



## Politecnico di Milano

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### Workgroup and Workflow Management Systems-Written Test of Sep. 22<sup>nd</sup>, 2011

Family name \_\_\_\_\_ First name \_\_\_\_\_ Politecnico ID # \_\_\_\_\_

Master Course in \_\_\_\_\_

*Please, fill in this sheet carefully.* All answers must be provided on this sheet, which must be returned at the end of the test. No additional sheet will be considered<sup>1</sup>.

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**Rules.** The examination is passed if the student obtains at least 13 points out of a total of 25 points available for this test, and the grand total of obtained points, including those obtained with a presentation or a project, is greater than or equal to 18. Use of books, handbooks, lecture notes is not permitted: only the sheets provided by the teacher can be used. All the questions must be answered, at least partially: tests in which even one question has not been answered will not be evaluated. Duration of the test: 2 hours.

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### Exercises

(1) Provide an example on how to map into a workflow schema the detection of a synchronous event which may occur at any case completion time.

space reserved to your answer

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<sup>1</sup>**Remark.** Complete specifications whenever needed. Clarity and order will be taken into account for the evaluation.

(2) The Books4All bookshop offers books to customer through an online system. Books4All holds some items in stock, and orders missing items from its suppliers, if needed. The customer sends a purchase order with details about the required book(s) and number of copies to Books4All. Books4All checks whether all the required products are in stock or if they need to be ordered to suppliers.

In case of order to suppliers, the preferred supplier is asked: in case of a negative answer, a second supplier is asked. If the purchase order can't be satisfied, the customer is informed and Books4All rejects the order. If needed, Books4All waits for the supplier to deliver the required books(s). When all the ordered products are in stock at Books4All, the warehouse department packages and hands them over to the shipment service, which notifies the customer about the shipment. In parallel with the packing and shipment, the payment subprocess is performed: the customer decides the payment style and provides Books4All with payment details.

Provide a reasonable schema of the outlined process(es), according to the modeling formalisms of WIDE. Please, suitably model all the *pre-conditions* and *post-conditions* of every task.

(3) With respect to the process described in Exercise 2, provide an example of a reasonable mapping of the *information* model onto tables of a relational DBMS.

space reserved to your answer - exercise 3

space reserved to your answer - exercise 2

(4) Highlight the main differences between a Workgroup System and a Workflow Management System and provide an example of a process suitably managed by each of them, respectively.

space reserved to your answer

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This part for use by the teacher, only.

Ex. 1	Ex. 2	Ex. 3	Ex. 4	Total
4	12	5	4	25

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