

Heaven's Light Is Our Guide
RAJSHAHI UNIVERSITY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
4th Year Odd Semester Examination 2019

COURSE NO: CSE 4107 COURSE TITLE: Information System Analysis and Design
 FULL MARKS: 72 TIME: 3 HRS

- N.B. (i) Answer any SIX questions taking any THREE from each section.
 (ii) Figures in the right margin indicate full marks.
 (iii) Use separate answer script for each section.

<u>SECTION : A</u>		Marks
Q.1.	<ul style="list-style-type: none"> (a) What are the elements of a system? Can you have a viable system without feedback? Explain. 4 (b) Why a system proposal is so crucial for system design? Explain with example. 4 (c) What are the differences between MIS and DSS? How are they related? Explain briefly. 4 	
Q.2.	<ul style="list-style-type: none"> (a) What is prototyping? Write the steps of prototyping for system development. 3 (b) Elaborate on the technical and interpersonal skills required of system analysis. When is one skill favored over the others? Why? Explain with figure. 6 (c) Why is it important that the analyst learns about an organization's policies and objectives? 3 	
Q.3.	<ul style="list-style-type: none"> (a) What information gathering tools are available for the analyst? Explain each tool briefly. 4 (b) What is rapport? As an analyst, how do you gain and maintain rapport with the user's staff? Give an example. 4 (c) Explain and give an example of each variety of closed questions: <ul style="list-style-type: none"> (i) Fill-in-the-blanks questions. 4 (ii) Dichotomous questions. 4 (iii) Ranking scales questions. 4 (iv) Rating scales questions. 4 	
Q.4.	<ul style="list-style-type: none"> (a) In what respect is interviewing an art? Give example. 2 (b) Tech-RUET is a software farm which is run by several fresh graduate of CSE, RUET. The farm develops online project on android platform. A 'Somobay Somoti' from rural area wants an android app to be developed for their business purpose to deal with end-users. They discuss with the farm about their business plan. The farm prepared a prototype according to their demand. But the 'Somobay Somiti' is not satisfied with the farm's presentation about the app. However, Tech-RUET tried to make them understand but Tech-RUET is fed-up now. What problem does arise in this case between the farm and Somiti? Which quality should be enhanced in both Tech-RUET and Somobay Somiti? Explain your answer. 4 (c) An insurance company uses the following rules to determine the eligibility of a driver for insurance: <ul style="list-style-type: none"> (i) The driver lives in the city with population less than 5000 and he is married man. 4 (ii) The driver lives in the city with population less than 5000 and he is married and age is over 30 years. 4 (iii) The driver lives in the city with population 5000 or more and he is married female. 4 (iv) The driver is male over 30 years. 4 (v) The driver is married and under 30 years. 4 <p>Now draw a decision tree based on the above insurance policy. Also develop a decision table showing whether an individual driver will be insured or not?</p> (d) What points should be considered in constructing data dictionary? Be specific. 2 	

SECTION : B

Q.5.	<ul style="list-style-type: none"> (a) How easy is it to identify the costs and benefits of a system? Give examples of costs that are not easily identifiable. 3 (b) Company 'Alpha' is planning to undertake a project requiring initial investment of \$50 million and is expected to generate \$10 million net cash flow in year 1, \$13 million in year 2, \$16 million in year 3, \$19 million in year 4 and \$22 million in year 5. From these information's, determine the payback value of the project. 4 	
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- (e) A company has fixed costs of \$20,000 in order to sell a product that costs them \$50 per unit. If the company sells the product for \$120 per unit, 5
(i) Find out the contribution margin.
(ii) Determine the break-even units,
(iii) Draw the break-even chart. Also indicate the break-even point on your chart.
- Q.6. (a) What is the goal of the functional decomposition approach to structured design? 2
(b) "Structured design provides the best partitioning of a program into small, independent modules organized in a top-down manner." Do you agree? Illustrate. 4
- Q.7. (c) Explain briefly the steps of feasibility analysis. 6
(a) What feasibility considerations are involved in feasibility analysis? Explain which one is better in which perspective. 4
(b) How is a HIPO chart related to structured design? What are its objectives? 4
(c) Distinguish between the followings:
(i) Interaction and Interdependence
(ii) Physical and abstract system
(iii) Open and closed system
(iv) Schematic and static system models
- Q.8. (a) Distinguish between the followings:
(i) String and system testing
(ii) Quality assurance and DP audit. 3
(b) What levels of quality assurance must a system meet? Explain. 4
(c) What is form? Briefly explain the major requirements of form design. 5

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RAJSHAHI UNIVERSITY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

4th Year Odd Semester Examination 2018

COURSE NO: CSE 4107 COURSE TITLE: Information System Analysis & Design
 FULL MARKS: 72 TIME: 3 HRS

- N.B. (i) Answer any SIX questions taking any THREE from each section.
 (ii) Figures in the right margin indicate full marks.
 (iii) Use separate answer script for each section.

SECTION : A

- | | | |
|------|---|---|
| Q.1. | (a) What are the elements of a system? Can you have a viable system without feedback? Explain. | 3 |
| | (b) How would an analyst determine the user's needs for a system? Explain. | 3 |
| | (c) Distinguish between initial investigation and feasibility study. In what way are they related? | 3 |
| | (d) When does an analyst terminate a project? How does it tie in with post implementation? Explain. | 3 |
| Q.2. | (a) Write the steps of prototyping for system development life cycle. | 3 |
| | (b) Elaborate on the technical and interpersonal skills required of system analysis. When is one skill favored over the other? Why? | 5 |
| | (c) Discuss the behavioral issues involved in understanding the analyst/user interface. | 4 |
| Q.3. | (a) What is rapport? As an analyst, how do you gain and maintain rapport with the user's staff? Give an example. | 4 |
| | (b) Information is available from internal and external sources. Under what circumstances would the analyst depend more heavily on external than internal information? Why? | 4 |
| | (c) If you were to interview a user to obtain biographical information (age, education, years of experience on the job and so forth) about the staff of 10 employees and you have only one hour to acquire the information, which of the following methods would you prefer and why?
(i) Structured interviews using open-ended questions.
(ii) Unstructured interviews of five minutes each.
(iii) Self-administered questionnaires.
(iv) Structured interviews using closed questions. | 4 |
| Q.4. | (a) An international airline initiated a frequent traveler program designed to encourage passengers to fly regularly and earn awards based on miles flown. The airline policy is specified as follows:
"Passengers who fly more than 1,00,000 miles per calendar year and in addition pay cash for tickets or have been flying the airline regularly for more than five years are to receive a free round-trip ticket around the world. Passengers who fly less than 1,00,000 miles per calendar year and have been flying the airline regularly for more than five years also get a free round-trip ticket around the world."
Now from the above airline policy:
(i) Draw a decision tree based on the statement.
(ii) Develop a decision table for passenger free ticket. | 6 |
| | (b) "A data dictionary is a structured repository of data about data." - justify your answer. | 3 |
| | (c) What do you mean by action, memory and report form? Give suitable examples of each. | 3 |

SECTION : B

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|------|--|---|
| Q.5. | (a) What steps make up the system development life cycle with structured analysis? Describe each step briefly. | 3 |
| | (b) Describe the concept and procedure used in constructing DFDs. Use an example of your own to illustrate. | 4 |
| | (c) How would one conduct an on-site observation? Layout a plan and specify the pros and cons of this tool. | 3 |
| | (d) In what way(s) is a decision tree and a data flow diagram related? | 2 |
| Q.6. | (a) What type of feasibility considerations are required for system analysis? Explain | 4 |
| | (b) What cost elements are considered in cost/benefit analysis? Which element do you think is the most difficult to estimate? Why? | 4 |

- (c) Distinguish between the following: 4
(i) Opportunity and sunk costs
(ii) Direct and indirect costs
(iii) Tangible and intangible benefits
(iv) Fixed and variable costs
- Q.7. (a) What is chaining? How does it relate to indexed-sequential file organization? 3
(b) What are the impacts of Break Even analysis in cost benefit analysis? Explain with Break Even chart. 4
(c) An investment of 2,00,000tk is expected to generate the following cash inflows in six years: 5
Year 1: 70,000tk
Year 2: 60,000tk
Year 3: 55,000tk
Year 4: 40,000tk
Year 5: 30,000tk
Year 6: 25,000tk
Compute payback period of the above investment. Should the investment be made if management wants to recover the initial investment in 3.5 years or less?
- Q.8. (a) Why do we test systems? How is stress testing different from volume testing? 3
(b) What is system testing? Draw the activity network for system testing. 4
(c) What is quality assurance? Briefly explain the factors that contribute to the quality of the candidate system. 5

N.B. Answer six questions, taking three from each section.
The questions are of equal value.
Use separate answer script for each section.

SECTION-A

- Q1. (a) What is a system? Discuss the formal flow of an organization structure with an example. 3
(b) Which strategies are adopted if information requirements are not well-defined? 2
(c) When does an analyst terminate a project? 3
(d) What is the system development life cycle? Distinguish between initial investigation and feasibility study? 4
- Q2. (a) Elaborate on the technical and interpersonal skills required of system analysis. 4
When is one skill favored over the other? Why?
(b) What is meant by the analyst/user interface? Why is it a problem? 3
(c) One of the important multifaceted roles of the analyst is politician. In what respect should the analyst be a politician? What should be an example where political considerations are used in system work? 5
- Q3. (a) What categories of information are available for analysis? How would one decide on the category for a given project? 4
(b) What traditional information gathering tools are available for the analysis? Explain each tool briefly. 4
(c) Under what circumstances or for what purposes would one use an interview rather than other data-collection methods? Explain. 4
- Q4. (a) What cost elements are considered in cost/benefit analysis? Which element do you think is the most difficult to estimate? 4
(b) "If tangible costs and benefits are ignored, the outcome of the evaluation may be quite different from one in which they are included". Do you agree? Justify your answer. 4
(c) Distinguish between the following:
i) Direct and Indirect costs, and benefits. 4
ii) Opportunity and sunk costs.

SECTION-B

- Q5. (a) Suppose a Hotel management system provides following facilities: 5
i) Hotel reservation system.
ii) Cloud-base Hotel software.
iii) Customer case studies.
Then draw an overall data flow diagram for the mentioned applications.
(b) An international airline initiated a frequent traveler program designed to encourage passengers to fly regularly and earn awards based on miles flown. The airline policy is specified as follows:
"Passengers who fly more than 200000 miles per calendar year and in addition pay cash for tickets or have been flying the airline regularly or more than seven years are to receive a free round trip ticket. Passengers who fly less than 200000 miles per year and have been flying the airline regularly for more than seven years also get a free round trip ticket around the world".
Then draw a decision tree and decision table for passenger free ticket.
(c) What advantages does a data dictionary offer in the area of documentation? 2
- Q6. (a) In what respect is interviewing an art? Explain. 4
(b) What is rapport? As an analyst, how do you gain and maintain rapport with user's staff? Give an example. 4

(c) If you were to interview a user to obtain biographical information (age, education, year of experience and so forth) about the staff of 100 employees and you have only one hour to acquire the information, which of the following methods would you use and why? 4

- i) Structured interviews using open-ended questions,
- ii) Unstructured interviews of five minute each,
- iii) Structured interviews using closed questions.

Q7. (a) Consider the following time schedule table of different task: 8

Task	Predecessor	Time (days)	Optimistic time estimate (days)	Pessimistic time estimate (days)	Most likely time estimate (days)
Design boat	-	7	8	12	10
Purchase engine	Design boat	13	10	10	17
Test engine	Design boat, purchase engine	9	12	17	25
Assemble mold	Test engine	18	13	12	16
Pour fiber glass	Purchase engine, test engine	12	7	10	12
Test boat	Assemble mold	14	11	8	10
Prepare manual	Pour fiber glass, test boat	11	14	15	7

Now find out slack time for all task, critical path and standard deviation of critical path. Finally draw the bar diagram for this scheduling.

(b) How important is testing? List out the activities that present a test plan. 4

Q8. (a) Write the roles of a database administrator. 4

(b) Distinguish between the followings: 4

- i) HIPO and IPO.
- ii) Coupling and cohesion.

(c) Show how the following quality factors contributes to the quality of the candidate system: 4

- i) Efficiency.
- ii) Portability.
- iii) Maintainability
- iv) Testability.

N.B. Answer six questions, taking three from each section.

The questions are of equal value.

Use separate answer script for each section.

SECTION-A

- Q1.** (a) What is a system? Describe briefly the characteristics of a system. 4^{2/3}
 (b) Distinguish between: 4
 i) Schematic and Static system models.
 ii) Open and Closed Systems
 (c) A number of activities are carried out under implementation. Elaborate. 3
- Q2.** (a) What is prototyping? Write the basic steps of prototyping for system design. In which perspective prototyping is necessary instead of system development life cycle? 4
 (b) An analyst plays different roles in different phases of system development. Among them which role of an analyst is the most crucial and why? 3
 (c) What do you mean by interpersonal skill and technical skill of system analyst? Describe the level of interpersonal skill and technical skill necessary in different phases of system development. 4^{2/3}
- Q3.** (a) In which phase of system development life cycle, Technical and interpersonal skills converge. Explain with appropriate figure. 3
 (b) Discuss the behavioral issues involved in understanding the analyst/user interface. 3
 (c) How would an analyst determine the user's needs for a system? Explain. 3
 (d) If you were to shorten the steps in feasibility analysis to four steps, which ones would you pick? Why? 2^{2/3}
- Q4.** (a) How easy is it to identify the costs and benefits of a system? Give examples of costs that are not easily identifiable. 3
 (b) Summarize the advantages and disadvantages of interviews and questionnaires. 4
 (c) In what respect is interviewing an art? Explain. 2^{2/3}
 (d) Write the difference between data dictionary and data flow diagram? 2

SECTION-B

- Q5.** (a) The interest policy of ASBS bank is represented by the following decision tree: 3^{2/3}
- | Type of account | Specialization | Time Span | Interest |
|-----------------|----------------|-----------|----------|
| Ordinary saving | | | 5% |
| Saving account | | 1 Year | 10% |
| | | 3 Years | 17% |
| | | 5 Years | 25% |
| Current account | | | Nil |
- Interest policy
- Represent the provided information in structured English.
- (b) Construct a decision table that will represent the interest policy of ASBS bank. 4
 (c) What traditional information gathering tools are available for system analyst? In which perspective "literature review" can be considered as an effective information gathering tool? 4
- Q6.** (a) "Saving are realized when a cost advantage of some kind exists" Elaborate. 2^{2/3}
 (b) Distinguish between the following: 4
 i) Saving versus cost advantages.
 ii) Direct and Indirect costs
 iii) Fixed and variable costs.
 iv) Tangible and intangible costs.

- (c) Describe DFD symbols and write the rules of drawing DFD.
(d) How do net present value and present value analyses differ? Illustrate.

Q7. (a) Distinguish between the following:

- i) HIPO and IPO.
ii) Coupling and Cohesion.

(b) What is a form? Describe the major requirements of forms design.

(c) What cost elements are considered in cost/benefit analysis? Which element do you think is most difficult to estimate? Why?

Q8. (a) What do you mean by the following terms:

- i) Break-even point, ii) Payback time, iii) Time value of money.

(b) What is the difference between initial investigation and feasibility study?

(c) Write down the factors that determine the quality of a system?

N.B:

Answer SIX questions taking THREE from each section.
 The questions are of equal value.
 Use separate answer script for each section.

SECTION A

- | Q.1(a) | What is a system? What is system analysis? | <u>Marks</u> |
|---------------|---|--------------|
| (b) | What are the elements of a system? Can you have a viable system without feedback? Explain. | 02 |
| (c) | Why is a system proposal so crucial for system design? Explain. | 03 |
| (d) | When does an analyst terminate a project? How does it tie in with post implementation? Explain briefly. | 03 |
| Q.2(a) | How would an analyst determine the user's needs for a system? Explain. | 02 |
| (b) | What is prototyping for system development? Write the steps of prototyping. | 03 |
| (c) | Elaborate on the technical and interpersonal skills required of systems analysis. When is one skill favored over the other? Why? Explain with necessary figure. | 06 |
| Q.3(a) | What is meant by the analyst/user interface? Why is it a problem? | 02 |
| (b) | Why is it important that the analyst learns about an organization's policies and objectives? | 03 |
| (c) | Summarize the advantages and limitations of interviews and questionnaires. | 03 |
| (d) | In what respect, is interviewing an art? Explain. | 03 |
| Q.4(a) | Under what circumstances or for what purposes would one use an interview rather than other data collection methods? Explain. | 03 |
| (b) | Discuss the pros and cons of the traditional approach to systems analysis. | 03 |
| (c) | How can you construct DFD for a system? Explain with an example. | 03 |
| (d) | Write the difference between data dictionary and data flow diagram. | 02 |

SECTION B

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|---------------|--|----|
| Q.5(a) | Distinguish between the followings: (i) tangible or intangible cost/benefit (ii) direct or indirect cost/benefit and (iii) fixed or variable cost/benefit. | 03 |
| (b) | What are some of the advantages of top-down design? Explain briefly. | 03 |
| (c) | Explain the requirements of form design. | 05 |
| Q.6 | A mail order house delivers their goods in the following rules. Discount computed as: If invoice total is us dollar 3000 or over, discount is 20%, if invoice total is between us dollar 2000 and 2999, discount is 10%, if invoice total is between us dollar 1000 and 1999, discount is 5%, if invoice total is under us dollar 1000, no discount is allowed. Shipping and handling depends on whether it is home delivery or office delivery. If it is an office delivery then- if weight is under 35 pound, charge is us dollar 30, if weight is 35 to 55 pounds, charge is us dollar 45, if weight is over 55 pounds, multiply excess (over 55 pounds) by us dollar 2 and add us dollar 45 to get the total charge. If home delivery, multiply each pound of weight by us dollar 1.85 to get the total rate.
(i) Develop a decision tree.
(ii) Represent the information in structured English. | 11 |
| Q.7(a) | What types of form are available? Explain each type. | 03 |
| (b) | Why do we test systems? How important is testing? Explain. | 03 |
| (c) | How is stress testing different from volume testing? | 02 |
| (d) | How can you write feasibility report? Explain briefly. | 03 |
| Q.8(a) | Write the roles of database administrator. | 03 |
| (b) | Information is available from internal and external sources. Under what circumstances would the analyst depend more heavily on external than internal information? Why? | 05 |
| (c) | Explain and give an example of each variety of closed questions: (i) Fill-in-the-blanks question. (ii) Dichotomous questions. (iii) Ranking scales questions. (iv) Multiple-choice questions and (v) Rating scale questions. | 03 |

Heaven's Light is our Guide
 Rajshahi University of Engineering and Technology
 B.Sc. Engineering 4th Year 7th Semester Examination, 2013
 Department of Computer Science and Engineering
 Course No. CSE 705 Course Title: Information System Analysis & Design.
 Full Marks: 70 Time: THREE (03) hours

N.B.

Answer SIX questions taking THREE from each section.

The questions are of equal value.

Use separate answer script for each section.

SECTION A

- | | Marks |
|---|-------------------|
|  (a) Define rapport. As an analyst, how do you gain and maintain rapport with the user's staff? Give an example. | 03 ^{2/3} |
| (b) Explain the differences between the following with suitable example. | 04 |
| (i) structured and unstructured interview | |
| (ii) open ended and closed questions | |
| (c) Draw the activity network diagram for system testing. | 04 |
|  Q2(a) What is chaining? How does it relate to indexed-sequential organization? | 02 ^{2/3} |
| Write down the steps of writing feasibility report. | 03 |
| Describe the role of database administrator. | 04 |
| What elements are to be considered to reconstruct a system? Briefly describe. | 02 |
| What traditional information gathering tools are available for the analyst? Explain each tool briefly. | 04 ^{2/3} |
|  b) What categories of information are available for analysis? How would one decide on the category for a given project? | 03 |
| What are the importance of payback analysis method of cost/benefit analysis? Write with suitable example. | 04 |
|  Q4(a) Distinguish between the followings: | 02 ^{2/3} |
| (i) HIPO and IPO | |
| (ii) Coupling and cohesion | |
| (b) Let us assume the following discount policy: Book stores get a trade discount of 25% allowed on orders of 6-20 copies per book and 30% allowed on orders of 21 copies or more per book. Libraries get a trade discount of 5% allowed on order of 6-19 copies per book, 10% on orders for 20-49 copies per book, 15% on orders for 50 copies or more per book. Construct a decision tree and decision table. | 06 |
|  What points should be considered in constructing a data dictionary? | 03 |

SECTION B

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|---|-------------------|
|  Q5(a) Describe the top down approach of systems planning with suitable diagram. | 04 |
| Explain briefly the procedure used to construct questionnaires. | 04 |
| How can we prepare a feasibility report? Explain. | 03 ^{2/3} |
| Why is it difficult to determine user requirements? Illustrate. | 02 ^{2/3} |
|  b) What is data flow diagram? How do they differ from structure charts? | 03 |
| (c) List the classes of forms. Briefly explain the major requirements of form. | 04 |
| (d) Write the major differences between interview and questionnaires. | 02 |
|  Q7(a) Describe the three key questions involved in feasibility analysis. <i>user requirements</i> | 03 |
| (b) Show how the following quality factors contributes to the quality of the candidate system: | 04 |
| (i) efficiency | |
| (ii) probability | |
| (iii) maintainability | |
| (iv) testability | |
|  Review the primary activities of maintenance procedure. | 04 ^{2/3} |
| Why do you test systems? How important is testing? Elaborate. | 04 |
| (b) Distinguish between the following: | 06 |
| (i) string and system testing | |
| (ii) quality assurance and DP audit | |
| (iii) compiling and assembling | |
| (c) What do you mean by chaining in file organization system? | 01 ^{2/3} |

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N.B. Answer six questions, taking three from each section.

The questions are of equal value.

Use separate answer script for each section.

SECTION-A

-  Q1. (a) Information is available from internal and external sources. Under what circumstances would the analysis depend more heavily on external than internal information? Why? 4
(b) Summarize the advantages and limitations of interviews and questionnaires. 4
(c) In what respect is interviewing an art? Explain. *Ans* 1/2
-  Q2. (a) What is structured analysis? Briefly review the tools used. How does it differ from traditional approach? 4
(b) Describe the concept and generating procedure used in constructing DFDs. Use an example of your own to illustrate. 1/2
-  P (a) What considerations are involved in feasibility analysis? Which consideration do you think is most crucial? Why? 4
-  Q3P (a) What design methodologies are used in system design? 3
(b) Distinguish between the following: 3
(i) logical and physical design
(ii) HIPO and IPO
(iii) Coupling and cohesion
(d) Describe the requirements of forms design. 1/2
- Q4. (a) With necessary figure describe the categories of information. 1/2
(b) Discuss the general organization chart of an MIS division. 6
(c) Why is a database important in MIS? Explain. 2

SECTION-B

-  P (a) How can you prepare a feasibility report? Explain. 3/2
(b) Describe the cost/benefit categories of system analysis. 4
(c) What are the importance of payback analysis method of cost/benefit analysis? Write with a suitable example. 4
-  Q6 (a) Explain briefly the procedure used to construct questionnaires. 4
(b) Explain the difference between ~~is~~ structured and un-structured interviewing and ~~is~~ open-ended and closed questions. Give an example of each. 4
-  P (a) What is meant by analyst/user interface? Why is it a problem? 1/2
(b) Describe the top-down approach of system planning with suitable diagram. 4
- (b) Distinguish between the followings: 6
(i) Validity and reliability
(ii) Strategic and operational planning
(iii) Decision table and structure chart
(iv) Brainstorming and the Delphi method
-  (c) Why is it so critical to manage system development? 1/2
- If new system design is likely to meet user specification, why do users resist change? How would one reduce resistance to change? Explain in detail. 4/3
- (c) Suppose you were asked to prepare a plan for training the user staff on a newly acquired microcomputer system. 7
(i) What factors do you consider in preparing the plan?
(ii) How would you design the plan?
(iii) What objectives are considered as a basis for the plan?

N.B. Answer six questions, taking three from each section.

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Use separate answer script for each section.

SECTION-A

Q1. (a) Explain the difference between the following with suitable example 04

- (i) Structured and unstructured interviewing
- (ii) Open-ended and closed questions.

(b) If you were to interview a user to obtain biographical information (age, education, years of experience on the job and so forth) about the staff of 10 employees and you have only one hour to acquire the information which of the following methods would use and why? 04

- (i) Structured interviews using open-ended questions
- (ii) Unstructured interviews of five minutes each.
- (iii) Self-administered questionnaires
- (iv) Structured interviews using closed questions

(c) What is rapport? As an analyst, how do you gain and maintain rapport with the user's staff? Give an example. 2

Q2. (a) What considerations are involved in feasibility analysis? Which consideration do you think is the most crucial? Why? Explain briefly. 3 2

(b) Elaborate on the steps in feasibility analysis. If you were to shorten them to four steps, which ones would you pick? Why? 04

What makes up a feasibility report? How would you change it? Explain. 04

(c) How easy is it to identify the costs and benefits of a system? Give examples of costs that are not easily identifiable. 3 2

(b) What cost elements are considered in cost/benefit analysis? Which element do you think is the most difficult to estimate? Why? 04

(c) Distinguish between the following: 04

- (i) Opportunity and sunk costs
- (ii) Direct and indirect costs
- (iii) Fixed and variable costs
- (iv) Tangible and intangible costs

(a) Distinguish between: 04

- (i) Interaction and interdependence
- (ii) Physical and abstract system

(b) What is meant by system? What are the key elements that should be considered to reconstruct a system? Briefly explain the issues of "Control" and "Environment" when reconstructing a system. 4 2

(c) What are the pros and cons of each tools of structured analysis? 3 2

SECTION-B

5. (a) Discuss a framework for modularization in structured design. What is the goal of the functional modularization approach to structured design? 3 2

(b) Distinguish between the following: 04

- (i) HIPO and IPO
- (ii) Coupling and cohesion

(c) What is chaining? How does it relate to indexed – sequential organization? 04

(a) Draw the activity network diagram for system testing. 01

(b) Define quality assurance. What levels of quality assurance must a system meet? Explain. 3 2

How is stress testing different from volume testing? What types of test are used in system testing? 04

(a) What activities make up system? How does system design simplify implementation? Explain briefly 3 2

(b) What are the reasons for which system does not meet user requirements? 03

(c) What elements are to be considered to reconstruct a system? Briefly describe. 03

Write the differences between open and closed system. 02

8. (a) One of the important multifaceted role of the analyst is politician. In what respect should the analyst be a politician? What would be an example where political considerations are used in system work? 3 2

(b) What categories of information are available for analysis? How would one decide on the category for a given project? 03

(c) What traditional information gathering tools are available for the analyst? Explain each tool briefly. 05

N.B. Answer six questions, taking three from each section.
 The questions are of equal value.
 Use separate answer script for each section.

SECTION-A

Q1. P(a) How important is the information system in system analysis? Explain briefly. 3

(b) What categories of information are relevant to decision making in business? Relate each category to the managerial level and an information system. 3

(c) Discuss the primary characteristics of open system. In what way is a system entropic? 3

Q2. (a) What are the elements of a system? Can you have viable system without feedback? Explain. 3

(b) Distinguish between initial investigation and feasibility study. In what way are they related? 4

When does an analyst terminate a project? How does it tie in with post implementation? Explain. 4

Q3. (a) Why is a system proposal so critical for a system design? Explain briefly. 2

(b) There are several conditions in deciding on a candidate system. What are they? Why are they important? 3

Discuss the behavioral issues involved in understanding the analyst/user interface. 4

(d) What are the differences between managerial and operational MIS planning? 2

Q4. (a) Explain and give an example of each variety of closed questions: 4

(i) Dichotomous question

(ii) Ranking scales question

(iii) Multiple-choice question

(iv) Rating scales question

(b) What is structured analysis? Briefly explain the new goals and tools for structured analysis. 4

What method does the designer consider in file organization? What factors determine the method chosen? Be specific. 3

Marks

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SECTION-B

Q5. (a) Why is it difficult to determine user requirements? Illustrate. 2

(b) A question may be closed or open-ended. Write the differences. 3

(c) Describe the data analysis method. How does it differ from decision analysis method? Elaborate on the pros and cons of each method. 3

(d) What are data flow diagrams? How do they differ from structure charts? 3

Q6. (a) How is the structural walkthrough conducted? What is the role of the user in this activity? Elaborate. 3

(b) List the classes of forms. Briefly explain the major requirements of form design. 4

(c) What is meant by functional decomposition? Briefly explain the functional decomposition approach. 4

Q7. (a) What is report? As an analyst, how do you gain and maintain report with the user's staff? Give an example. 3

(b) Discuss the pros and cons of the traditional approach to system analysis. 4

(c) What are the elements of data dictionary? Briefly explain those points that the analyst should consider before constructing a data dictionary. 4

Marks

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Q8. P(b) Briefly explain the key considerations of feasibility analysis. List the eight steps involved in feasibility study. 4

(b) What is meant by cost/benefit analysis? List the cost elements that should be considered in this analysis. What are the steps involved in this analysis. 3

(c) What is meant by present value analysis? How the analysis is performed? Explain with an example. 2

4

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3

*** The End ***

N.B.

Answer any SIX questions, totaling THREE hours, including 30 minutes for Figure out the given individual marks.
 Use separate answer booklets for each section.

SECTION-A

- Q1(a) Why is it important that the analyst learns about an organization's policies and objectives? 5 06/2037
- (b) If you were to interview a user to obtain biographical information (age, education, years of experience and so forth) about the staff of 10 employees and you have only one hour to acquire the information, which of the following methods would you use and why? 5
- Structured interviews using open-ended questions
 - Unstructured interviews of five minutes each
 - Structured interviews using closed questions
- (c) Write the characteristics of open system. 2
- Q2(a) What are the sources of gathering information? What are the problems of gathering information by on-site observation? 5 04/33
- (b) Write down the guidelines to ensure a successful interview for information gathering. 5 04
- (c) Which considerations are involved in feasibility analysis? Explain briefly about them technical feasibility. 3 03
- Q3(a) What cost elements are considered in maintenance? Which element do you think is the most difficult to estimate? Why? Explain. 2
- (b) Discuss tangible and intangible cost element with suitable examples. 3 04
- (c) Review the primary activities of maintenance procedure. 1 03
- P ← Q4(a) Write down the reasons why a new system does not meet user requirements. 2 03
- (b) What else needs to be considered to reconstruct a system? 1 02
- (c) Write down the roles of database administrator. 1 03
- (d) Why simplification is performed before final database design. 1 01

SECTION-B

- Q5(a) Why conflict arises during system analysis? How it can be resolved. 3 03/5
- (b) Discuss the behavioral issues involved in understanding the user interface. 3 04
- P (c) What are the inter-personal skills that a system analyst should possess? 3 04
- Q6(a) Elaborate on the top down approach to system planning. what it means its uses and its implications for system development. 1 01
- (b) What information does the user's request form provide? Why is it so important in the initial investigation? Explain in detail. 4 04
- (c) Information is available from internal and external sources. Under what circumstances would the analyst depend more heavily on external than internal information? Why? 5 04
- (d) If tangible costs and benefits are ignored, the outcome of the evaluation may be quite different from one in which they are included. Do you agree with this statement? Illustrate your answer. 3 03
- (e) What cost elements are considered in system development? Which element do you think is the most difficult to estimate? Value 2 04
- (f) Distinguish between the following 2
- Logical and Physical design
 - IPO and IPO
 - Coupling and Cohesion
- Q7(a) How is a system evaluated in terms of other systems of the year in P.T.O. activities? 2 03
- (b) Write down the factors that determine the project duration. 1 01
- (c) Define the term re-engineering. 1 01

B.
Answer any SIX questions, taking THREE from each section.
Figures in the margin indicate full marks.
Use separate answer script for each section.

SECTION A

- P** 1(a) What is System? Describe briefly the characteristics of a system. — 1-8 1 0.13
 1(b) Write a brief note on boundaries and interface. P-15 2 0.13
 1(c) What are the reasons for which system does not meet user requirements? A-1-3 2 0.13
- P** 2(a) What is prototyping? Write the steps of prototyping. 1-2-4 5 0.13
 2(b) Why DFD? Why DFD is important for system design? 1-1 5 0.13
 2(c) Describe the design phase of system development life cycle. 1-1 2 0.13
- P** 3(a) Why conflict arises during system analysis? How it can be resolved? 1-1 2 0.13
 3(b) Describe top-down approach to system planning. — 2-3 4 0.13
 3(c) Describe alternative observation method when human observers are used. — 1-3 2 0.13
- 4(a) How can you make up an interview? Describe briefly. — 2-9 3 0.13
 4(b) How can you gather information from an existing system? Describe. — 2-2 5 0.13
 4(c) Write the advantages and disadvantages of questionnaire technique. — 1-3 5 0.13

SECTION-B

- P** 1(a) Write down the guidelines to ensure a successful interview for information gathering. 2-1 1 0.13
 1(b) Describe the roles of system analyst. — 6-7 2 0.13
 1(c) Which considerations are involved in feasibility analysis? Explain briefly about the technical feasibility. 5-6 2 0.13
- P** 2(a) What is weighted cumulative evaluation matrix in feasibility study? — 2-2 2 0.13
 2(b) Design two candidate systems for a reading room of an engineering library. 1-1 2 0.13
 2(c) Describe Break-even analysis with figure. — 2-4 3 0.13
- P** 3(a) What are the requirements of form design? — 2-9-7 10 0.13
 3(b) What are the performance criteria for system testing? — 3-6-7 17 0.13
 3(c) Write down the factors that determine the quality of a system. — 3-6-9 19 0.13
- P** 4(a) What are the components of UML package? How would one generate a UML class? 2-7 2 0.13
 4(b) Draw the activity network diagram for system testing. Q, 07 → 3-3 12 0.13
 4(c) Briefly describe module coupling and module cohesion? 2-6 3 0.13

SECTION-A

- A-1** Define system. Describe briefly the characteristics of a system. **1+7 = 8** **C.1.08**
- A-2** What categories of information are relevant to decision making in business? Relate each category to the managerial level and an information system. **4+2 = 6**
- A-3** Distinguish between:
 (i) Physical and conceptual system. **With Open and close Sys.** **1+13 = 14**
- A-4** Describe the design phase of system development life cycle. **A = 11** **C = 09 = 20**
- A-5** What is prototyping? Write the basic steps of prototyping. **A = 5+5 = 10**
- A-6** Describe the inter personal and technical skills of a system designer. **1+13 = 14**
- A-7** Describe the role of system analyst as a psychologist and politician. **A = 6+3 = 9**
- A-8** Explain Top-Down Approach to system planning with figure. **1**
- A-9** What are the difficulties in determining user requirements? Write down the main strategies for determining information requirements. **10+2 = 12** **Ques:** **1**
- A-10** What are the types of observation method in case of human observer. **136 = 2**
- A-11** Describe the relative advantages and disadvantages of interview and questionnaires. **142 = 5**
- A-12** Why structured analysis is essential in system analysis. **1+7 = 8**

SECTION-B

- B-1** Describe DFD symbols and write the rules of drawing DFD. **1+7 = 8** **C.1.07**
- B-2** What points should be considered in constructing a data dictionary? **6** **173 = 5**
- B-3** Distinguish between the following:
 (i) opportunity and sunk costs
 (ii) direct and indirect costs
 (iii) variable and fixed costs
 (iv) tangible and intangible costs
- B-4** Describe briefly the problems of cost of correction. **137 = 1**
- B-5** An offshore gas company bills its customer according to the following price schedule:
 First 500 litres Tk. 10/litre
 Next 300 litres Tk. 1.25 per 100 litres
 Next 30,000 litres Tk. 1.20 per 100 litres
 Next 1,00,000 litres Tk. 1.10 per 100 litres
 Above this Tk. 1.00 per 100 litres
- B-6** Write the above process using decision tree.
- B-7** Write down the guidelines to ensure a successful interview for data collection. **140 = 5**
- B-8** Discuss the pros and cons of the traditional approach to systems analysis. **188 = 5**
- B-9** What advantages does a data dictionary offer in the area of documentation? **176 = 2**
- B-10** Which consider items are involved in feasibility analysis? Explain briefly about the behavioral feasibility. **1+7 = 8** **Ans:** **7**
- B-11** Total cost clearly is one consideration in benefit analysis. Which term do you think is more appropriate to express it? Why? **151 = 2**
- B-12** What is the purpose of the data dictionary? **1** **Ans:** **1**
- B-13** Explain the time phases of quality assurance. **1** **Ans:** **1** **Page-324, 1.8**
- B-14** Explain the time phases of quality assurance. **Testing, validation, certification** **3+7 = 10**
- B-15** Explain the activity network diagram for system testing. **363, 362 = 16**
- B-16** Explain the various types of system testing. **1** **Ans:** **1**

System Analysis - 2026

Note:

- (1) Answer six questions taking three from each section
- (2) Figures in the right margin indicate full marks
- (3) Use separate answer script for each section

Time allotted: 120 min.

SECTION-A

- Q1.(a) What is a system? What is system analysis? A - 7
- (b) How would an analysis determine the user's need for a system? Explain briefly. - 15 7 2-2 3
- (c) What is the system development life cycle? How does it relate to systems analysis? A - 10 2 3
- (d) What categories of information are relevant to decision making in business? Relate each category to managerial level and an information system. A - 2 1 1
- Q2.(a) Explain briefly the technical and interpersonal skills required of systems analysts. When is one skill more valued over the other and why? 11 4
- (b) Explain the setup of and the activities undertaken by the MIS organization. Where does the budget go? 3 3
- (c) Where do ideas for a proposed system originate? To what extent does the analyst assist in this process? 2 1 2
- Q3.(a) Briefly explain the activities which should be followed during implementation. 11 1
- (b) What is usually analyzed after implementation? Why is it a problem? 11 - 7 1 3
- (c) What categories of information are suitable for analysis? Why is it important that the analysis focus on organization's policies and objectives? 12 5 3
- Q4.(a) Discuss the pros and cons of the traditional approach to systems analysis. 18 5 6
- (b) Describe the concepts and procedures used in constructing DFDs. Use an example to illustrate. 17 3 4
- (c) What point should be considered in constructing a data dictionary? 18 1 6

SECTION-B

- Q5. A small order house delivers their goods in following rates:
Delivery is free up to \$ 1000.
If the total is \$ 2000 or over, discount is 20%.
If the total is between \$ 2000 and \$ 2999, discount is 10%.
If the total is between \$ 3000 and \$ 3999, discount is 5%.
If the total is above \$ 4000 no discount is allowed.
The cost of delivery depends on whether it is home delivery or office delivery.
For home delivery there is a flat rate.
If weight is under 35 pounds, charge is \$ 10.
If the weight is 35 to 55 pounds, charge is \$ 15.
If weight is over 55 pounds, multiply excess (over 55) by 3 and add \$ 15 to get the total charge.
For office delivery there is a flat rate of \$ 1.85 per pound.
(a) Develop a decision tree.
(b) Represent the information in structured English.

- Q6. Which factors are involved in feasibility analysis? Briefly explain about the technical constraints. - 20 1 1

- (a) If negative costs and benefits are ignored, the outcome of the evaluation may be quite different.
Business feasibility are included. Do you agree? Illustrate your answer. 13 2 3
- (b) What are the technical costs of the following evaluation methods?
(i) Payback method 12 4 1
(ii) Break-even analysis 2 1 5

- Q7.(a) What design methodologies are used in system design? Discuss in brief. 26 7 3
- (b) What are some of the advantages of top-down design? Elaborate. 9 8 1 1
- (c) Distinguish between coupling and cohesion. Mention why they are so much important? 26 9 3

- Q8.(a) List and briefly describe the factors that affect the quality of a system. 13 6 2 1
- (b) What levels of quality assurance must a system meet? Explain. 3 7 1 1

- (c) What is chaining? How it relates sequentially with file organization? 11 2 7

SECTION - A

Q1. (a) Distinguish between:

(i) Interaction and Interdependence

(ii) Physical and abstract system

Q1(b). What is meant by system? What are the key elements that should be considered to reconstruct a system? Briefly explain the issues of "Control" and "Environment" when reconstructing a system. 12, 14

Q1(c) Explain the different characteristics of open system. 19

Q2. Q1 How would an analysis determine the user's needs for a system? Explain. P- 15, 2

Q2 What is the system development life cycle? What is the difference between analysis and design? 10, 15, 16

Q2 Briefly explain the activities that have to be performed in system design. 16

Q2 What is prototyping? What are the basic steps involved in prototyping? What are the benefits of using prototyping? P- 59

Q2 Elaborate on the interpersonal skills required of systems analyst. When one skill is technical favored over the other? Why? 6, 11

Q2 Why is it difficult to determine user requirement? Illustrate 10, 2, 4

Q2 Why is system proposal so crucial for system design? Explain? 2

Q2 Elaborate on the technical and interpersonal skills required of system analysis. When one skill favored over other? Why? 6, 7

Q2 If were to interview a user to obtain bibliographical information (i.e. age, education, years of experience and so forth) about the staff of 15 employees and you have only one hour to acquire the information, which of the following methods would you use and why? 5

(i) Structured interviews using open-ended questions

(ii) Unstructured interviews of five minutes each.

(iii) Structured interviews using closed questions

SECTION - B

Define & explain the procedure for cost/benefit determination. 27 2.

Structured design provides the best partitioning of a program into small, independent modules organized in a top-down manner. Do you agree? Illustrate. 2

Distinguish between the following:

Opportunity and sunk costs

Direct and indirect costs 239

Fixed and tangible costs 240

Vangible and intangible costs 238

(C)

Q1

What is the goal of input design? Output design? 286, 223/236

Explain briefly three approaches for data entry. ch-10, 286

What design methodologies are used in system design? Be specific. 239/269

What is the difference between IPO and HIPO? ch 271

What methods does the designer consider in file organization? Factors determine method chosen. Be specific. (323)

What are the pros and cons of the following evaluation method?

(i) Payback method? 211

(ii) Cash-flow analysis? 245

(iii) Break-even analysis? 245

What is the purpose behind normalization? How does one normalize?

Why do we test systems? How important is testing? Elaborate. 360

Define quality assurance. What levels of quality assurance exist? Just a system meet?

Explain. 370

How is stress testing different from volume testing? What types of test data are used in system testing? ch-12

Q1
Q2

RE: Shri University of Engineering & Technology
Department of Computer Science and Engineering

B.Sc. Engineering 4th Year 7th Semester Examination, 2004
Course No: CSE711SC Course Title: Information System Analysis and Design

260

M.Q. Answer six questions, taking two from each section.
The questions are of equal value.

Use separate sheet for rough work.

SECTION-A

Q1. (a) What is a system? Briefly describe the objectives of a system.
(b) What are the three basic elements of a system? Explain.
(c) Explain what is meant by system analysis and system design and write how only prototypes are frequently used for evaluating the effectiveness of a methodology.

Q2. (a) What do you know about gathering information by prototyping? Define different kinds of prototyping.

(b) What is context diagram? What are the difference between context diagram and top-level DFD?

(c) Explain with diagram how to convert physical DFDs to logical DFD?

Q3. (a) State different kinds of system objectives. Describe design ideas that are needed to satisfy each of these objectives.

(b) Write the features which make the DFDs self explanatory, complete and unambiguous.

(c) What type of information is sought from a number of users? Then which one is more reliable in a system? Describe it.

(d) What are direct and indirect costs?

(e) What are fixed and variable costs? "I would consider in constructing a data processing system".

(f) State the problems encountered by traditional approach and point out the probable solutions.

(g) Describe the history of system analysis and compare the major changes or differences in modern role of the analyst.

SECTION-B

Q5. (a) What are the methodologies used in system design?

(b) Design a structure chart using the following information:

(i) Calling module: RECORD STUDENT GRADES

(ii) Called modules: CBT ACADEMIC RECORD

 GT VALID GRADES

 ADD NEW GRADES

 REPORT ERRORS

 CHECK FOR PROGRESSION

 CHECK FOR DEAN'S LIST

(iii) Include the required input and output couples, showing the direction and meaning.

(c) Who are personnel allocated in system design?

(d) What are the audit considerations included in the system design? Why are they important?

..... pages

Q7.13) What cost elements are considered in cost/benefit analysis? Which element is more difficult to estimate? Why?

(b) Distinguish between the following:

(i) Direct and indirect costs

(ii) Tangible and intangible costs

(iii) Opportunity and sunk costs

(c) Determine the present value of \$2000 invested at 10 percent interest at the end of 5th year.

Q7.14) What design specifications are considered in preparing a test plan? Explain.

(b) Test performance criteria are used for system testing/ discuss.

(c) What is quality assurance? Which factors determine the quality of a system?

(d) What is implementation? How does it differ from conversion?

(e) What is the difference between maintenance and enhancement?

(f) What are the various phases involved in system software development?

(g) What are the various hardware components which should be considered before hardware. On you

..... THE END

Ridzehai University of Engineering & Technology (RUET)
B.Sc. Engineering 4th Year 1st Semester Examination, 2003
Course No: CSE 703C Course Title: Information System Analysis And Design.
Full Marks: 70. Time: Three (03) Hours

N.B. Answer any Six questions, selecting three from each section.

SECTION-A

Q.1 (a) What activities marks up system design? How does system design simplify implementation?

(b) It is said that business organizations are dynamic systems. How they differ from static system?

(c) Explain the different characteristics of Open system.

Q.2 (a) Discuss the behavioral issues involved in understanding the user interface.

(b) What are the interpersonal skills that a system analyst should possess?

(c) One of the important multifaceted role of the analyst is politician. In what respect should the analyst be a politician? What would be an example where political considerations are used in system work?

Q.3 (a) What is ethnography? How it is related to analyzing systems?

(b) Why is it important that the analyst learns about an organization's policies and objectives?

(c) If you were to interview a user to obtain biographical information (age, education,

(i) Opportunity and sunk costs about the staff of 10 employees and you have only one hour and indirect costs variable costs, which of the following methods would you use and why?

(i) Structured Interviews using open-ended questions.

(ii) Unstructured Interviews of five minute each.

(iii) Structured interviews using closed questions.

Q.4 (a) What is structured analysis? Briefly review the tools used. How it does differ from the traditional approach.

(b) What basic rules are relevant to constructing a DFD? What are the advantages of data dictionary?

(c) An automobile company's business policy is like below:

Wholesalers get a trade discount of 16%; for orders from retail sellers and individuals, 5% allowed on small parts on orders below 50 pieces and 4% on heavy parts for ordering 20 pieces. Again they get 10% for small parts on orders over 50 pieces and 8% for heavy parts on orders more than 20 pieces.

(i) Draw a decision table based on the statement.

(ii) Draw a decision tree based on the statement.

SECTION-B

Q.5 (a) What considerations are involved in feasibility analysis? Which consideration do you think is the most crucial one? Why?

(b) What cost elements are considered in cost/benefit analysis? Which element do you think is the most difficult to estimate? Why?

(c) What are the pros and cons of the following evaluation methods?

(i) Break-even analysis.

(ii) Net present value.

(iii) Present value analysis.

(d) Discuss about tangible and intangible cost/benefit with suitable examples.

Q.6 (a) Distinguish between the following terms:

(i) Logical and physical design.

(ii) Coupling and cohesion.

(b) What are some of the advantages of top-down design? Elaborate.

(c) How does hierarchical structuring differ from network structuring?

(d) Why normalization is performed before final database design?

(e) There are two ways of debugging program software bottom-up and top-down. How do they differ?

Q.7 (a) Distinguish between the following:

(i) Direct and indirect costs.

(ii) Fixed and variable costs.

(iii) Tangible and intangible costs.

(b) Why system testing is necessary before implementing the system?

(c) Show how the following quality factors contributes to the success of a system:

(i) Efficiency

(ii) Portability

(iii) Maintainability

(iv) Testability.

(d) Review the primary activities of maintenance procedure.

Q.8 (a) What is a Gantt chart? How would you develop one? How does it differ from a PERT chart?

(b) Why do we need to conduct risk analysis? When would this type of analysis be cost justified?

(c) Distinguish the following terms:

(i) System security and data security.

(ii) System integrity and data integrity.

Organization
Organization
Organization
Organization

Department of Computer Science and Engineering
Engineering & Technology (E&T), Daffodil
Institute of Technology 4th Year 1st Semester Examination, 2013
Department of Computer Science and Engineering
Session: 2013/2014
Full Marks: 70 Time: Three Hours

Q. 1 Answer the question following three from each section.
The questions are of equal value.
Two questions are to be selected from each section.

SECTION-A

- Q. 1 (a) What is system? What are the main elements of a system? Briefly explain the "boundaries and interface" element of systems.
(b) Distinguish between the following terms.
(i) Physical system and abstract system
(ii) Open system and closed system.
(c) What is the difference between analysis and design? Can one begin to design without analysis? Why?
Q. 2 (a) Elaborate on the technical skills required of system analysts. When is one skill favored over the other? Why?
(b) What are the major stages of a system development life cycle? Discuss it.
(c) Discuss the pros and cons of the traditional approach to system analysis.
Q. 3 (a) Draw the tree policy as described in following:
Passenger who fly more than 100,000 miles per calendar year and in addition pay cash
(i) Opportunity and sunk costs regularly for more than five years also get a
Direct and indirect costs passenger who fly less than 100,000 miles per
calendar year and variable costs regularly for more than five years also get a
free round-trip ticket.
(i) Draw a decision tree based on the statement.
(ii) Develop a decision table for passenger free tickets.
(b) In what ways decision tree had a data flow diagram related? What about a decision tree and structured English.
- Q. 4 (a) What are some typical information systems in an organization? Why the account systems is important in an organization?
(b) When you would like to use prototyping as tool for information gathering?
(c) Write down the steps to convert physical DFD's to logical DFD's.



SECTION-B

Q. 5(a) What is indexing? Briefly explain how it relates to indexed sequential file organization.

- (a) Explain how data fields are related.
- (c) Distinguishing between:
 - (i) Sequential and scattered.
 - (ii) Logical view and physical view of data.
 - (iii) Indexed sequential and inverted list.

Q. 5(b) What considerations are involved in feasibility analysis? discuss on the analysis which is more frequently used method for evaluating the effectiveness of a candidate system.

Q. 5(c) How important is a project team in feasibility analysis? Is it mandatory in every study?

What are the objectives?

(a) Distinguish between IIP and IPO.

Q. 7(a) Distinguish between the following terms

- (i) Sequential and physical design.
- (ii) Coupling and cohesion.
- (b) Explain the levels of quality assurance in a system model.
- (c) Discuss the performance criteria are used for system testing.

Q. 8(a) Briefly explain the following objectives and design issues to fulfill them

- (i) Functional objectives
- (ii) Performance and job satisfaction needs.

(b) With an example show the way to build a new logical model from the current logical model.

Q. 8(b) What are the major requirements of POFIS design? Discuss.

.....THE END.....

Identification & wording.

Maximum readability and user friendliness.

Physical structure

Order of data items

Size of data items

Size and arrangement

User or instructions

Economy consideration

Type of data report

- What is Protocol? Which Models are used in network communication? Mention their layers.
- Show a pictorial view if a user in a bus topology network sends a data packet to another user having star topology network. Assume that the network layer performs the communication.
- Show the interfaces between various TCP/IP layers including the data & headers in source and destination machine.
- Write in short what are the functions of Network layer & Session layer.

DEPT. OF CSE CT # 02 CSE # 707C TIME # 20 min MARKS # 20

Q1. How cells are organized in AMPS? What happens when number of users in an area is increased? How can you handle this situation? Describe handoff procedures of AMPS.

Q2. Write down similarities and differences between DAMPS and GSM? Draw the frame structure of DAMPS. What are the basic differences between GSM and CDMA?

Rajshahi University of Engineering & Technology
Course Title: Information System Analysis and design

Class Test: 1

Q1. Distinguish between the following:

- Interaction and Interdependence
- Physical and abstract system.

Q2. What are the major steps of system development life cycle? Mention the specific tasks of design phase during SDLC.

- Opportunity and sunk costs
- Direct and indirect costs
- Variable costs
- Invariable costs

Rajshahi University of Engineering & Technology
Course Title: Information System Analysis and design

Class Test: 2

Q1. Discuss the pros and cons of each analyzing tools of system analysis.

Q2. What categories of information are available for analysis? Be specific.

Q3. How do we describe data elements and data structures in data dictionary? Briefly explain.

Q4. What are the problems in traditional approach of system analysis?

Rajshahi University of Engineering & Technology
Course Title: Information System Analysis and design

Class Test: 4

Q1. Mention the activities that we perform during physical design. Explain briefly.

Q2. What is meant by module coupling and module cohesion? Mention its importance.

Q3. What methods does the designer consider in file organization? What factors determines the method chosen? Be specific.

Q4. Explain the difference between sequential and indexed sequential file organization.