligent **Management Information Systems** of today with reference to rapid evolution of several developments in Engineering, Technology and Management in *four (04)* specific areas.

(Marks 08)

ii.) Discuss the concepts of **Data, Information and Knowledge**, pertaining to a present day Management Information System with reference to 'Management Levels' at which each concept becomes significant.

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

(Marks 08)

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

(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)



Q4.

- 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)

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.) 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)

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.) 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)

