END SEMESTER EXAMINATION - MARCH 2025
SEMESTER 4 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE
COURSE : **21UP4CRMCP12 : SOFTWARE ENGINEERING**
(For Regular 2023 Admission and Improvement/Supplementary 2022/2021 Admissions)

Time : Three Hours   Max. Weightage : 30

PART A
Answer any 8

1. List any two problems that a software development company suffers from, if the organization structure followed is a matrix organization.
2. List any four characteristics of a good user interface.
3. List any two drawbacks of agile models.
4. State any two advantages of adhering to a standard uniform style of coding.
5. List any four function-oriented design approaches.
6. List the activities involved in project risk management.
7. State the main goal of structured design.
8. List the factors that favors the use of first model over second model in software maintenance.
9. Define the term syllable with respect to software documentation.
10. List any four desirable qualities of a good software engineer.

(1 x 8 = 8 Weight)

PART B
Answer any 6

11. Discuss the various items that should be designed and documented during the design phase.
12. Discuss how the engineering approach has been coined as a solution to the software crisis.
13. Is it at all possible to develop a highly reliable software, using validation techniques alone? If so, can we say that all verification techniques are redundant? Comment your answer with explanations.
14. Write short notes on the evolution of reuse domain.
15. Differentiate between testing and code review.
16. List all the adjustment factors of function point relative complexity.
17. "A design solution that is difficult to understand would lead to increased development and maintenance cost". Give reasonings for your answer.
18. Distinguish between high-level and detailed designs. Name the documents that should be produced on completion of high-level and detailed designs respectively.

(2 x 6 = 12 Weight)

PART C
Answer any 2

19. Describe any two approaches used in black-box testing, with an example for each.
20. Discuss the basic concepts involved in designing user interfaces.
21. Accurate estimation of project size is central to satisfactory estimation of all other project parameters such as effort, completion time, and total project cost. Explain how FP metric is used in measuring project size.
22. Elaborate on the various types of software development products.

(5 x 2 = 10 Weight)