Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 07

B.Sc. (IT) (Sem.–3)

SOFTWARE ENGINEERING

Subject Code : UGCA-1921

M.Code : 78337

Date of Examination : 14-12-22

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

a) Define Software. How are its characteristics different from hardware?

b) Define Reengineering. Give example.

c) Which of the development process models would you employ for developing a web-based system for a new business where requirements are changing fast and where an in-house development team is available for all aspects of the project? Justify your answer.

d) Why is modularity a desired characteristic in software design?

e) List the main design metrics for software.

f) Differentiate between data coupling and control coupling.

g) Discuss the major advantages of OOD approach over the function-oriented design approach.

h) How do linear and iterative process models differ?

i) Discuss the need of software maintenance.

j) What is structured design methodology?

SECTION-B

2. ''*Specialized process models tend to be applied when a specialized or narrowly defined software engineering approach is chosen*.'' Comment. Discuss the component based development model in detail. Provide three examples of software projects that would be amenable to the component based process model. Be specific.

3. Explain the phases of the unified process in detail. Differentiate between validation testing and system testing.

4. What are the basic issues that an SRS must address? Differentiate between functional and non-functional requirements.

5. What do you mean by cohesion in software design? Discuss the structure of SRS. Discuss various levels of cohesion with suitable examples.

6. What are the characteristics of a good software design? Define the three software design complexity measures : structural complexity, data complexity, and system complexity with the help of examples.

7. Write a detailed note on software metrics used to estimate testing effort. What is the software maturity index and what is it used for?

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.