

TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT

Office of the Dean

2016

Full Marks: 40

Time: 2 hrs.

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. List the different types of software maintenance.
- ii. What is software prototyping?
- iii. What are the organizational factors that may affect the design, requirements and operation of sociotechnical system?
- iv. What is software engineering?
- v. What is evolutionary process model?
- vi. What is requirement engineering?
- vii. Define software evolution.
- viii. List two reliability metrics.
- ix. Differentiate between safety and security.
- x. What is black box testing?

Group "B"

Exercise Problems:

[5 × 4 = 20]

2. Write any five functional requirements for online business software.
3. Write a test case for a function which extracts data from database named employee and displays name of employees whose address is given as input.
4. You need a software that stores the data about people like: name, date of birth, gender, height, weight and also facilitates users to see the records of either males only or females only; see records of a person with height or weight greater than the given information; see the records of people with the given date of birth. Now write Use case diagram for this software.
5. Write the necessary characteristics of sociotechnical systems for developing secure system.
6. Write a structured specification of a requirement of a function that checks if a given value lies between 100 and 200 or not.

Group "C"

Comprehensive Questions:

[2 × 5 = 10]

7. What are the key features of testing in extreme programming? Explain how testing in Extreme programming differs from plan-driven development.
8. List Lehman and Belady's laws for system evolution.

