

Professional Course Examination, May 2022

(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)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. What is the main objective of software project planning?

- (a) Estimation of resources ()
- (b) Estimation of cost ()
- (c) Estimation of schedule ()
- (d) All of the above ()

2. _____ are weak entities represented in UML diagrams by using aggregations.

- (a) Qualified segregation ()
- (b) Non-qualified segregation ()
- (c) Non-qualified aggregation ()
- (d) Qualified aggregation ()

3. Which of the following is disadvantage of OOD?

- (a) Easier maintenance ()
- (b) Objects may be understood as stand-alone entities ()
- (c) Objects are potentially reusable components ()
- (d) None of the above ()

4. What is the first activity in software project planning?

- (a) Determination of software scope ()
- (b) Determination of budget ()
- (c) Find out the team size ()
- (d) None of the above ()

5. What describes the data and control to be processed?

- (a) Planning process ()
- (b) Software scope ()
- (c) External hardware ()
- (d) Project complexity ()

6. Degree to which design specifications are followed in manufacturing the product is called

- (a) quality control ()
- (b) quality of conformance ()
- (c) quality assurance ()
- (d) None of the above ()

7. Which of the following is not a section in the standard for SQA plans recommended by IEEE?
- (a) Budget ()
 - (b) Time ()
 - (c) People ()
 - (d) None of the above ()
8. An update operation in an object instance
- (a) updates the class ()
 - (b) creates temporary object ()
 - (c) alters the state of an object ()
 - (d) deletes an instance ()
9. UML are used for
- (a) object-oriented module development ()
 - (b) coding of system ()
 - (c) testing of system ()
 - (d) All of the above ()
10. A project plan is produced as _____ commence.
- (a) software engineer ()
 - (b) management activities ()
 - (c) software professionals ()
 - (d) None of the above ()

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

11. Effective software project management focuses on the four P's : people, product, process and project.

(T / F)

12. A small number of framework activities is applicable to all software projects.

(T / F)

13. Management activity is a people-intensive activity, and for this reason, competent practitioners often make poor team leaders.

(T / F)

14. Class diagram in UML shows a complete or partial view of the structure of a modelled system at a specific time.

(T / F)

15. Encapsulation is generalization implemented in object-oriented programming languages.

(T / F)

SECTION—II

(Marks : 10)

Answer the following short-type questions :

2×5=10

1. (a) What are the advantages of spiral model?

OR

- (b) What are different task sets of project planning?

2. (a) Define domain analysis.

OR

- (b) What is the purpose of using OOPs concepts?

3. (a) What are the things to consider in scheduling the project?

OR

- (b) What is earned value analysis?

4. (a) Define McCall software quality model.

OR

- (b) What are the responsibilities of a software project manager?

5. (a) What is deployment diagram?

OR

- (b) Define collaboration diagram.

(PART : B—DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

10×5=50

1. (a) What is software project planning? Explain in brief management spectrum of 4P (people, process, product and project). 4+6=10

OR

- (b) What do you mean by agility? Explain agile process and different process models of agile. 4+6=10

2. (a) What is object-oriented analysis? Explain translation of OOA to OOD. 4+6=10

OR

- (b) What is object-oriented concept? Compare and contrast system design process and object design process. 4+6=10

3. (a) Define project scheduling. Explain critical path method and PERT. 4+6=10

OR

- (b) What is cost estimation? Explain different types of COCOMO model. 4+6=10

4. (a) What do you mean by software quality management? Explain SAQ background and activities. 4+6=10

OR

- (b) What do you mean by software review? Explain in detail ISO 9126 and ISO 9000. 4+6=10

5. (a) What is UML? Explain with a neat label diagram UML diagrams. 4+6=10

OR

- (b) What is use case diagram? Explain state machine and activity diagram. 4+6=10