



## **Sistemi Informativi (per il settore dell'informazione)**

Anno Accademico 2018-19

Prof. Cinzia CAPPIELLO

Prof. Barbara PERNICI

Prof. Monica VITALI

### **Exam 9-9-2019**

Duration 2h

Surname and Name

Registration number

Signature


Question	1	2	3	4	5	TOT
Max mark	5	5	5	9	8	32
Mark						

Please, remember that:

- It is not possible to look at books or notes.
- Only the answers in these sheets will be evaluated. Other sheets will be not considered for the evaluation.
- It is necessary to answer (also partially) to all the questions in order to get a sufficient score.
- It is not allowed to use the mobile phone

**Exercise 1 [5 points]**

Illustrate the classification algorithms and discuss their usefulness in analytical CRM.

**Exercise 2 [5 points]**

Discuss the general properties of cloud computing, focusing in particular on service delivery models.

**Exercise 3 [5 points]**

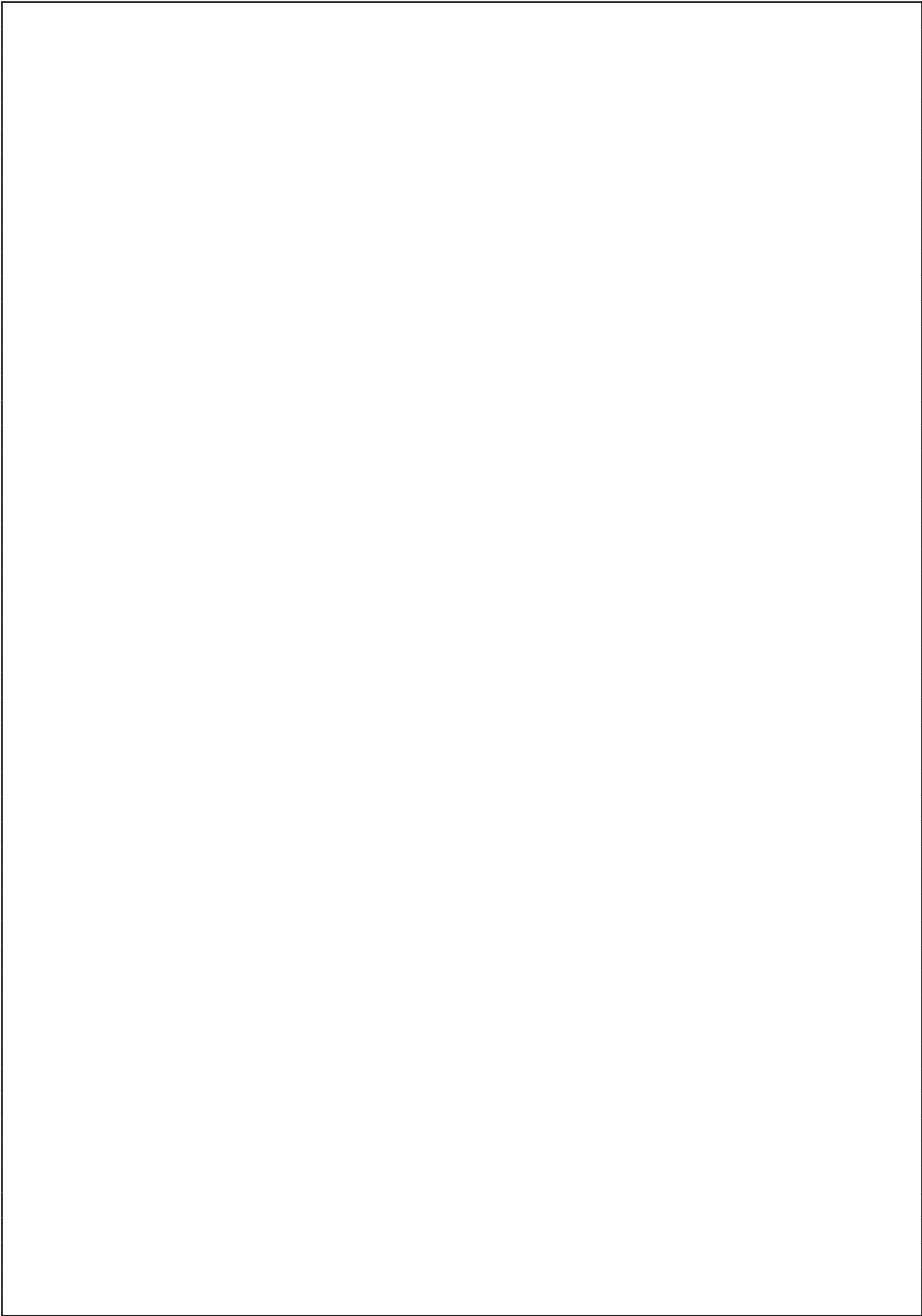
Describe the characteristics of the hash function and highlight its role in the digital signature.

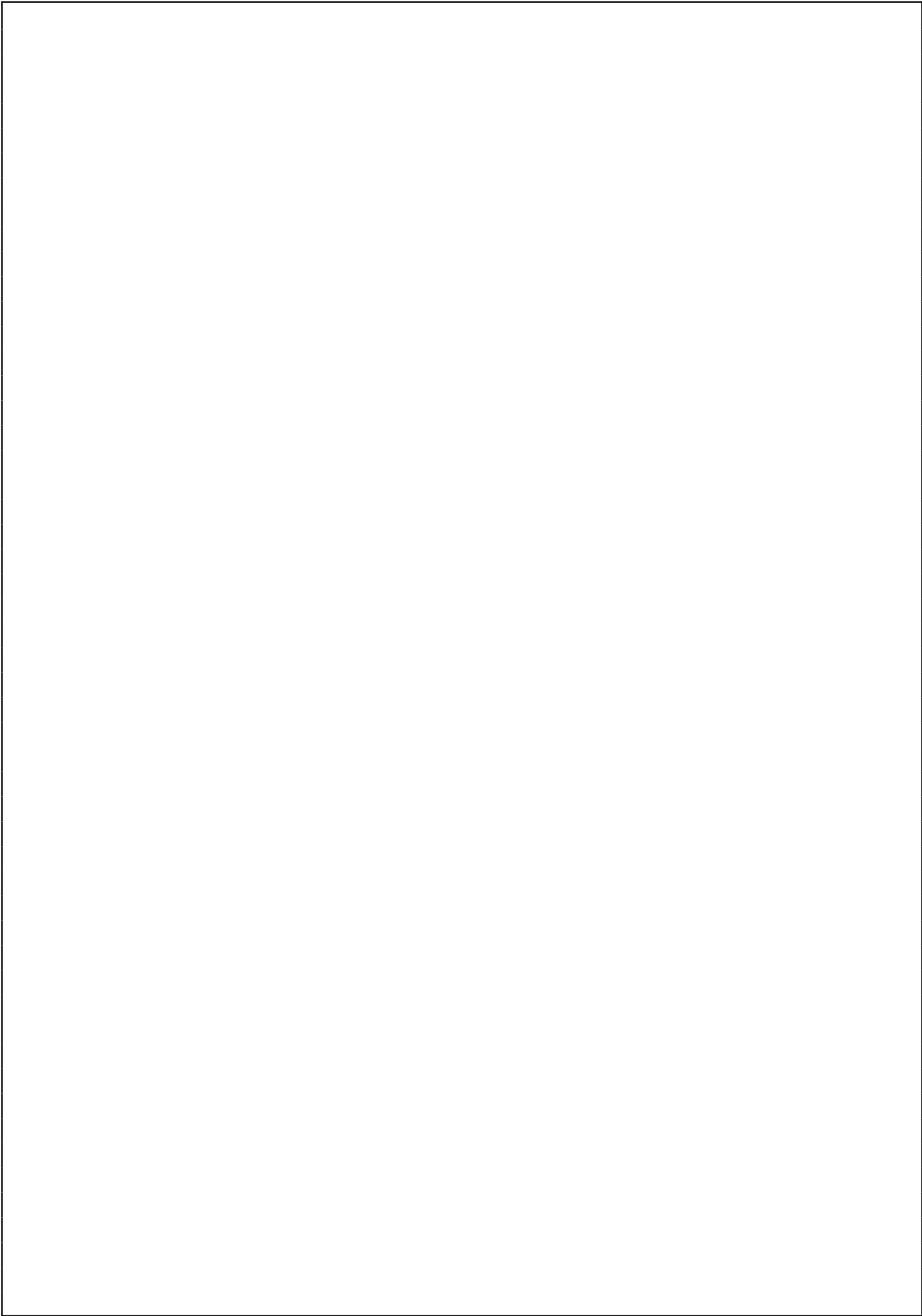
#### Exercise 4 [9 points]

CuffiaMi is a Milanese company that produces headphones for other companies. The managers of the company have decided to update the information system in order to offer its customers the possibility of interacting with the company also via the web, adding this new channel to the telephone channel that is already present. In this way, they are willing to increase the company's customer base. The company offers its customers sales, support and shipping services. CuffiaMi uses the services PagaMi to make customer payments, and SendMi to ship products to customers. For these services, managers have opted for the creation of the backend from scratch using a buy approach for managing customers and inventory. All modules are on-premise.

With reference to the text above, design, using the BOAT approach:

- the business model for the scenario, in tabular form
- the level 4 organizational model
- the party level diagram.





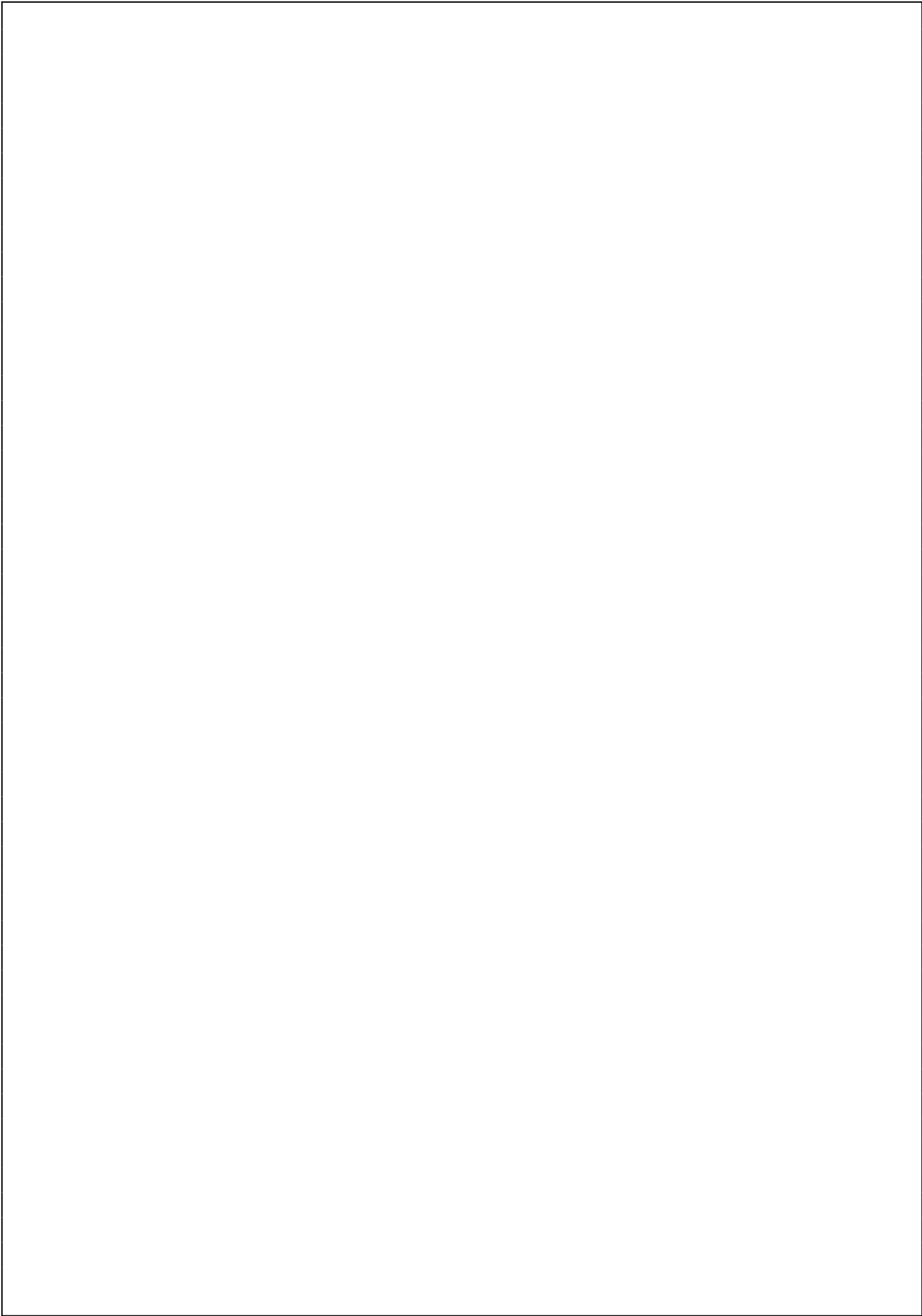
### Exercise 5 [8 points]

Model the headphone production and test management process of the company CuffiaMi.

CuffiaMi is a Milanese company that produces high quality music headphones. The process starts every first day of the month when the CuffiaMi warehouse performs a check on the quantity of headsets in stock. If the check does not show a lack of headphones, then the process ends. Otherwise, the warehouse estimates the quantity of headphones that must be produced and informs the production department of the company CuffiaMi which organizes the shifts of the employees for the production and decides the starting day for the production. On the day of production start-up, for each component of the headphones to be produced, the production department checks if the quantity of components available is sufficient: in the negative case the warehouse retrieves the components, in the positive case the process continues with the production phase. The production of headphones cannot take more than 15 days; if this happens, the production is suspended, the warehouse takes in charge the finalized headphones and the process ends. If the production ends regularly (within 15 days), the production department sends a sample of headsets to be tested to some external companies. Each tester company analyzes the aesthetic part of the headset then, simultaneously, analyzes the insulation and the acoustics. Once finished with these tests, the tester company performs the structural test. Then it sends a feedback to the production department. Once all the feedbacks have been received, the production department analyzes them: if the feedbacks are more than 90% positive, then the production department sends the headphones to the warehouse and the process ends. Otherwise, it discards the production and asks for more details from all the test companies that sent negative feedbacks. The test companies wait for 20 days to receive a message requesting more information. If they receive it, they respond to the request and the process ends, otherwise the process ends at the end of the 20 days.

Model the process, using the BPMN notation.





--