Roll No. ....

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.

(B-10) P. T. O.

(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) ? http://csjmuonline.com

(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

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) 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