



Final Examination

Date: June 14th 2021; Duration: 120 minutes, starting at 10:15 AM

Open-book; Online

Students are required to open the camera through the examination and not shared anything to others

SUBJECT: Web Application Development (IT093IU)	
Approval by the SCSE Signature 	Lecturer: Dr. Sinh Nguyen Signature 
Full name: Dr. Tran Thanh Tung	Full name: Dr. Nguyen Van Sinh
Proctor 1 Signature	Proctor 2 Signature
Full name:	Full name:
STUDENT INFO	
Student name:	
Student ID:	

INSTRUCTIONS: the total of point is 100 (40% of the course) including two parts

1. *Purpose:*

- Test your knowledge about the web application development.
- Examine your skill in analysis and design a web application by using UML tool.
- Test your knowledge in web design (for front-end) and web programming (for back-end)
- Evaluate your English skill in analyzed writing.

2. *Requirement:*

- Read carefully each question, write your answer and source code including diagrams.
- Present CLEAN and TIDY directly on the two sides of page A4.
- For each page, take a picture, connect them to a pdf file for submission on the Blackboard.

Part A. The theory (20 points)

List three popular frameworks that are technical trends in recent years to develop a web application. For each of them, write down their advantages and disadvantages and making a comparison between them (e.g. tools, techniques, programming languages, API, Libraries, etc.)

Part B. The practice is based on the context as follows: (80 points)

You are ordered to develop a web-app based on J2EE for managing an **online book store** (OBS). The OBS application must meet the following criteria:

- Users can access to view full information of books for ordering and buying online.
- Web-admin can update full information of books.
- Shop-owner can access to check and see statistical reports of the whole activities of the store

Request:

- 1) Write a clear description that cover all requirements (assumption, objectives, techniques, database system that is used and functionalities) of this application (10 points)
- 2) Draw and explain in detail: a use-case diagram (10 points), a relational table diagram for database system (10 points) and an MVC architecture diagram of this application (10 points).
- 3) Write a page (Login.jsp) that allow user login by using his/her account. It will processed by a Servlet in the back-end side, username and password are store on the Table "User" of database (10 points)
- 4) Write a page (Order.jsp) that allow user input necessary information (FullName, Address, ID-number, Phone-number, Quality). All of these information will be processed by a Servlet and connect to database for processing. When the ordering process is finished, a message will be displayed on this page (20 points)
- 5) A JavaScript file that will be integrated to check the validation Form of the Order.jsp (10 points).

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