Tribhuvan University

Institute of Science and Technology

2076

Bachelor Level / sixth-semester / Science
Computer Science and Information Technology(CSC364)
Software Engineering

Full Marks: 60 + 20 + 20
Pass Marks: 24 + 8 + 8
Time: 3 Hours

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Group A

Attempt any Ten questions.

1 Explain system modeling with suitable example

2 What is software process model? Discuss waterfall model with its merits and demerits.

3 Discuss different types of risks which are likely to arise in software projects. Briefly explain risk analysis stage during risk management process.

4 Briefly explain functional, non-functional, and domain requirements.

5 What are rapid prototyping techniques? Briefly explain different rapid prototyping techniques

6 What is formal specification? Discuss interface specification in detail.

7 What are the activities of architectural design process? Discuss abstract machine model.

8	What is modular decomposition? Discuss object oriented model of decomposition.
9	Discuss the importance of use case diagram in object-oriented development. Draw a use case diagram for library system.
10	What is clean room software development? Discuss the characteristics of cleanroom software development.
11	Discuss path testing with suitable example.
12	Write Short notes on: a. Reliability validation b. Reverse engineering

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Group A

Attempt any two questions.

1 Explain the detail tasks in a software configuration management process with example.

2 Explain the agile software development. Compare between agile software development with
prototyping software development.

3 Compare between verification and validation. why validation is particularly difficult process?
Explain with example.

Group B

Attempt any eight questions.

4 What are the good characteristics of software? Explain.

5 Explain the process of requirement engineering.

6 Differentiate between waterfall model and spiral model.

7 Explain the software quality assurance with example.

8 Discuss the structure of SRS document.

9 Explain with example how COCOMO can be used for software cost estimation?

10 Discuss with example of reuse base software engineering.

11 Write down the software version control process.

12 Differentiate between Alpha testing and Beta testing.

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2079

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Group A

Attempt any two questions.

1 Explain how prototyping model help in developing software? Differentiate between Evolutionary and throw-away prototype model.

2 Differentiate between functional and non-functional requirement. Describe any three functional and non-functional requirement for library management system.

3 Explain in detail about the activities carried out in software configuration management. Why it is required?

Group B

Attempt any eight questions.

4 Explain the Agile software development and its applications.

5	Differentiate between software engineering and system engineering.
6	What do you understand by software quality assurance?
7	What is behavioral model? Explain with an example.
8	Explain the component based software engineering.
9	Draw use case diagram and sequence diagram for online movie ticketing system.
10	Differentiate between verification and validation. Explain the software Inspection process.
11	Differentiate between reengineering and reverse engineering.
12	Suppose that a project was estimated to be 400 KLOC. Calculate the effort and development time for organic and semidetached.