F2019 STUDY GUIDE FOR MIDTERM EXAM 2

The following is a list questions about topics covered in each week. The answers can be found in the C/P, textbook chapters, BABOK Guide, Moodle posts, and your class notes. **Please note that during the semester some topics were moved from their original week of coverage as listed in the C/P. For the topics listed below, please follow the weekly schedule in the C/P.**
The topics are separated between *since Exam 2* and *before Midterm Exams 1 and 2*. Please ensure that you also review the material which was covered *before* exams 1 and 2 for short answer questions.

The study guide is intended only to guide you as you prepare for the exam. To perform well in the exam, you need to know the concepts, be able to apply them and give an example of each when applicable.

A key part of the final exam will focus on all aspects of **DFDs**.

Material Covered *Since* Exam 2

WEEK 12: REQUIREMENTS DISCOVERY – 2

1. What is discovery prototyping?
2. When is it most suitable to use discovery prototyping?
3. JRP: What is JRP? Who are the participants?
4. Benefits and limitations of JRP
5. How are JRP sessions planned and conducted?

WEEK 12: AGILE

1. What is agile system development?
2. How is it different from traditional SDLC?
3. What are the reasons to use agile development?
4. What are the criteria to select between traditional and agile system development?
5. Briefly explain the phases in agile development lifecycle.
6. What are the advantages and disadvantages of agile development?
7. *Article: Implement First, Ask Questions Later (or Not at All)*
8. *Article: Agile Model Driven Development (AMDD)*

WEEK 12: FEASIBILITY

1. What is feasibility analysis?
2. What are feasibility checkpoints in the systems analysis phase of SDLC?
3. What is creeping commitment approach to feasibility?
4. What are the tests for feasibility?
5. What are the feasibility issues addressed by each feasibility test?
6. List two stakeholders involved in the cultural (or political) feasibility test.
7. List three questions to ask when testing for technical feasibility.
8. What are the two considerations to balance when considering schedule feasibility?
9. What is economic feasibility concerned with?
10. What are the types of legal constraints which may impact legal feasibility?
11. Who is ultimately responsible/accountable for feasibility analysis?
12. What are the types of costs and benefits considered in cost-benefit analysis?
13. Candidate system matrix: the structure of the matrix?
14. Feasibility analysis matrix: the structure of the matrix?

Material Covered *Before* Exam 2

WEEK 3: INFORMATION SYSTEMS DEVELOPMENT

1. Be able to analyse an information system using PIECES framework

WEEK 6: PROCESS MODELING – 3

1. Know how to identify missing information – processes (logic), data flows, data stores, external entities
2. What to do about it?

WEEK 7 (See C/P Week 8): PROCESS MODELING – 4

1. What do hierarchies represent?
2. Context level – What is it? How to draw it?
3. Level 0 – What does it represent? How is it related to other levels?
4. Level 1 – What does it represent? How is it related to other levels?

WEEK 7: CASE Tool

1. What is CASE? What are its benefits and limitations?
    - What is a repository?
    - What are standards?
    - How does documentation take place?
2. DFD guidelines (system level DFD, hierarchies of DFD'S, balancing DFD levels, infinite sinks, infinite sources, read-only and write-only data stores, black holes, miracles, gray holes)
3. What is balancing? How can you ensure the right balancing in your DFD hierarchies?

WEEK 9: LOGIC DEFINITION

1. Know how to represent the logic in a single or group of processes using a decision table
2. Develop a DFD given a decision table

WEEK 9: PROJECT MANAGEMENT

1. What is systems view of project management and why is it important?
2. What are the conditions for a project to be considered a success?
3. What are the functions of project management?
4. What skills do project managers need?
5. What are the activities and deliverables associated with project management functions?
6. What are project mismanagement problems and their consequences?
7. What are project manager competencies?
8. What are project management tools and techniques?
9. What responsibilities do project managers have?
10. What is Project Work Plan and WBS?
11. *Articles: Why IT Projects Still Fail; Three Imperatives of Good Project Managers; Five Traditional Process Groups Explained*

Material Covered *Before* Exam 1

WEEK 2: THE SYSTEMS ANALYST

1. What is the systems/business analyst's role in the SDLC?
2. What are the differences between systems analysts and business analysts?
3. Who are the system stakeholders?
4. What is Business Analysis approach according to BABOK® Guide?
5. Where do systems/business analysts work?
6. What are the career paths for systems/business analysts?
7. What skills/knowledge/attributes do successful systems/business analysts have?
8. What are system analyst's roles and responsibilities?

Week 2: SYSTEMS THEORY

1. What is a system?
2. What are the components of systems?
3. What is systems approach?
4. What makes a system open rather than a closed system?

WEEK 3: USE CASE MODELING

1. Know how to identify actors
2. Know how to identify use cases
3. Know how to develop a use case model given a narrative description of a system

WEEK 3: INFORMATION SYSTEMS DEVELOPMENT (selected concepts)

1. What is SDLC?
2. What are the phases of SDLC? Describe each phase and its tasks.
3. Which activities overlap much of the SDLC (cross lifecycle activities)?
4. What is system development methodology? What are its advantages and disadvantages?
5. What are the reasons to purchase systems development methodologies?

6. What are the project characteristics that affect the methodology selection process?
7. What are the principles underlying systems development?
8. Where do system development projects come from?
9. What is CMM?
10. Distinguish between levels of CMMI.
11. How does the CMMI Article define the levels of maturity? (**See article**: What is CMMI? A model for optimizing development processes)

WEEK 4: REQUIREMENTS DISCOVERY METHODS

1. What is a requirement statement?
2. What is the purpose of requirements discovery?
3. Consequences of failing to correctly identify system requirements
4. What are the factors that contribute to the failure of projects?
5. What are the activities in requirements discovery process?
6. What are the knowledge areas involving requirements discovery according to the BABOK® Guide and what are their relationships?
7. What is “Elicitation and Collaboration” according to BABOK® Guide?
8. What is “Requirements Lifecycle Management” according to BABOK® Guide?
9. What is “Strategy Analysis” according to BABOK® Guide?
10. What is “Requirements Analysis and Design Definition” according to BABOK® Guide?
11. Fact-finding techniques: Advantages and disadvantages, Do’s and Don’ts of each.
12. Which documents should you collect, which documents should you not collect?
13. What types of questions are used in interviews?
14. What kind of information is sought in interviews?
15. Interviews: how to prepare for them, how to conduct them, what tasks are done post-interview, questions to avoid, etc.
16. What is the recommended fact-finding strategy?

WEEKS 4 & 5: PROCESS MODELING – 1 & 2

1. Differentiate between logical and physical DFDs
2. DFD syntax – components of DFD, their labelling and numbering
3. Be able to create a process model using DFD given a mini case
4. Understand frequently encountered DFD modeling challenges
5. Know the correspondence between systems terminology and DFD representation
6. What are the differences between use case modeling and process modeling in terms of what information is being captured in each?