THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. DEGREE PROGRAMME 2017/2018
CSU4302: SYSTEM ANALYSIS AND SOFTWARE ENGINEERING
NO BOOK TEST: 01

DURATION: **ONE HOUR ONLY (1 HOUR)**   Reg. No:............................

Date: **29th December 2018**   Time: **10.30am – 11.30am.**

Answer **ALL** Questions.
Write the answers on the question paper itself.

1. Fill in the blanks.

    a. .... software products are created by a software development company and sold on the open market to any customer who is able to buy them.

    b. .... software products are specially made for a particular customer.

    c. ...., ..., ... and .... are attributes of good software.

    d. ...., ... and .... are the key challenges faced by software engineers.

    e. The activities of the software process are ...., ..., ... and ....

2. Identify the most suitable 02 characteristics of the software process models from the list given below and write the correct letter in the appropriate column of the table given below.

    a. Easy to manage due to the strictness of the model

    b. Reduce development time and amount of software to develop

    c. Limited flexibility for change requests

    d. Unsatisfactory sets of requirements

    e. Complex and difficult to follow

    f. Software management is difficult because the process is not visible

    g. Generates working software quickly and early during the software life cycle

    h. Problems may arise relates to the architecture because not all requirements are gathered upfront for the entire software life cycle

    i. High amount of risk analysis

    j. Visible the misunderstanding software requirements between user and the developer

Waterfall model	Component Based Software Engineering	Incremental Model	Spiral Model	Evolutionary development

3. Underline the most suitable answer/s.

   a. Which one is not a step of the requirement engineering process?

      i. Elicitation

      ii. Analysis

      iii. Design

      iv. Documentation

   b. Consider a system where, a heat sensor detects unfamiliar behaviours in a chemical plant and alerts the security company. What kind of a requirement the system is providing?

      i. Functional

      ii. Non-Fucntional

      iii. Domain

      iv. Non of the above

   c. Consider a web based system of a Hotel. Which one is a non-functional requirement?

      i. The system enables users to place meal orders.

      ii. The system displays the hotel vacancies.

      iii. The system always responds to user clicks in less than a second.

      iv. The system notifies the user when a new order arrives.

   d. What is the interpretation if every requirement is stated in the Software Requirement Specification (SRS)?

      i. Unambiguous

      ii. Consistence

      iii. Verifiable

      iv. Completeness

   e. What are the four dimensions of Dependebility?

      i. Reliability, Usability, Availability and Safety

      ii. Availability, Reliability, Safety and Security

      iii. Availability, Reliability, Maintainability, Security

      iv. Reliability, Usability, Availability and Maintainability

4. Identify the most suitable words in the blanks by considering the critical system achievements.

Reliability Achievement	Safety Achievement
.... avoidance	.... avoidance
.... detection and removal	.... detection and removal
.... tolerance	.... tolerance

5. Provide the most suitable category of the system models for each description.

a. To show what lies outside the system boundaries.	
b. To describe the overall behaviour of the system.	
c. To describe the logical structure of data processed by the system.	
d. To describe the system in terms of object classes and their associations	

6. Write the answers in the given space

   a. What are the stages of risk based analysis, when preparing the critical system specification?

     i. ....

     ii. ....

     iii. ....

     iv. ....

   b. Name a risk decomposition strategy;

     i. ....

   c. What are the 03 system organizational structures that are widely used when doing the architecture of a system;

     i. ....

     ii. ....

     iii. ....

   d. Identify the two modular decomposition models;

     i. ....

     ii. ....

   e. Name the main 02 control styles of a system;

     i. ....

     ii. ....