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| Unit Title: Systems Analysis and Design | Unit Code: SA |
| Level: 5 | Learning Hours: 160 |
| Learning Outcomes and Indicative Content: | |
| Candidates will be able to: | |
| <ol style="list-style-type: none"> 1. Explain the meaning of ‘Information System’ and related terms <ol style="list-style-type: none"> 1.1 Explain the terms information and system 1.2 Explain the types of information needed by management 1.3 Discuss the concept of an information system 2. Explain in detail the conventional (traditional) methodology of systems analysis and design (SAD) <ol style="list-style-type: none"> 2.1 Explain the importance of an organised approach to the development of information systems 2.2 Explain the concept of the systems development life cycle 2.3 Identify the main features in the conventional approach to SAD 2.4 Discuss the main problems encountered when employing conventional SAD methodology 3. Explain the analysis stages of conventional SAD <ol style="list-style-type: none"> 3.1 Identify the common reasons for initiating an information systems project 3.2 Discuss the activities in a feasibility study and the contents of the subsequent report 3.3 Explain the main fact-finding methods used during the analysis stages 3.4 Identify the activities and end-product of the full study stage 4. Explain the design approach adopted in conventional SAD <ol style="list-style-type: none"> 4.1 Explain the physical design process based on input, output, processing and storage requirements 4.2 Explain the importance of the human-computer interface 4.3 Discuss the detailed requirements normally included in a system design specification 5. Explain the main features of the Structured Systems Analysis and Design Methodology (SSADM) <ol style="list-style-type: none"> 5.1 Identify the stages in SSADM and describe their contents 5.2 Discuss the benefits and limitations of employing SSADM | |

- 6. Explain the main modelling techniques employed in SSADM and should be able to employ these techniques to solve problems**
 - 6.1 Explain the concept of modelling and distinguish between logical and physical models
 - 6.2 Identify the main process, data and event models employed in SSADM and explain their purpose
 - 6.3 Analyse small case studies and construct appropriate process, data and event models
- 7. Compare and contrast alternative approaches to information systems development**
 - 7.1 Compare and contrast the 'hard' and 'soft' approaches to information systems development
 - 7.2 Discuss the main features of alternative approaches such as Rapid Application Development (RAD), Joint Application Development (JAD) and Object-oriented Design (OOD)
 - 7.3 Explain the role of Computer Assisted Software Engineering (CASE) tools in system development
 - 7.4 Find solutions for the design of Internet-based systems
- 8. Explain the importance of standards in SAD**
 - 8.1 Discuss the role and scope of standards in projects
 - 8.2 Identify the main components of documentation in a systems project
 - 8.3 Develop system documentation using a current standard
- 9. Create plans for the implementation of operational systems**
 - 9.1 Demonstrate the use of alternative techniques for monitoring and controlling the progress of projects
 - 9.2 Compare alternative strategies for performing the changeover to a new system
 - 9.3 Examine and report a project's degree of success
- 10. Manage systems problems relating to security and long term support**
 - 10.1 Identify the security requirements of a system and introduce appropriate procedures and precautions
 - 10.2 Develop procedures to manage the maintenance aspects of an operational system

Assessment Criteria:

- Assessment method: written examination
- Length of examination: three hours
- Candidates should answer four questions from a choice of eight, each question carrying equal marks

Recommended Reading

ABE, *ABE Study Manual – Systems Analysis*, ABE

Avison D E, Fitzgerald G, *Information Systems Development* (2002), McGraw-Hill
Education
ISBN: 0077096266

Yeates D, Cadle J, Wakefield T, *Systems Analysis and Design* (2003),
Pearson Higher Education
ISBN: 0273655361