

Uva Wellassa University, Sri Lanka
Faculty of Science and Technology
2nd Semester Examination September/October 2012
CST 224-3/CST 308-3 Rapid Application Development



Time Duration : Three Hours (03 hrs.)

Number of Pages : Three (03)

Number of Questions : Two (02)

Answer All Questions.

Instructions to Candidates

1. **Open book** – Internet facility will not provide.
2. Upload a single compressed file to the CMS. You **must name** it as your registration number (EX100001).
3. You **must add** your registration number, name as comments to each and every source files.
4. You are **not allowed** to use any external memory devices within the exam.
5. If you **try to share your codes** with your colleagues in some manner, you will be disqualified from the exam.

Question 01: JSP + Servlet

[40 marks]

Uva Wellassa University Grading system is as follows.

Scale	Grade	Points
>= 91	A+	4
>= 81	A	4
>= 76	A-	3.7
>= 71	B+	3.3
>= 66	B	3.0
>= 61	B-	2.7
>= 56	C+	2.3
>= 51	C	2.0
>= 46	C-	1.7
>= 41	D+	1.3
>= 40	D	1.0
Otherwise	E	0

Table 01:

GPA	Class
>= 3.7	First Class
>= 3.3	Second Upper
>= 3.0	Second Lower
Otherwise	General

Table 02:

University Examination Division has proposed to implement online web based GPA calculation system to find out the classes of students.

The main interface should similar to the following.

Uva Wellassa University			
GPA Calculator			
	Subject *	Credits or Hours*	Marks*
1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Calculate GPA"/>		<input type="button" value="Reset"/>	

- You should create an interface to fulfill this requirement using JSP.
- Create a Servlet named as your registration number (Ex: EX100001) and get the inputs from the JSP and calculate the Grade related to a particular subject.
- Use Grade and Points (Table 01) and calculate the GPA and send back to another JSP page with the GPA value.

Output should display whether the student has First Class, Second Upper, Second Lower or General degree (According to Table 02) with the GPA value and display the grades related the each subject.

Question 02: Swing + Hibernate + Ant

[60 marks]

Uva Wellassa University Research Symposium Committee has decided to conduct the symposium for the year 2012. At present they call for Extended Abstracts of researches to publish in the proceedings of the Symposium 2012.

In order to submit an Extended Abstract to the symposium the Authors should register in the University Symposium Registration System.

Required fields to be filled by the Authors are,

1. Email Address
2. First Name
3. Last Name
4. Field of Study (Computer Science, Agriculture, Mechatronics, etc.)
5. Title of the Research
6. University / Institute

Each Extended Abstract will receive a PaperID, which is automatically generated once the Authors are registered on the system.

- a. You should create an Interface to fulfill this requirement. Main interface should contain all the required fields mentioned above.
- b. In main interface there should be two buttons. Button "Save" should save the user given data in the database. Button "Clear" should reset all the text fields to be empty.
- c. You should create the Database using Hibernate annotations with the following properties.
 1. Schema name should be "symposium2012".
 2. Table name should be "Your_Registration_Number (Ex: EX100001)".
 3. Primary Key of the Table should be PaperID and it should be auto incremented.
 4. Email Address, First name and Research Title should be not null.
 5. Insert Email Address, First Name and login data and time to another table named as Your_Regisration_Number_bk (Ex: EX100001_bk).
- d. You should create a build.xml file.
Your build.xml file should be capable of doing the following.

- Compiling java source codes to binary codes
- Creating a jar file
- Copying a jar file in to lib and dist folder (consider lib and dist folders to be located on your workspace)
- Your jar file should be able run by using an ant tool.