

**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