Exam 2012, Lecture Project Management

Name: _____

Matrikelnummer: _____

Fachbereich: _____

Hints:

German text is permitted.
Simple calculator is permitted.
Dictionary is permitted.
No computers. No books.
Rather write less.

Good luck!

Credits

1	2	3	4	5	6	Sum
68	34	17	10	12	50	191

Version History

Version	Status	Date	Comment	Responsible
1.0	Finished	21.02.2011	Initial Version	Malte Foegen

1. Multiple Choice (68 credits)

Tick ONE answer per question.
Every right answer gives 2 credits; every wrong answer deducts 2 credits.

1) What is the definition of „project“?

☐ A project involves a unique team that creates a quality product
☐ A project is a temporary endeavor undertaken to create a unique product or service
☐ A project is a repeatable endeavor undertaken to deliver a good service
☐ A project is a temporary endeavor undertaken to create a repeatable product.

2) What is CMMI?

☐ CMMI is a systematic collection of best practices
☐ CMMI is a checklist for quality assurance
☐ CMMI is a method for project management
☐ CMMI is a certification model

3) What is the structure of CMMI?

☐ CMMI has several process areas with generic goals and generic practices.
☐ CMMI has several best practices. Each best practice has a set of specific practices.
☐ CMMI has several categories that contain process areas. Each process area has a purpose, specific goals and specific practices.
☐ CMMI has several categories that contain methods. Each method has best practices.

4) What is a Maturity Level?

☐ The maturity levels define an improvement path, and they are recognized hallmarks
☐ A maturity level is a certification level
☐ A maturity level is a skill level of a project manager
☐ Five maturity levels are used to describe the quality of the software a company produces

5) What are the Maturity Levels?

☐ Initial, Unmanaged, Managed, Quantitatively Managed, Perfectly Managed
☐ Undefined, Managed, Defined, Quantitatively Managed, Repeating
☐ Initial, Managed, Defined, Quantitatively Managed, Degrading
☐ Initial, Managed, Defined, Quantitatively Managed, Optimizing

6) What is a capability level?

☐ A capability level contains generic management practices that describe the activities needed to establish and maintain a way of work (institutionalize a way of work)
☐ A capability level contains specific practices that describe engineering capabilities
☐ A capability level is a certification level of a project manager
☐ A capability level is an award given by the quality department

7) How are CMMI and agile methods related?

☐ CMMI and agile methods are incompatible
☐ CMMI is for certification and has no relation to agile methods
☐ Agile methods are possible “how-to’s” for CMMI practices
☐ CMMI is for certification only and does not help an agile team

8) What is the purpose of Requirements Management (REQM)?

☐ The purpose of ‘Requirements Management’ is to manage the requirements of the project's products and product components and to identify inconsistencies between those requirements and the project's plans and work products
☐ The purpose of ‘Requirements Management’ is to develop the requirements of the project's products and product components and to develop the project's plans
☐ The purpose of ‘Requirements Management’ is to develop a requirements document and to hand it over to the development team
☐ The purpose of ‘Requirements Management’ is to protect the project team from any changes to the requirements

9) How does Scrum manage changes to the requirements as they evolve during the project?

☐ Changes to the requirements are not allowed at any time.
☐ Changes to the requirements are allowed at any time. The Development Team starts working on them immediately.
☐ Changes to the requirements are allowed at any time. The Product Owner puts them into the Product Backlog. They are discussed in the next Sprint Planning.
☐ Changes to the requirements are allowed if the Development Team gives permission to the change.

10) How does a Scrum Team develop an understanding with the requirements providers on the meaning of the requirements?

☐ The team’s manager protects the team from the customer to ensure that the team implements the cheapest solution possible in order to maximize the profit of the project.
☐ The Customer writes a requirements specification document. The team discusses the specification with the project manager.
☐ The Project Manager discusses the requirements with the customer and informs the team members about their tasks.
☐ The Product Owner is the requirements provider. The Development Team develops an understanding with Product Owner on the meaning of the requirements during Grooming and Sprint Planning.

11) What is NOT an example for requirements?

☐ Product Backlog with User Stories
☐ Requirements specification
☐ Issue List
☐ Change request specification

12) What is the purpose of Project Planning (PP)?

- ☐ The purpose of 'Project Planning' is to establish and maintain plans that define project activities.
- ☐ The purpose of 'Project Planning' is to write a schedule.
- ☐ Project Planning has no purpose. It is overhead.
- ☐ The purpose of 'Project Planning' is to estimate and control the budget.

13) How does Scrum obtain commitment from relevant stakeholders responsible for performing and supporting plan execution?

- ☐ The Team commits (in Sprint Planning) which items of the Product Backlog it will deliver in the next Sprint. The Product Owner commits to no change of the Product Backlog items delivered in the current Sprint.
- ☐ The quality assurance department reviews the Sprint Backlog and gives permission to start the next Sprint.
- ☐ The Product Owner specifies how many items of the Product Backlog the Team must deliver in the next Sprint. If the Team does not object, the Team is committed.
- ☐ In Scrum there is no commitment. Everyone can change his mind at any time.

14) How does a Scrum Team establish estimates of work Product and task attributes with the Planning Poker technique?

- ☐ Every Product Backlog item is estimated with effort in person days.
- ☐ A Scrum team does not estimate.
- ☐ Every Product Backlog item is estimated with Story Points. Story Points are relative effort.
- ☐ Product Backlog items are not estimated. Tasks are estimated with effort in person days.

15) What is NOT an example of a top-level work breakdown structure (WBS) to estimate the scope of the project?

- ☐ Task column in MS Project
- ☐ Product Backlog
- ☐ To-Do list
- ☐ Graph with the key deliverables of a project

16) What are elements of a project plan according to CMMI?

- ☐ Budget and Schedule, Project Risks, Data Management, Project's Resources, Needed Knowledge and Skills, Stakeholder Involvement
- ☐ Requirements, Budget and Schedule, Project Risks, Project's Resources, Needed Knowledge and Skills,
- ☐ Measurements, Budget and Schedule, Project Risks, Project's Resources, Stakeholder Involvement
- ☐ Budget and Schedule, Project Risks, Project's Resources, Communication Plan, Escalation Plan, Negotiation Plan

17) What is the purpose of Project Monitoring and Control (PMC)?

- ☐ The purpose of 'Project Monitoring and Control' is to measure the progress of the implementation of the requirements.
- ☐ The purpose of 'Project Monitoring and Control' is to report the project's progress to management.
- ☐ The purpose of 'Project Monitoring and Control' is to provide an understanding of the project's progress.
- ☐ The purpose of 'Project Monitoring and Control' is to provide an understanding of the project's progress so that appropriate corrective actions can be taken when the project's performance deviates significantly from the plan.

18) How does Scrum monitor the actual values of the project planning parameters against the project plan?

- ☐ The Product Owner monitors progress of the product with the Release Burndown.
- ☐ The Development Team monitors progress of the Sprint with the Sprint Backlog and the Sprint Burndown.
- ☐ The Product Owner monitors progress of the product with the Release Burndown. The Development Team monitors progress of the Sprint with the Sprint Backlog and the Sprint Burndown.
- ☐ The Scrum Master monitors the progress of the Sprint with the Sprint Burndown.

19) How does Scrum periodically review the project's progress, performance, and issues?

- ☐ Sprint Planning
- ☐ Sprint Retrospective
- ☐ Daily Scrum
- ☐ Risk Review

20) How does Scrum review the project's accomplishments and results at selected project milestones?

- ☐ Sprint Planning One and Sprint Planning Two
- ☐ Grooming
- ☐ Daily Scrum and Sprint Review
- ☐ Sprint Review and Sprint Retrospective

21) What is the purpose of Risk Management (RSKM)?

- ☐ The purpose of 'Risk Management' is to identify potential problems before they occur so that risk handling activities can be planned and invoked as needed to mitigate adverse impacts on achieving objectives.
- ☐ The purpose of 'Risk Management' is to identify problems and to track them until they have been solved.
- ☐ The purpose of 'Risk Management' is to identify potential problems before they occur so that risk can be reported to higher level management.
- ☐ The purpose of 'Risk Management' is to identify risks so that the extra costs of project can be calculated and budgeted.

22) Why are risks evaluated and categorized using the defined risk categories and parameters?

- ☐ To gather as many risks as possible
- ☐ To group the risks so that it is easier to identify the problems that occurred
- ☐ To make management reports more readable
- ☐ to assign a relative importance to each identified risk to determine when appropriate management attention is required.

23) What is NOT an adequate risk mitigation action?

- ☐ Risk ignorance: ignoring risks to ensure lower management attention
- ☐ Risk control: taking active steps to minimize risks
- ☐ Risk monitoring: watching and periodically reevaluating the risk for changes in assigned risk parameters
- ☐ Risk acceptance: acknowledging risk but not taking action

24) How does Scrum identify and monitor risks?

- ☐ Scrum does not explicitly address risks.
- ☐ Risk management is discouraged by Scrum.
- ☐ Risk identification is part of the Sprint Retrospective.
- ☐ Scrum projects do not have risks.

25) What is the purpose of Supplier Agreement Management (SAM)?

- ☐ The purpose of 'Supplier Agreement Management' is to write and manage contracts for the acquisition of products and services from suppliers.
- ☐ The purpose of 'Supplier Agreement Management' is to put pressure on suppliers to make sure they do their best.
- ☐ The purpose of 'Supplier Agreement Management' is to manage the acquisition of products and services from suppliers.
- ☐ The purpose of 'Supplier Agreement Management' is to report the performance of suppliers.

26) What is the purpose of Measurement and Analysis?

- ☐ The purpose of 'Measurement and Analysis' is to develop and sustain a measurement capability used to support management information needs.
- ☐ The purpose of 'Measurement and Analysis' is to develop extensive measurements to ensure management has as much data as possible.
- ☐ The purpose of 'Measurement and Analysis' is to provide higher level management with key data.
- ☐ The purpose of 'Measurement and Analysis' is to establish a financial controlling function used to support government information needs.

27) What is NOT a measurement to track the progress of the project?

- ☐ Burndown Chart
- ☐ Earned Value Grafik
- ☐ Milestone Trend Grafik
- ☐ Excel sheet with budget data

28) What are the roles of Scrum?

- ☐ Customer, Product Designer, Development Team, Scrum Master
- ☐ Requirements Engineer, Developer, Architect, Tester, Scrum Master
- ☐ Manager, Product Owner, Development Team, Scrum Master
- ☐ Product Owner, Development Team, Scrum Master

29) What are the events of Scrum?

- ☐ Sprint Planning One, Sprint Planning Two, Daily Scrum, Grooming, Sprint Review, Sprint Retrospective
- ☐ Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective
- ☐ Sprint Planning One, Sprint Planning Two, Daily Scrum, Grooming, Sprint Review
- ☐ Sprint Planning One, Sprint Planning Two, Sprint Review, Sprint Retrospective

30) What should a Product Owner NOT do?

- ☐ Add or change User Stories in the Product Backlog during the Sprint
- ☐ Prioritize User Stories in the Product Backlog
- ☐ Define how much User Stories must be done in the next Sprint
- ☐ Explain User Stories to the team during the Sprint

31) The purpose of the the Daily Scrum is ...

- ☐ that team members communicate and exchange information
- ☐ that team members report their status to the Scrum Master
- ☐ that team members report their status to the Product owner
- ☐ that team members discuss and solve technical impediments as a team

32) What is NOT a result of Sprint Planning One?

- ☐ Report of the team how much it has accomplished in the last Sprint
- ☐ Updated Product Backlog
- ☐ Forecast of the items in Product Backlog that will be completed in the next Sprint
- ☐ Story point estimation for User Stories

33) What is the result of Sprint Planning Two?

- ☐ Sprint Backlog
- ☐ Detailed Product Backlog
- ☐ Story Point estimation for all User Stories
- ☐ Prioritized Product Backlog

34) What is the velocity of a Scrum Team?

- ☐ The velocity describes how many Story Points the Scrum Team delivers per Person day (SP/PD)
- ☐ The velocity describes how many Story Points the Scrum Team finished in the last Sprint
- ☐ The velocity is calculated for every team member and describes how fast a team member is
- ☐ The velocity describes how fast the milestones pass by

2. *Earned Value (34 credits)*

a) Define the Earned Value metrics (12 credits)

	Name	Metric
BCWS		
ACWP		
BCWP		
SV		
CV		
SPI		
CPI		
CSI		
BAC		
EAC		
PAC		
TAC		

b) Calculate the Earned Value, which the project had on the 23.03.2012 and forecast the budget at completion. (24 credits – only for SV, CV, SPI, CPI, BAC, EAC, PAC, TAC).

Result	Work Planned	Budgeted Cost	Work Completed	Actual Cost	BCWS	ACWP	BCWP
Requirements specification	07.02.	7	07.02.	8			
Usability Document	10.02.	10	11.02.	8			
Wireframes	13.02.	5	16.02.	4			
Class Diagram	14.02.	3	26.02.	9			
Database Structure	26.02.	16	01.04.	20			
Web usage reporting tool integrated	03.03.	9	13.08.	1			
Web page texts	10.03.	4	17.03.	5			
Screens implemented as designed	12.03.	7	20.03.	3			
Integrated feedback feature	16.03.	5	23.03.	7			
Included printing function	18.03.	8	28.03.	9			
User validation session	22.03.	2					
User Acceptance Test	1.04.	9					
Lessons Learned	5.04.	1					
Sums	----		-----				

SV	
CV	
SPI	
CPI	
BAC	
EAC	
PAC	
TAC	

3. *Risk Management (17 credits)*

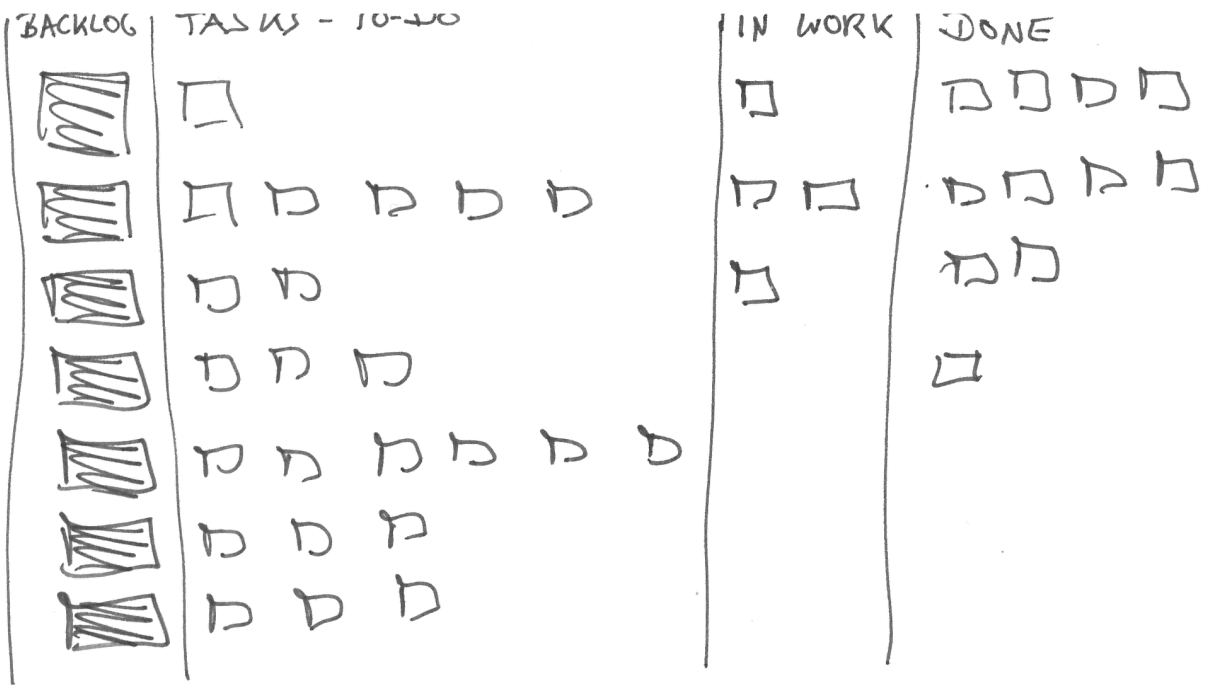
List the **goals** and **practices** of Risk Management (RSKM)

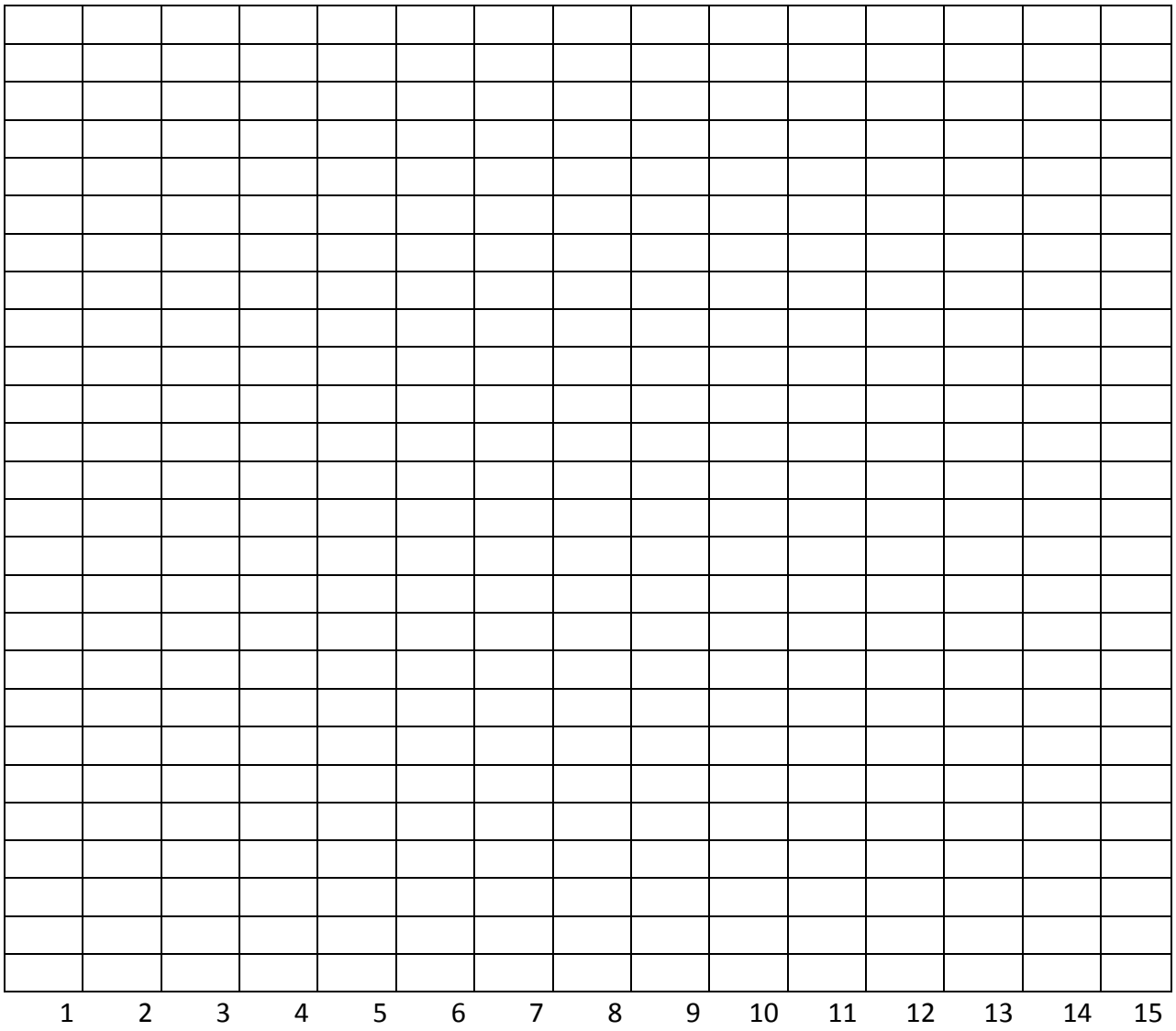
4. Generic Practices (10 credits)

List the **generic practices** of GG2: institutionalize a managed process.

5. *Burndown Chart and Daily Scrum (12 credits)*

a) Look at the Sprint Board. It is day 5 of 15. Draw the Sprint Burndown Chart (6 credits)





b) What are the 3 questions in the Daily Scrum (6 credits)?

6. Case Study (50 Punkte)

Read the following case study. Identify the problems of the project.

- Mark the text where you identify a problem
- Specify the specific or the generic practice of CMMI where you think the problem is
- Name the problem

The project YUMMI develops a software system to manage rooms for classes at the University. YUMMI uses Scrum. YUMMI has 3 development team members. There is one product owner, Lisa. There is also a professor (Josh) from the university who wants the system.

The Case	CMMI Practice	Problem
The customer, professor Josh, has not much time. Therefore the product owner writes all the user stories in the Product Backlog. Sometimes Josh does have time. Then he comes to the grooming meetings and reprioritizes often things prioritized by the product owner. He also comes sometimes to the Sprint Reviews.		
The project uses an external supplier because it is under much pressure. They have a contract with the external team for the delivery of some components of the system. The team assigns results (components of the system) to the external team and agrees dates with the external team. These dates often do not correspond with the Sprint Review dates. Therefore the team has often difficulties to finish the user stories till the Sprint Review.		
The Team perform with all 3 team members the daily Scrum.		
During the Sprint, the team manages its task with a Sprint Board. Not all		

team members think that Scrum is good, so some team members do not put all their tasks on the board.		
In the company of YUMMI (with 100 people) there is a manager responsible for the YUMMI team (and 10 other people). He talks to the product owner to ask him about the progress of the project. The product owner is an old project manager, so he has the classic reports the company always uses. The manager is happy with these reports.		
The Release Burndown chart shows that the project will finish 6 Sprints later than planned. However, the product owner thinks that the team will catch up. The manager never comes to the Daily Scrums, so he does not know.		
Because there is so much pressure, and because the external supplier often does not deliver on time, the last Sprint Review was cancelled. Sprint Retrospectives have never been done in the team.		
The team does not have a Scrum Master. Instead, the product owner does this, too.		