B.C.A. (Part-II) Examination, 2022

(Fourth Semester)

Paper : IV

BCA-404

Software Engineering

Time : Three Hours]

[Maximum Marks : 70

Note: (i) Answer *five* questions in all.

(ii) Question No. **1** is **compulsory**.

(iii) Answer remaining **four** question selecting two questions form each Section **A** and **B**.

(iv) Simple scientific calculator and log tables allowed

(v) All questions carry equal marks.

1. Answer all parts of the following.

    (a) What are various testing strategies?

    (b) Discuss the various applications of software engineering.

(c)   Explain data dictionary.

(d)   What are the principles of software design?

SECTION-A

2.   What is software fault? Explain how faults are detected found in a software system? What's software reliability and also explain the process of software review.

3.   What is DFD? Explain various rules for constructing DFD. Draw and explain the o-level and I-level DFD for an university examination system.

4.   What are the Characteristics of good test plan? What are the different objectives kept in mind while black box and white box testing?

5.   How is the size of software estimated? Explain COCOMO model of cost estimation in details.

SECTION-B

6. (a) What do you mean by architectural and procedural design? Explain in details.

   (b) Differentiate between verification and validation in brief way.

7. (a) Define software development life cycle (SDLC) and its various phases.

   (b) What is E-R diagram and discuss it with appropriate example with neat diagram.

8. (a) What is software testing? Explain why different types of testing are regained for software testing.

   (b) What is the difference between Metrics and Measurements? Explain in details with appropriates example.

9. Write notes on any two of the following.

    (a)   JAD Vs RAD Models

    (b)   Object-Oriented concepts

    (c)   Software Characteristics

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