



‘সমগ্র মন্ত্র: সাক্ষিত: সমগ্রী’

# UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 4th Semester Examination, 2023

## CC9-COMPUTER SCIENCE (42)

### SOFTWARE ENGINEERING

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Answer all questions with internal choices.*

#### GROUP-A

Answer any *five* questions

1×5 = 5

1. Define the term Software Engineering.
2. What is beta testing?
3. What are function points?
4. How testing is different from debugging?
5. Define module cohesion.
6. Define Software requirement.
7. What are non-functional requirements?
8. What is SQA?

#### GROUP-B

Answer any *three* questions

5×3 = 15

9. Distinguish between Code Inspection vs Code Walk Through.
10. Distinguish between Black Box Testing vs White Box Testing.
11. What are the different categories of software according to COCOMO estimation model? Compute the nominal effort and development time for 1 million lines of code in semi-detached software category.
12. Differentiate between software verification and validation process. Explain briefly.
13. Discuss the characteristics of good SRS.

#### GROUP-C

Answer any *two* questions

10×2 = 20

14. Explain the different types of module Coupling with example.
15. Draw DFD and ERD for the given problem. “Guests can reserve rooms in a hotel in advance or on spot depending upon the availability. The operator would add data pertaining to the guests such as name, arrival time; balance paid and type of room (i.e. AC, non AC, Deluxe, Suite). The SW should uniquely assign a token number on allotment of room. The hotel catering services manager would input the quantity and type of the food items as and when consumed by the guests along with the token number of the guest and corresponding date and time”.
16. Explain the Spiral SDLC model with its advantages and disadvantages.
17. What are the five levels of CMMI? List important features of each of these levels.

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