(viii) An independently deliverable piece of functionality providing access to its services through interface is called :

(a) Software measurement

(b) Software composition

(c) Software measure

(d) Software component

(ix) Which one is not a step of requirement engineering ?

(a) Requirements elicitation

(b) Requirements analysis

(c) Requirements design

(d) Requirements documentation

(x) Which one is not a strategy for design ?

(a) Bottom up design

(b) Top down design

(c) Embedded design

(d) Hybrid design

Section A

2. (a) Discuss the Software Development Life Cycle (SDLC) giving description of various phases of development. **10**

No. of Printed Pages : 06 **Roll No. .....**

D-163

B.C.A. EXAMINATION, May 2017

(Fourth Semester)

(Old Scheme) (Re-appear Only)

(BCA)

BCA-206

SYSTEM ANALYSIS & DESIGN

Time : 3 *Hours*] [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Q. No. **1** is compulsory. Attempt any *four* questions out of Sections A, B and C by selecting at least *one* question from each Section.

1. Attempt all questions. **2×10**

(i) A data dictionary is usually developed :

(a) At requirements specification phase

(b) During feasibility analysis

(c) When DFD is developed

(d) When a database is designed

(ii) By the term "expandable code" we understand that the code :

(a) conveys information on items being coded

(b) is of small length

(c) can add new items easily

(d) includes all relevant characteristics of item being coded

(iii) Requirements review process is carried out to :

(a) Spend time in requirements gathering

(b) Improve the quality of SRS

(c) Document the requirements

(d) None of the above

(iv) Level-0 DFD is similar to :

(a) Use case diagram

(b) Context diagram

(c) System diagram

(d) None of the above

(v) APIs stand for :

(a) Application performance interfaces

(b) Application programming interfaces

(c) Application programming integration

(d) Application performance integration

(vi) SDLC stands for :

(a) Software Design Life-cycle

(b) Software Development Life-cycle

(c) System Development Life-cycle

(d) System Design Life-cycle

(vii) Statistically, the maximum percentage of errors belong to the following phase of SDLD :

(a) Coding

(b) Design

(c) Specifications

(d) Installation and maintenance

(b) Define a system and discuss various types of systems. Write down various elements of a system. **10**

3. (a) Give the structure of a Project Plan and its components in brief. **10**

(b) Write a note on the Feasibility Study and discuss Cost Benefit Analysis. **10**

Section B

4. (a) Discuss Data Flow Diagram (DFD) and draw a DFD that specifies evaluation of the expression (a+b)*(c+a*d). **10**

(b) Taking a suitable example, explain the concept of Data Dictionary. Also, discuss various conventions which are followed for writing Data Dictionary. **10**

5. (a) Explain the role of system analyst. Discuss why the system analyst is known as "An agent of change". **10**

(b) Write down various techniques of Requirements Elicitation. Discuss structured and non-structrued Interview techniques in details. **10**

Section C

6. (a) What implications would input design likely have on the Output Design ? How about the other way round ? Explain the important special considerations for User Interface Design. **10**

(b) Discuss that "Testing is vital to the success of the system." Draw activity networks for system testing and explain the activities contain there in. **10**

7. Differentiate between the following :

(a) Logical and Physical Design **10**

(b) Unit Testing and System Testing. **10**

8. Discuss the following :

(a) Earn Value Analysis **10**

(b) Decision Tree & Decision Tables. **10**