SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION
(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology
Second Year, Second Semester Examination – 2016
HNDIT 2412 - Software Configuration Management

Instructions for Candidates:	No. of questions : 06
Answer five (05) questions only	No. of pages : 03
All questions carry equal marks	Time : 03 hours

1. a) Why do you need Software Configuration Management (SCM)? (02 marks)

    b) What is a Configuration item (CI)? Give two examples for the following configuration items.
    i. Documentation
    ii. Milestone (03 marks)

    c) Describe the main activities in Configuration Management? (08 marks)
    d) i. What is the Configuration Management Plan? List main component of Configuration Management Plan (02+05 marks)

2. a) Define the term "Version Control System."(VCS). (03 marks)

    b) Describe the main characteristics of a Version Control System? (06 marks)

    c) List five features of good VCS (05 marks)
    d) Describe the following categories of version control software and Give examples for each version control software.
    i. Local Only
    ii. Client–Server
    iii. Distributed

    (06 marks)

3. a) What is a Software Configuration Management Library? (02 marks)

    b) Briefly describe 3 main libraries in Software configuration Management including who are responsible for that. (06 marks)

    c) What are the main roles of Configuration Management? Briefly describe them.

    (08 marks)

    d) List the main functions of VCS. (04 marks)

4. a) Differentiate Revision and Branching. (02 marks)

   b) Briefly explain the following terminology.

        i. Commit

        ii. Locking

        iii. Trunk

        iv. Conflict

        v. Tagging

                                                   (05 marks)

   c) What are the three classes of tools for SCM and briefly explain the capacity size and features for each class. (09 marks)

   d) Briefly explain agile development and Iterative development in SCM (04 marks)

5. a) Explain Version Merging using an example. (04 marks)

   b) Differentiate SVN commit and SVN update. (04 marks)

   c) Student1 **adds** a file (subject.txt) to the **Repository**. She **checks it out to her local copy to the Project1 directory**, makes a change (puts three subject on the list), and checks it back with a check in message ("Added required item."). After 1h Student2 **updates** his local working set and remove the last subject from the file

        i. Write the command to create a Repository. (02 marks)

        ii. Write the command, to create two users as Student1 and Student2.
                                                   (02 marks)

        iii. Write the command, Student1 used to import "subject.txt" file from "tmpDir" folder to the "Repository"
                                                   (02 marks)

        iv. Write the command to download "subject.txt" to a new folder called "Project1" from the Repository.
                                                     (02 marks)

        v. Write the command, Student1 used to upload the "subject.txt" to the Repository.
                                                     (02 marks)

        vi. Write the command to view the files inside the Repository (02 marks)

6. a) Explain the following commands
   i. svn --version
   ii. svnlook tree
   iii. svn diff
   iv. svn status
   v. svn log

(05 marks)

   b) Mention what is the function of Revert in subversion?   (03 marks)

   c) Suppose User1 and User2 are the two developers working on a project. User1 and User2 checkout the "account.html" from the repository. At this point, their working copies are completely synchronized with the repository. User1 completes his work very efficiently and commits his changes to the repository. Now User2's working copy is out of date.

   i. Write the command, User2 used to apply the User1's latest changes from the repository.   (03 marks)
   ii. After performing command used in part i., User2 also did the changes to his working copy. Write the command, User2 used to review his changes before the 'commit' operation.   (03 marks)
   iii. User1 found that someone had already added the code for the "account.html" file. So he was curious about who did that. Write the command, User1 used to check the log message to see more details.   (03 marks)
   iv. Suppose User1 has made changes again to his working copy. Write the command, User1 used to throw away these changes before applying the commit operation.   (03 marks)