

Professional Course Examination, May 2023

(6th Semester)

BACHELOR OF COMPUTER APPLICATIONS

(Software Engineering—II)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(PART : A—OBJECTIVE)

(Marks : 25)

SECTION—I

(Marks : 15)

A. Tick (✓) the correct answer in the brackets provided : 1×10=10

1. The objective of software project planning is to provide a framework that enables the manager to make reasonable estimates of ____.

(a) resources ()

(b) cost ()

(c) schedule ()

(d) All of the above ()

2. The prototype can serve as the _____.

- (a) pre-system ()
- (b) post-system ()
- (c) first system ()
- (d) second system ()

3. A _____ is a generalization of a set of classes that are related to it.

- (a) subclass ()
- (b) superclass ()
- (c) class ()
- (d) None of the above ()

4. An attribute can take on a value defined by an enumerated _____.

- (a) domain ()
- (b) degree ()
- (c) tuple ()
- (d) None of the above ()

5. There are many reasons why software is delivered late, most can be traced to _____.

- (a) an unrealistic deadline ()
- (b) changing customer requirements ()
- (c) miscommunication among project staff ()
- (d) All of the above ()

6. A time-line chart is also sometimes called a ____.
- (a) PERT chart ()
 - (b) Gantt chart ()
 - (c) Bar chart ()
 - (d) All of the above ()
7. To build a secure system, you must focus on quality, and that focus must begin during ____.
- (a) design ()
 - (b) implementation ()
 - (c) runtime ()
 - (d) None of the above ()
8. Quality assurance establishes the infrastructure that supports ____.
- (a) solid software engineering methods ()
 - (b) rational project management ()
 - (c) quality control actions ()
 - (d) All of the above ()
9. A UML state diagram model states of a/an ____.
- (a) object ()
 - (b) class ()
 - (c) function ()
 - (d) All of the above ()

10. A sequence diagram is used to show the dynamic communications between objects during _____ of a task.

- (a) execution ()
- (b) revision ()
- (c) modification ()
- (d) All of the above ()

B. Tick (✓) whether the following statements are *True (T)* or *False (F)* : 1×5=5

1. Software project management begins with a set of activities that are collectively called project planning.

(T / F)

2. Any change to the attributes or operations contained within a superclass is immediately inherited by all subclasses.

(T / F)

3. Scheduling begins with process decomposition.

(T / F)

4. High-quality software increases risks for both the developer and the end user.

(T / F)

5. UML 2.0 provides 23 different diagrams for use in software modeling.

(T / F)

SECTION—II

(Marks : 10)

Student's Copy

C. Answer the following questions :

2×5=10

1. What are the steps of spiral model?

OR

What is agile process?

2. What are the attributes on object-oriented concept?

OR

What is OOA process?

3. Write a note on cost estimation.

OR

What is the critical path method?

4. What is the concept of 'Good enough' software?

OR

Write a note on ISO 9000.

5. Write a brief note on UML activity diagram.

OR

Write a short note on use case diagram.

(PART : B—DESCRIPTIVE)

(Marks : 50)

D. Answer the following questions :

10×5=50

1. (a) Define the term Management Spectrum 4P. Discuss various components of the management spectrum, and support your answer with a diagram. 2+8=10

OR

- (b) Briefly explain the waterfall model, and support your answer with an appropriate diagram. 10

2. (a) What is meant by class in object-oriented concept? Discuss the Polymorphism concept and its advantages in object-oriented programming. 2+8=10

OR

- (b) Define the term Design Classes. Elaborate on five different types of design classes concerning object-oriented design concepts. 2+8=10

3. (a) Write the basic concept of project scheduling. Discuss how to define a task set for the software project. 2+8=10

OR

- (b) Define a Task Network. Describe the concept of scheduling in the project scheduling environment. 2+8=10

4. (a) Explain the term Quality in Software Quality Management. Discuss McCall's quality factors that affect the software quality. 2+8=10

OR

- (b) What is Quality Control? Discuss the ISO 9126 Quality Factors. 2+8=10

5. (a) Define the term Unified Modeling Language (UML). Discuss the concept of Class Diagrams in UML. 10

OR

- (b) Briefly explain the concept of a Use Case Diagram in UML, and support your answer with an appropriate example diagram. 7+3=10
