

(b) Explain software configuration management in detail. 6

7. (a) Explain the issues of software implementation and Also explain the relationship between design and implementation. 6

(b) What is requirement engineering ? Explain the steps of requirement engineering. 6

8. Explain the general architecture of CASE environment with tools. 12

9. Write short notes on the following : 4 each

(a) Software testing

(b) Validation and verification

(c) Reverse Engineering

Roll No. 0902264

BCA-403(N)

B. C. A. (Fourth Semester)
EXAMINATION, May, 2019

(New Course)

Paper Third

SOFTWARE ENGINEERING

Time : Three Hours] [Maximum Marks : 75

Note : Attempt questions from all Sections as directed.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A

(Short Answer Type Questions)

Note : All questions are compulsory. Each question carries 3 marks.

1. (A) Describe IEEE definitions of software engineering. Explain the basic difference between program and software.

(B) What do you understand by functional and non-functional requirements ?

(C) What do you understand by problem domain in software development life cycle.

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3,100

(B-10)

(B-10) P. T. O.

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- (D) Define the following terms in software designing :
- (i) Modularity
 - (ii) Abstraction
- (E) Explain coding guidelines and good coding style in software implementation.
- (F) What do you mean by SEI capability maturity model (CMM) ?
- (G) Explain various cost-estimation techniques. Explain the importance of KLOC and effort estimation in calculation of software cost.
- (H) What are the main reasons of higher software maintenance cost ?
- (I) How does CASE support in software engineering ?

Section—B

(Long Answer Type Questions)

Note : Attempt any *two* questions. Each question carries 12 marks.

2. (a) What do you understand by Risk Analysis ? With the help of a diagram, explain spiral model. Write the weakness and strength of spiral model. 8
- (b) Explain the characteristics of software quality. 4
3. (a) Explain important issues of SRS. Define component and structure of SRS. 8
- (b) What do you understand by review for correctness in requirement analysis ? 4

(B-10)

[3]

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4. (a) Explain various software design principles in detail. Differentiate between top-down and bottom-up approach of designing. 8
 - (b) Differentiate between function-oriented and object-oriented programming. 4
 5. (a) What are the effects of module coupling and cohesion ? If the module has logical cohesive, what kind of coupling is this module likely to have with others ? 6
 - (b) What do you understand by balancing a DFD ? Draw the data flow diagram (DFD) for the following description. Starting from zero level. 6
- A Software has to be developed for automating the manual library of a University. The system/software designed to provide functionalities as explained :
- issue of books
 - return of books
 - query processing
 - report generation
- (Consider as library management system)

Section—C

(Long Answer Type Questions)

Note : Attempt any *two* questions. Each question carries 12 marks.

6. (a) What is the need of software maintenance ? How are these maintained for client-server architecture environment. 6

(B-10)