

PD-277  
M.Sc. Computer Science (2<sup>nd</sup> Semester)  
Examination, June 2021  
Paper-IV  
Software Engineering

Time : Three Hours]

[Maximum Marks : 80  
[Minimum Pass Marks :

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following Multiple choice type question 1x10=10
- i- Waterfall model is not suitable for-
    - a- Small projects
    - b- Complex projects
    - c- Accommodating changes
    - d- Maintenance project
  - ii- Which model can be selected if user is involved in all the phases of SDLC
    - a- Waterfall model
    - b- Prototyping Model
    - c- RAD Model
    - d- Both prototyping & RAD
  - iii- Which is not step of requirement engineering?
    - a- Requirement elicitation
    - b- Requirement analysis
    - c- Requirement design
    - d- Requirement documentation
  - iv- How many type of cohesions are there in software design-
    - a- 7
    - b- 8
    - c- 6
    - d- 5
  - v- Which tool is used for structure designing-
    - a- Program chart
    - b- Structure chart
    - c- Module chart
    - d- All of the above
  - vi- Which is the following is a black box design technique-
    - a- Statement testing
    - b- Error guessing
    - c- Usability technique
    - d- Equivalence partitioning
  - vii- Software consists of -----
    - a- Set of instruction + operating procedure
    - b- Programs + documentation + operating procedure
    - c- Program + hardware manuals
    - d- Set of programs
  - viii- Software project management comprises of a number of activities, which contains-----
    - a- Project planning
    - b- Scope management
    - c- Project estimation
    - d- All mentioned above
  - ix- ----- can help management to make an informed decision as whether a component should be maintained or completely rewritten to reduce future maintenance cost-
    - a- Maintainability metric
    - b- Forward reengineering
    - c- System documentation
    - d- Software Engineering

- x- In risk management process what makes a note of all possible risks, that may occur in the project -
- a- Manage
  - b- Monitor
  - c- Categorize
  - d- Identification

2- Answer the following questions-

2x5=10

- i- Define software engineering
- ii- Define object models
- iii- Explain software quality
- iv- Describe client server software development
- v- What is iteration workflows

Section-B

Answer the following question.

12X5=60

3- Describe in detail process model-

- a- Incremental process model
- b- Software development life cycle

Or

Write short notes on-

- a- User requirement
  - b- Interface specification
  - c- System requirement
- 4- Explain context model, object models in detail.

Or

Write short notes on-

- a- Cohesions
  - b- Coupling
  - c- Structure design
  - d- Feasibility study
- 5- Explain software testing. Validation testing and system testing with example.

Or

Write short notes on-

- a- Software quality
  - b- Metrics for source code
  - c- Metrics for maintenance
- 6- Explain the following-
- a- Customer's role in testing
  - b- Data correction
  - c- Testing for recoverability

Or

Write short notes on-

- a- Software reuse
  - b- Software maintenance techniques
  - c- Testing plan focus areas
- 7- Explain the term software reengineering and software process workflow in detail.

Or

Write short notes on-

- a- Project control & process instrumentation
- b- Life cycle expectations
- c- Model based software architectures.