

Examination report – December 2014 series

2730-025 Software Engineering

Section 1 – Areas of good performance
<p>Syllabus reference: 1.4 / 1.5 – Describe the term software crisis. Describe the problems associated with large scale software development. This section was answered very well.</p> <p>Syllabus reference: 1.21 – Describe what a given simple low level design (given in pseudo-code or Jackson procedural notation) is intended to do. This question was answered satisfactorily although some candidates failed to provide suitable examples of how a selection operation would be expressed in Jackson structure text and pseudo-code.</p> <p>Syllabus reference: 1.25 / 1.26 / 1.27 – Describe the term portability. Describe the term portability as applied to software components. Describe the difficulties which may be encountered in attempting to achieve portability. When answering this section, several candidates did not relate parts program, data, end user, developer and documentation to portability.</p> <p>Syllabus reference: 1.36 / 1.41 – Sketch a diagram of the stages of testing. Describe the particular problems of testing real-time telecommunications systems. On the whole, candidates described satisfactorily the stages of testing; unit, integration, system and acceptance. However, very few candidates could state two possible problems that may occur when testing a real-time telecommunications system.</p> <p>Syllabus reference: 1.51 / 1.54 – Justify the need for a Unified Modelling Language (UML). Describe in detail, a method of obtaining platform independence. This section was answered satisfactorily.</p> <p>Syllabus reference: 1.50 – Differentiate between and justify the use of server-side and client-side scripting. On the whole, this section was answered very well.</p>
Section 2 – Areas for development
<p>Syllabus reference: 1.15 / 1.16 – Explain why finite state machines are often used to model real-time systems. Draw a simple state diagram. Very often the state diagrams were inaccurate or poorly drawn.</p> <p>Syllabus reference: 1.47 – Identify and briefly describe at least one programming language from each of the programming paradigms; object-orientated, functional, logical, visual and scripted. In this section, very few candidates provided an adequate description of a 'logical' programming language.</p> <p>Syllabus reference: 1.62 / 1.67 – Describe the file access methods deployed by Unix. Explain file descriptors and how they are used in Unix programming. The majority of candidates were unable to describe how file descriptors are used in Unix programming.</p> <p>Syllabus reference: 1.12 – Describe the notion of prototyping.</p>

Although the majority of candidates knew the meaning of prototyping, very few candidates knew anything about the different types of prototyping.

Section 3 – Recommendations

Candidates need to improve their knowledge of the following areas:

- Prototyping
- Unix file handling principles.