



BCA/SAD-403

2024

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper : SAD-403

(System Analysis and Design)

Full Marks : 70

Pass Marks : 45%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 45)

*The figures in the margin indicate full marks
for the questions*

1. (a) Describe the three types of feasibility studies under preliminary investigation. 3
- (b) What do you mean by real-time systems? Give some examples. 3
- (c) What are the objectives of JAD? 3

Or

- (a) A project takes 15 weeks for its completion. There are five tasks, $T_1 - T_5$, in the project. From the following informations, draw a Gantt chart for the project :

3

Task T_1 will take about 3 weeks.

Task T_2 will start when task T_1 is completed.

Task T_3 overlaps the end of task T_2 and the start of task T_4 , by one week each.

Task T_4 will begin at week 7 and will end at week 11.

Task T_5 will start at week 8 and end at week 15.

- (b) List and illustrate the primary uses and elements of a decision table.

4

- (c) What special skills should a system analyst possess?

2

2. (a) What are the five major cost elements which are associated with system development? Explain.

5

- (b) What is normalization? Explain its objectives.

3

- (c) Who is a DBA?

1

(3)

Or

(a) What is file organization? Explain three types of file organization along with its advantages. 1+6=7

(b) What are the objectives of CASE tools? 2

3. (a) What are cohesion and coupling in modular design? Explain any three types of each. 2+6=8

(b) What is HIPO chart? 1

Or

(a) What is validation in input designing? Describe various methods of input validation. 1+3=4

(b) What is quality assurance? What factors determine quality of a system? 1+4=5

4. (a) What is use-case diagram? What are the key symbols used in use-case diagram? 1+2=3

(b) List out the differences between object-oriented approach and modular-oriented approach. 6

Or

(a) What are the objectives of system test? Mention the different types of tests conducted while developing a system. 2+4=6

(b) Explain the types of threats to computer system. 3

5. (a) "Expert system cannot replace human expert." Explain this statement with example. 4

(b) What is the main difference between business data processing systems and MIS? 3

(c) What are the objectives of financial reporting? 2

Or

(a) Write short notes on the following : 3

(i) Decision support system

(ii) Expert system

(iii) Information system

(b) What is an audit trial? What are its objectives? 1+3=4

(c) What is the main difference between business data processing systems and MIS? 2

2 0 2 4

(4th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper : SAD-403

(System Analysis and Design)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

- 1. Put a Tick (✓) mark against the correct answer in the brackets provided :** **1×10=10**

(a) Which of the following is the most important phase of SDLC?

- (i) Requirement analysis ()**
- (ii) Design ()**
- (iii) Testing ()**
- (iv) Coding ()**

(b) The output of system design stage is represented by

- (i) ER diagram ()
- (ii) context diagram ()
- (iii) structure chart ()
- (iv) activity diagram ()

(c) Cost of error correction is least at

- (i) design stage ()
- (ii) requirement analysis stage ()
- (iii) development stage ()
- (iv) implementation stage ()

(d) Normalization is a process of restoring a relation to

- (i) minimize duplication of data in a database ()
- (ii) maximize duplication of data to ensure reliability ()
- (iii) make it of uniform size ()
- (iv) allow addition of data ()

(e) Pseudocode is

- (i) false logic ()
- (ii) programming aid ()
- (iii) Both (i) and (ii) ()
- (iv) Neither (i) and (ii) ()

(f) White-box testing can be started

- (i) after SRS creation ()
- (ii) after designing ()
- (iii) after programming ()
- (iv) after installation ()

(g) An MIS objective can be stated as

- (i) increase product sales ()
- (ii) increase sale of product A by 10% in the next year ()
- (iii) reduce marketing cost ()
- (iv) All of the above ()

(h) Objects may be viewed

- (i) as clients in a system ()
- (ii) as servers in a system ()
- (iii) both as clients and as servers in a system ()
- (iv) neither as clients nor as servers in a system ()

(i) Which of the following models can release the software in multiple versions?

- (i) Waterfall model ()
- (ii) Prototyping model ()
- (iii) Waterfall model with feedback ()
- (iv) Spiral model ()

(j) Backup and recovery procedures are necessary to

- (i) reorganize the disk ()
- (ii) control the DBA ()
- (iii) handle contingencies like files getting corrupt or becoming irretrievable ()
- (iv) None of the above ()

2. Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

(a) Coupling means the level of dependency that exists between modules.

(T / F)

(b) Open systems are less safer than closed systems.

(T / F)

(c) A database administrator is one who designs the database for an application.

(T / F)

(d) An MIS is a must for all managers of an organization.

(T / F)

(e) Auditability is not a part of SDLC.

(T / F)

3. Answer the following questions in short :

2×5=10

(a) Write a note on real-time system.

(b) What do you understand by the term 'data integrity'?

(c) What is payback method?

- (d) How can you protect your system from virus attack?

(e) What are turnaround documents?
