Reg. No

B.C.A. DEGREE END SEMESTER EXAMINATION - OCTPBER 2024 SEMESTER 3 : MOBILE APPLICATIONS AND CLOUD TECHNOLOGY COURSE : 19U3CRBCA8 : SOFTWARE ENGINEERING

(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019/2018/2017/2016 Admissions)

Time : Three Hours

Max. Marks: 75

PART A Answer All (1 mark each)

- 1. List some of the factors to be considered during system modeling.
- 2. What is SCM?
- 3. What is software testing?
- 4. Define project scheduling.
- 5. List out the software life cycle models.
- 6. What do you mean by nonfunctional requirements?
- 7. Define risk monitoring.
- 8. Which are the criteria used to measure the functional independence of modules?
- 9. What do you mean by Modular decomposability?
- 10. Define data dictionary.

 $(1 \times 10 = 10)$

PART B

Answer any 8 (2 marks each)

- 11. Outline the system engineering hierarchy.
- 12. What do you mean by risk mitigation?
- 13. How do you describe the software interface?
- 14. Why software architecture is important in the software process?
- 15. Summarise the software project scheduling principles.
- 16. Why throw-away prototype should not be considered as a final system?
- 17. Distinguish between verification and validation.
- 18. What are the attributes of good testing?
- 19. What are the approaches to integration testing?
- 20. What does Level-0-DFD represent?

 $(2 \times 8 = 16)$

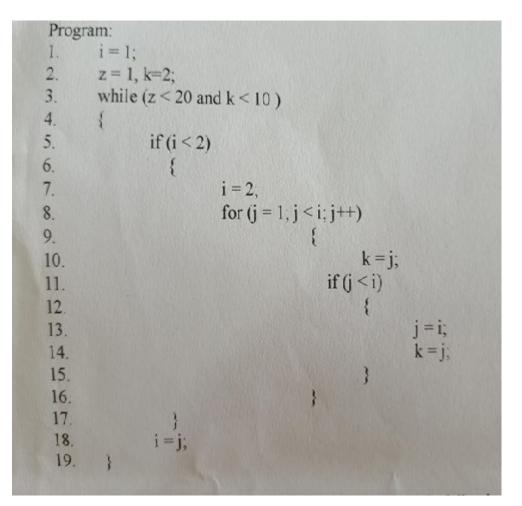
PART C

Answer any 5 (5 marks each)

- 21. List the five criteria that define an effective modular system.
- 22. Explore different feasibility studies to be conducted in the analysis.
- 23. The spiral model is one of the most effective life cycle models. Why?

Name

24. Identify variables and create define and use (DU) path.



- 25. Elaborate on the Software configuration management process.
- 26. List the task regions in the spiral model.
- 27. Discuss the project plan structure.

(5 x 5 = 25)

PART D Answer any 2 (12 marks each)

- 28. Explain iterative waterfall model and spiral model for the software life cycle with examples.
- 29. Explain different requirement elicitation techniques with its merits and demerits.
- 30. Discuss in detail about
 - a) software evolution
 - b) maintenance process
- 31. A bank hosts a program on its website that determines the maximum amount for which a credit card can be issued to a user. The maximum limit is based on user annual income and age. Following is the criteria

Age	Annual Income	Credit Card Max Limit
31<=Age<=40	3 lacs <= Income <= 5 lacs	Rs. 50,000
31<=Age<=40	5 lacs <= Income <= 10 lacs	Rs. 75,000
31<=Age<=40	10 lacs <= Income <= 15 lacs	Rs. 1 lac
31<=Age<=40	Income > 5 lacs	Rs. 2 lac
40<=Age<=50	3 lacs <= Income <= 5 lacs	Rs. 75,000
40<=Age<=50	5 lacs <= Income <= 10 lacs	Rs. 1 lac
40<=Age<=50	10 lacs <= Income <= 15 lacs	Rs. 2 lac
40<=Age<=50	Income > 5 lacs	Rs. 3 lac

a) Derive the valid and invalid sub-domains for the input variables . Justify any specific choice you make for the sub-domains.

b) Write down the sample testcases(Atleast 15).

(12 x 2 = 24)