Spring Examinations 2015

**STRM06115N**

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<th>Module Title</th>
<th>Information Systems Methods</th>
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<td>Level</td>
<td>Seven</td>
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<td>Time Allowed</td>
<td>Three Hours</td>
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Instructions to students:

- Enter your student number **not** your name on all answer booklets.
- **Section A** – Answer **all** questions (75 marks)
- **Section B** – Answer **one** out of two questions (25 marks)
- Students are permitted to take **two** sheets of A4 paper (**four** sides of notes) into the examination room. Notes can be hand written or typed (not less than 12 pt). All notes should be attached to the answer book at the end of the examination.

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Section A

Answer all questions from this section.

Question 1

Eliciting good and useful user requirements is an essential element of a good information systems design. Yet there are many challenges and difficulties with identifying user requirements and needs and it is often characterized as a mystery.

Critically evaluate the four techniques listed below, clearly stating the preconditions to the use of these techniques and the strengths and weaknesses of each. State which type of knowledge they elicit.

i Questionnaires
ii Card sorting
iii Prototyping
iv Observation

(20 marks)

Question 2

The scenario listed below is a typical of a transaction process for a department store:

“The sales office receives orders by phone or mail from their customers. Jane the Clerk in the sales office fills in an internal 3 part order form and passes the top copy to the warehouse and the second copy to accounts, she files the third copy in the red file.

The storeman in the warehouse packs the goods and sends a delivery note with the goods to the customer. He also sends a copy of the delivery note to accounts. If some of the goods are not available he makes a note on and keeps hold of the internal order form. But if and when the order is complete he passes his copy of the order form across to the accounts department.

When the accounts section receives delivery notes they are filed in by Marie Jones the clerk. When the accounts section receives the completed order form Marie Jones invoices the customer. A copy of the invoice and order form is filed in the delivery/invoice accounts file.”

For the above scenario draw the current physical Data Flow Diagram to represent the above scenario. This may include your level 1 DFD and some level 2 DFDs.

(20 marks)
Question 3

ACRE (ACquisition of REquirements) is a framework that assists requirement engineers to select the methods for requirements acquisition. Practitioners are often unaware of the range of methods available. Even when practitioners are aware, most do not foresee the need to use several methods to acquire complete and accurate requirements. One reason for this is the lack of guidelines for method selection.

Requirements for software-intensive systems are complex and varied. This is reflected in the framework, which suggests different methods to acquire different knowledge and requirements. Research has identified six facets which inform method selection:

- Purpose of requirements
- Knowledge types
- Internal filtering of knowledge
- Observable phenomena
- Acquisition context
- Method interdependencies

Explain the six facets mentioned above and give examples where possible.

(35 marks)

End of Section A
Section B follows overleaf
Section B

Answer one out of two questions

Question 4

Many projects fail due to many different reasons (i.e. Projects do not meet business needs; Projects do not meet financial objectives; People issues; Poor management; Poor communication; Not working effectively together....).

Agile Altern tries to address many of these issues with project failure.

a. Critically discuss how the eight underlying principles of Agile help to address the problems mentioned above. Clearly state which problems they address.

   (13 marks)

b. Agile defines four core techniques:

   MoSCoW Prioritisation  
   Controlled Prototyping  
   Facilitated Workshops  
   Timeboxing

   Explain each one of these techniques and discuss the benefits of using these techniques.

   (12 marks)

(Total: 25 marks)

Question 5

Discuss what is critical to the successful implementation of CASE tools within an organization. (You should include at least four references.)

(25 marks)