लक्ष्यं विद्यमानम्

WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 4th Semester Examination, 2023

CMSACOR09T-COMPUTER SCIENCE (CC9)

SOFTWARE ENGINEERING

Time Allotted: 2 Hours | Full Marks: 40

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

GROUP-A

1. Answer any ***four*** questions from the following: 2×4 = 8

   (a) Define software development life cycle.

   (b) What are umbrella activities?

   (c) Differentiate testing and debugging.

   (d) What are drivers and stubs?

   (e) Differentiate prototyping and evolutionary model.

   (f) Define alpha testing.

   (g) What is structure chart?

GROUP-B

Answer any *four* from the following 8×4 = 32

2. (a) Compare iterative waterfall model and prototype model, considering a big software. 4+4

   (b) Differentiate logical and physical DFD.

3. (a) Describe briefly, the properties of a good SRS. 4+4

   (b) Why low coupling is desirable?

4. (a) Explain differences between white box and black box testing. 3+2+3

   (b) How can the reliability of a software be assessed?

   (c) Describe top-down and bottom-up strategies of integration testing.

5. (a) What is quality? 2+2+4

(b) What is software quality assurance?

(c) Describe the software quality assurance group along with its function.

6. (a) Write a C function for searching an integer value from a large sorted sequence of integer values stored in an array of size 100 using binary search method. 2+(2+2)+2

(b) Build the control flow graph and determine the cyclomatic complexity.

(c) Design a test suit for testing the above binary search function.

7. Write short notes on any *two* of the following: 4+4

(a) Function Point Metrics

(b) Spiral Model

(c) Mutation Testing.

8. (a) What is software metrics? 2+6

(b) Suppose a project size was estimated to be 400 KLOC. Calculate the effort and development time for each of the three model i.e. organic, semidetached and embedded.

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