

Bachelor of Computer Applications (BCA)

Re-appear, Examination

Dec, 2024

ENCA103- Essentials of Software Engineering

Time: 2.5 Hours

Maximum Marks: 50

Instructions:

- 1) Question No. 1 under Section-A is compulsory.
 - 2) Attempt any four from Q. No. 2 to Q. No. 6 under Section-B
 - 3) Attempt any two from Q. No. 7 to Q. No.9 under Section-C
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Section-A (Compulsory)

1. (a) Fill in the blanks with appropriate words: 3
[CO-1] [L-1]
 - (i) is performed by real users of the software application in a real environment.
 - (ii) is the probability that the ability of the hardware to perform its function for some period of time.
 - (iii) generally focuses on the functionality of the software application being delivered.
1. (b) Give the term used for the following: 2
[CO-1] [L-1]
 - (i) Testing performed to identify bugs before releasing the product.
 - (ii) Used in various engineering fields to represent complex logical relationships.
1. (c) State one function of each of the following: 2
[CO-2] [L-2]
 - (i) User Interface Design (UID)
 - (ii) Software Documentation

1. (d) Match the items given in Column-A with those in Column-B:

3

[CO-3] [L-2]

Column-A

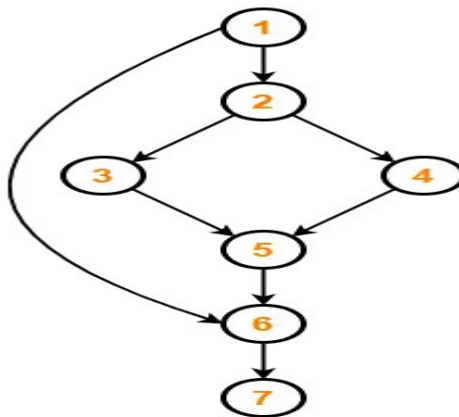
- (i) Graph is used to represent situation of Combination of input conditions
- (ii) Process of analyzing, designing and Modifying existing software systems To improve their quality and performance
- (iii) Hiding the implementation details of a system from the user

Column-B

- (a) Abstraction
- (b) Cause effect graphic based technique
- (c) Software re-engineering

Section-B

2. (a) Calculate the cyclometric Complexity of the following graph:



(b) Explain COCOMO II model in detail.

5[CO-3] [L3]

3. Elaborate reverse engineering.

5[CO-4] [L-2]

4. Illustrate all the notations for UML Diagrams

5[CO-4] [L-2]

5. Explain various levels of DFD.

5[CO-3] [L-3]

6. (a) Differentiate between Integration and system testing.

(b) Given the following values, compute function point when all complexity adjustment factor (CAF) and weighting factors are average.

User Input = 50

User Output = 40

User Inquiries = 35

User Files = 6

External Interface = 4

5[CO-3] [L-3]

Section-C

- 7. Discuss the advantages and disadvantages of the Waterfall model in software development. Provide examples of scenarios where it is suitable and unsuitable. 10[CO-] [L-]**
- 8. (a) Describe the key phases in the Software Development Life Cycle (SDLC) and their purposes**
(b) Explain Regression testing 10[CO-4] [L-1]
- 9. Name the types of acceptance testing and differentiate between them. 10[CO-3] [L-2]**