

February, 21th

**1. Question - (3 points)**

The student has to provide a classification of Business Processes.

**2. Question - (3 points)**

The student has to describe the life cycle of an activity instance and the one of a single work item. Then make clear the relationships between them.

**3. Question - (3 points)**

The student has to answer the following questions considering BPMN standard.

- What kind of events can be used to start a process?
- Can pools and lanes be used within the sub-process?
- What is the difference between the untyped end event and the terminate end event.

**4. Question - (3 points)**

What are the Dijkman's rules to transform BPMN start event, task, and-join, or-join, and-split and or-split into Petri Net?

**5. Exercise - Visualise this process using BPMN (7 points)**

A travel agency wants to establish a booking service. The service is triggered by an incoming request and can return two different messages, either an unavailable notification or a confirmation. The business process of the service starts by first checking the request. If for certain reasons the request can only be handled manually by an employee (e.g. group travels), a sub-process for manual handling is activated. Otherwise, the process enters a transactional sub-process, where a bus and hotel booking occur in parallel. However, if one of these fails, the transaction is canceled, a log message is written and the unavailability message is sent. If both bookings succeed, an attraction is booked by invoking another service. The only thing that could go wrong is a timeout; i.e. the attraction booking service is not responding in time. If this happens, a manual handling of the booking has to be made. If the attraction booking invocation succeeds, a confirmation is sent. The manual handling always results in a successful booking in which case a confirmation message is sent.

**6. Exercise - Modelling the following Compliance Rule Graphs (7 points)**

1. Before an exam may be done, first the student has to attend classes.
2. The day before exam the student need to get enough sleep.
3. While waiting for the exam to begin, avoid speaking to any nervous students and absorbing their negative energy.
4. During the exam, check how much each question counts towards your final mark and then spend time on each answer accordingly
5. If the exam is not booked it must not be done.
6. After performing the exam and before receiving the results, the student have to relax.
7. After exam registration a decision has to be made (accept or reject the mark). However, this must not be done before receiving the results.

**7. Exercise - Modelling Abstractions (7 points)**

The student has to transform the following BPMN collaboration in a BPMN choreography.

