BCA (CBCS) RUSA IVth Semester Examination

4034

SYSTEM ANALYSIS AND DESIGN
Paper : BCA–403

Time : 3 Hours]   [Maximum Marks : 70

Note :– Attempt any *five* questions, selecting at least *one* out of *two* from each unit. All carry equal marks. Question No. 1 is Compulsory.

(Compulsory Question)

1. (i) A system design aid should primarily :

    (a) Help analyse both data and activities

    (b) Help in documentation

    (c) Generate code

    (d) Using a graphical user interface

    (e) None of the above

(ii) Structured Programming involves :

    (a) Decentralisation of program activity

    (b) Functional modularisation

    (c) Localisation of errors

    (d) All of the above

    (e) None of the above

(iii) To reconstruct a system, which of the following key element(s) must be considered :

    (a) Feedback and environment

    (b) Control and processors

    (c) Outputs and inputs

    (d) All of the above

    (e) None of the above

(iv) The conditions immediately outside a system is called :

    (a) The boundary

    (b) The interface

    (c) The environment

    (d) The protocols

    (e) None of the above

(v) A feasibility document should contain all of the following except :

    (a) Project name

    (b) Problem descriptions

    (c) Feasible alternative

    (d) Data-flow diagrams

    (e) None of the above

(vi) Which of the following Information systems are aimed at improving the routine business activities on which all organizations depend ?

    (a) Management Information systems

    (b) Decision support systems

    (c) Transaction processing systems

    (d) Management support systems

    (e) Transaction Information systems

(vii) Which of the following strategies are adopted if information requirements are not well-defined ?

    (a)   Rapid application development method

    (b)   Structured analysis development method

    (c)   Systems development life cycle method

    (d)   Prototyping method

    (e)   Spiral method

(viii) Structured Programming involves :

    (a)   Functional modularization

    (b)   Localization of errors

    (c)   Decentralized programming

    (d)   Stress on analysis

    (e)   Stress on requirements gathering

(ix) Which of the following is not a fact-finding technique ?

    (a)   Third party enquiry

    (b)   Interview

    (c)   Questionnaire

    (d)   Record reviews

    (e)   Observation

(x) Which of the following questions are useful in evaluating data flow diagrams ?

    (a)   Are there any unnamed components in the data flow diagram ?

    (b)   Are there any processes that do not receive input ?

    (c)   Are there any data stores that are input but never referenced ?

    (d)   Both (a) and (b) above

    (e)   All (a), (b) and (c) above   1×10=10

(Short Answer Type Questions)

(xi) What do you mean by System ? Explain open systems and closed systems.

(xii) Define the importance of software requirement analysis.

(xiii) Identify any *two* methods of doing cost benefit analysis. Write a brief note on each.

(xiv) What are data flow diagrams ? How do they differ from structure charts ?

(xv) What is the objective of testing ?   5×4=20

Attempt any *four* questions, selecting one from each Unit. All questions carry 10 marks.

Unit–I

2. What is Project Selection ? Discuss the steps required for managing project review and selection.

3. Explain the role of system analyst in every phase of s/w process. What will happen if a small error remains in SRS phase ?

Unit–II

4. Write and explain important characteristics of good SRS. How prototyping is useful in SRS ? Discuss technical & economical feasibility study.

5. Is Feasibility Study is necessary in software development ? Discuss it with different Feasibility Study.

Unit–III

6. Explain any *two* of the following :

   (i) Data dictionaries

   (ii) Decision tables

   (iii) Process Organization

7. (a) Discuss Top down and Bottom up variance detail.

   (b) What do you mean by audit trail ?

Unit–IV

8. What is Testing ? Discuss why testing is needed. Differentiate Integration Testing, System Testing and Acceptance Testing.

9. What are various approaches to design a good system ? How Database and Files assist in designing ?

Total No. of Questions : 9]   [Total No. of Printed Pages : 7

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B.C.A. (CBCS) RUSA IVth Semester Examination

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SYSTEM ANALYSIS AND DESIGN
Paper : BCA–0403

Time : 3 Hours]   [Maximum Marks : 70

Note :– Attempt *five* questions in all, selecting at least *one* out of two from each Unit. All questions carry equal marks. Question No. **1** is Compulsory.

(Compulsory Question)

1. (i) In top down analysis and design :

    (a) Each succeeding phase is more detailed than the phase before it

    (b) Each succeeding phase is as detailed as the phase before it

    (c) Each succeeding phase is less detailed than the phase before it

CH–718   (1)   Turn Over

(d) All of these

(e) None of these

(ii) The .... symbol is used in a flowchart to represent a calculation task.

(a) Input

(b) Output

(c) Process

(d) Start

(e) Stop

(iii) System prototyping helps the designer in :

(a) Making the programmers understand how the system will function

(b) Communicating to the user, quickly, how the system, when developed, will look like and get a feedback.

(c) Giving a demo of the software, to the system manager to whom he reports

(d) Both (a) and (b)

(e) None of these

(iv) Which of the following systems implementation approaches should be used if you want to run the old system and the new system at the same time for a specified period ?

(a) Direct

(b) Pilot

(c) Parallel

(d) Phased

(e) None of these

(v) Main characteristic of "ring", in Data structure, is :

(a) First record points only to the last record

(b) Last record points to the first record

(c) Many records point to one record

(d) Each record points to all other records

(e) None of these

(vi) Which of the following is not considered as a tool at the system design phase ?

(a) Piechart

(b) Data-flow diagram

(c) Decision table

(d) Systems flowchart

(e) None of these

(vii) To avoid errors in transcription and transposition, during data entry, the System Analyst should :

(a) Provide for a check digit

(b) Provide for a hash totals

(c) Provide batch totals

(d) All of these

(viii) Sequential or series testing is :

(a) Running the system with line data by the actual user

(b) Making sure that the new programs do in fact process certain transactions according to Specifications

(c) Is checking the logic of one or more programs in the candidate system

(d) Testing changes made in an existing or a new program

(e) None of these

(ix) A consideration evaluated by management when planning to convert to a computer system is :

(a) Maintenance

(b) Available software

(c) CPU sized speed

(d) All of these

(e) None of these

(x) Direct-access organization :

(a) Means storing records in contiguous blocks according to a key.

(b) Stores records sequentially but uses an index to locate records

(c) Uses an index for each key type

(d) Has records placed randomly throughout the file

(e) None of these   1×10=10

(Objective Type Questions)

(xi) What is a system ? What are its characteristics ?

(xii) What is the role of documentation in a system ? Explain.

(xiii) Explain any *three* methods of fact gathering.

(xiv) What do you mean by the quality of software ?

(xv) Explain what is testing and debugging.   5×4=20

Note :– Attempt any *four* questions, selecting *one* from each Unit. All questions carry 10 marks each.

Unit–I

2. Discuss in detail every phases of system development life cycle.

3. Discuss the need of system analysis. What problems can occur if we ignore it ? Discuss its impact on each phase.

Unit–II

4. Is Feasibility Study is necessary in software development ? Discuss it with different Feasibility Study.

5. What is the need of SRS ? Explain important characteristics of good SRS. Discuss cost and benefit analysis for feasibility study.

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Unit–III

6. Explain any *two* of the following :

   (i)   Data flow diagram

   (ii) Decision tree

   (iii) Fact finding techniques

7. (a) Discuss Top down and Bottom up variance in detail.

   (b) What do you mean by audit trail ?

Unit–IV

8. What do you understand by software maintenance ? What are the various types of maintenance ? When it starts and why is it costly ?

9. What are the various approaches to design a good system ? How Database and Files assist in designing ?

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Total No. of Questions : 9]   [Total No. of Printed Pages : 4

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B.C.A. (CBCS) RUSA IVth Semester Examination

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SYSTEM ANALYSIS AND DESIGN
Paper : BCA-0403

Time : 3 Hours]   [Maximum Marks : 70

Note :– Attempt *five* questions in all, selecting at least *one* out of two from each Unit. All questions carry equal marks. Question No. **1** is compulsory.

Unit–I

(Compulsory Question)

1. (A) True *or* False :

   (i)   Feasibility study determines whether the project should go further.

   (ii) System analysis is a process which is done on existing model or newly created model.

   (iii) The process of transforming a model into source code is known as Reverse Engineering.

CH–717   (1)   Turn Over

(iv) Requirement gathering is the detailed study about a particular problem.

(v) Decision tree uses rules and actions for demonstration.

(B) Multiple Choice Questions :

(vi) Documentation is prepared :

    (a) At system design

    (b) At system analysis

    (c) At every stage

    (d) At system development

(vii) Actual programming of software code is done in .... Phase of SDLC.

    (a) Analysis

    (b) Implementation

    (c) Design

    (d) Testing

(viii) Which of the following is not the symbol of DFD ?

    (a) Square

    (b) Triangle

    (e) Open rectangle

    (d) Circle

(ix) Decision table is :

    (a) A way of representing multiple conditions

    (b) A way to get an accurate picture of the system

    (c) A way of representing the information flow

    (d) All of these

(x) Enhancement, bug fixes, upgradation of software are done during the .... phase of SDLC.

    (a) Analysis   (b) Maintenance

    (c) Implementation   (d) Testing

(C) Short Answer Type Questions :

(i) Discuss integration testing.

(ii) Discuss top down approach to system planning.

(iii) Define operational feasibility study.

(iv) Maintenance is an ongoing process. Discuss.

(v) What are the qualities to be manifested for a System Analyst ?

Unit–II

2. Explain SDLC in detail.

3. What are the various sources of requests for initial investigation of a project ?

Unit–III

4. What considerations are involved in feasibility analysis ? Which consideration do you think is most crucial ? Why ?

5. Define and explain the procedure if cost/benefit determination.

Unit–IV

6. What are the different tools for gathering information ?

7. "A data dictionary is a structured repository of data about data." Discuss.

Unit–V

8. Why do we Test System? How is important testing ? Discuss.

9. Why is documentation necessary in every step of project development ?

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