

BCA–12

System Analysis and Design

Bachelor of Computer Application
(BCA–11/16/17)

Fourth Semester, Examination, 2017

Time : 3 Hours

Max. Marks : 80

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Attempt the questions contained in these Sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section ‘A’ contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Define System with the help of suitable diagram. What are the types of Information Systems ? Compare and contrast open systems and closed systems with suitable diagram. What are strategic uses of IT ? Throw light on building customer value via the internet.
2. Explain with suitable diagram software development life cycle. Compare and contrast waterfall model and spiral model with suitable diagram. How are DFD, ER diagrams and SRS helpful in development of software ?

3. Explain the requirement analysis using DFD. Compare and contrast structured and unstructured approach of software design.
4. What is abstraction ? Why is it necessary to maintain a good quality of software ? What is Object Oriented Design ? How is it different from Function Oriented Design ? Differentiate cohesion and coupling with suitable diagram.

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. What is CMMI ? What are industrial standards for CMMI ? List and describe the information systems serving each of the major functional areas of a business.
2. What is the purpose of an information system from a business perspective ? What role does it play in the business information value chain ?
3. Describe the various advantages of decision tree and decision table.
4. What is software security analysis ? What are the major advantages of security analysis ?
5. How are cost quality and time interdependent in software development ?
6. Why is testing important ? What are testing principles and strategies ?
7. Explain the need of Software Maintenance. What are the types of maintenance ?
8. What is software quality assurance ? Compare quality with cost of a software with example.

Section-C**(Objective Type Questions)**

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. A major strategic use of IT is
 - (a) Knowledge Management Systems
 - (b) Information Technology
 - (c) Decision Support Systems
 - (d) Computer Based Information Systems
2. A company that emphasizes strategic business use of IT would use it to gain a
 - (a) competitive differentiation
 - (b) BRP
 - (c) Profit
 - (d) Information
3. BRP is
 - (a) Reengineering
 - (b) Business Reengineering Process
 - (c) Business Process Reengineering
 - (d) Information System
4. Function-oriented design is comprised of many smaller sub-systems is known as
 - (a) Reengineering
 - (b) Functions
 - (c) Software
 - (d) Information System

5. Software project manager is engaged with software management activities. He is responsible for
 - (a) Development
 - (b) Testing
 - (c) Planning
 - (d) Requirement Gathering
6. Burst force, backtracking, cause elimination are strategies used in art of
 - (a) Debugging
 - (b) Testing
 - (c) Planning
 - (d) Requirement analysis
7. Independence of module is assessed using two qualitative criteria. What are those criteria ?
 - (a) Cohesion and coupling
 - (b) Module and modularity
 - (c) Cyclomatic complexity and modularity
 - (d) None of the above
8. The most important feature of spiral model is
 - (a) Reengineering
 - (b) Risk Analysis
 - (c) Functions
 - (d) Designing

9. Software is divided into separately named and addressable components and it is called as
- (a) Software
 - (b) Cohesion
 - (c) Module
 - (d) None of the above
10. cannot be grouped together if they have similar functionality, process activities and capability of getting integrated with other tools.
- (a) Reengineering
 - (b) CASE tools
 - (c) Functions
 - (d) Information System

