TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT
Office of the Dean

Full Marks: 40
Pass Marks: 18
Time: 2 hrs.

September 2019

BIM / Sixth Semester / IT 224: Software Engineering

Candidates are required to answer all the questions in their own words as far as practicable.

Group "A"

1. ***Brief Answer Questions:*** *[10 × 1 = 10]*

   i. Why is it not a good idea to deliver prototype as a final system?
   ii. Differentiate between functional and non functional requirements.
   iii. What is architectural design?
   iv. Define stress testing.
   v. What are the advantages of test driven development?
   vi. List any four characteristics of good software.
   vii. What is System Engineering?
   viii. What is the importance of verification and validation?
   ix. Write any two requirement discovery techniques in requirement engineering process.
   x. Define repository model.

Group "B"

Exercise Problems: *[5 × 4 = 20]*

2. Write a test case for login functionality of an application.
3. Suppose we want to develop a software for alarm clock:

   The clock shows the time of the day. Using buttons user can set the hours and minutes fields individually, and choose between 12 and 24 hour display. When an alarm fires it will sound some noise. The user can turn it off, or choose to 'snooze'. If the user does not respond at all, the alarm will turn off itself after 2 minutes. 'Snoozing' means to turn off the sound but alarm will fire off after some minutes of delay. This snoozing time is pre adjustable.

   Draw the use-case diagram for above scenario.
4. Identify at least five classes of school management system. Draw the class diagram and show the possible association between the classes.
5. What is Risk driven requirement specification? Explain its process.
6. Draw sequence diagram that explains the deposit/withdrawal to/from Automated Teller Machine maintained by Financial Institution.

Group "C"

Comprehensive Questions: *[2 × 5 = 10]*

7. What is software re-engineering and why do we need to re-engineer the system? Explain the activities carried out in software re-engineering process in detail.
8. Explain any two Software process models with illustrative diagrams.