

2016-17  
2017-18  
2018-19

## Murcad Sir Part

previous question  
solve

Sat / Sun / Mon / Tue / Wed / Thu / Fri

Date : ..... / ..... / .....

System  
Analysis

- ① What are the most important skills that a system analyst must have? (6)
- ② Describe different types of questionnaires. (6)
- ③ What are the advantages and disadvantages of questionnaires? (6)
- ④ What is present value of money? (9)
- ⑤ How we can calculate present value of money? (9)
- ⑥ What should do and avoid for an interview session? (6)
- ⑦ A dollar today is worth more than a dollar one year from now - what is the significance of this statement? (9)
- ⑧ What are the advantages and disadvantages of interviews? (6)
- ⑨ proxemics (6)
- ⑩ Brainstorming (6)
- ⑪ Body language (6)
- ⑫ Spatial zones (6)

(13)

How many symbols are used for Data Flow Diagram? (4)

(14)

Make comparison between DFDS and ERD? (7)

(15)

Difference between database and conventional file. (5)

(16)

What are the most common process errors occur when a Data Flow Diagram are drawn for a system? (8)

(17)

The time value of money is not taken into account for payback analysis - Explain the statement with appropriate example. (9)

(18)

How report different from different persons and places? (9)

(19)

What are the cases where illegal data flows happen? (8)

(20)

What are the significance of database integrity in system analysis and Design? (10)

(21)

How many symbols are used for Data Flow Diagram? (9)



- (21) Give an outline for a standard oral presentation. (9)
- (22) Make comparison between factual and administrative format for written report. (9)
- (23)

# ① Body language:

: 25/10/2019

Body language is a nonverbal communication.

By research:

1. Verbally - 7% (in word)
2. Tone of voice - 38%
3. Facial and body expression - 55%

• If you hear only word you will miss what you want to say.

There are three aspects of body language:

## 1. Facial disclosure:

one of the most controlled part of the body.

## 2. Eye contact:

Direct eye contact can cause strong feelings either positive or negative.

## 3. Posture (attitude):

Least controlled aspect of the body.

②

## proxemics:

proxemics is the relationship between people and the space around them.

proxemics is a factor in communications that can be controlled by the knowledgeable analyst.

③

## Spatial Zones:

Zone	Around Space
Intimate zone	closer than 1.5 feet
Personal zone	from 1.5 feet to 4 feet
Social zone	from 4 feet to 12 feet
public zone	beyond 12 feet

## ④ Describe different types of questionnaires:

Questionnaires are special purpose documents that allow the analyst to collect information and opinions from respondents.

Free format questionnaires:

It offers the respondent greater latitude in the answer. A question is asked, and the responder records the answer in the space provided after the question.

Fixed format questionnaires:

It contains questions that require selection of predefined responses from individuals.

► Types of fixed format questions:

→ Multiple-choice questions

→ Rating questions

→ Ranking questions

(5) what are the advantages and disadvantages of questionnaires?

### Advantages:

(i) can be answered quickly

(ii) inexpensive means

(iii) Real facts expressed

(iv) Responses can be tabulated and analyzed quickly.

### Disadvantages:

(i) Respondents often low

(ii) No guarantee to get answers or expand all questions.

(iii) No opportunity for voluntary information.

(iv) Not possible to read body language.

(v) Good questions are difficult to prepare.

## ⑥ What are the advantages and disadvantages of interviews?

Interviews are a fact finding technique whereby the systems analysts collect information from individuals through face to face interaction.

### Advantages:

- (i) opportunity to motivate the interviewee.
- (ii) More feedback from the interviewee.
- (iii) permit system analyst to adapt or reward questions for each individual.
- (iv) possible to read body language.

### Disadvantages:

- (i) Time consuming.
- (ii) Success highly depends on system analysts human relation skill.
- (iii) May be impractical due to location.

⑦ What should do and avoid for interview session?

Do	Don't (Avoid)
<ol style="list-style-type: none"> <li>1. Be polite</li> <li>2. Listen carefully</li> <li>3. Maintain control</li> <li>4. Inquiry</li> <li>5. observe mannerisms and nonverbal communication</li> <li>6. Be patient</li> <li>7. Keep interviewee at compon</li> <li>8. Maintain self control.</li> </ol>	<ol style="list-style-type: none"> <li>1. continuing an interview unnecessarily</li> <li>2. Assuming an answer is finished.</li> <li>3. Revealing verbal and nonverbal clues.</li> <li>4. Revealing your personal biases.</li> <li>5. Talking instead of listening.</li> <li>6. Assuming anything about the topic and the interviewee.</li> <li>7. Tap recording - a sign of poor listening skills.</li> </ol>

## ⑧ Brainstorming:

Brainstorming is a technique for generating ideas during group meetings. Participants are encouraged to generate as many ideas as possible in a short period of time without any ~~any~~ analysis until all the ideas have been exhausted.

### Brainstorming guideline:

1. Isolate the appropriate people in a place that will be free from distractions and interruptions.
2. Make sure that everyone understands the purpose of the meeting.
3. Appoint one person to record ideas.
4. Remind everyone of the brainstorming rules.
5. Within a specified time period, team members call out their ideas as quickly as they can think of them.
6. After all ideas have been recorded only then ideas be analyzed and evaluated.
7. Refine, combine and improve the ideas that were generated earlier.

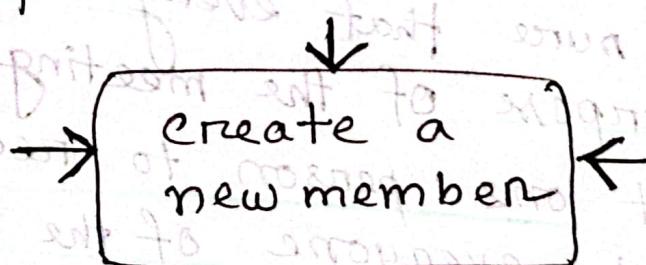
⑨ What are the most common process errors occur when a data flow diagram are drawn for a system?

► A data flow diagram is tool that depicts the flow of data through a system and the work or processing by that system.

① Input but no outputs:

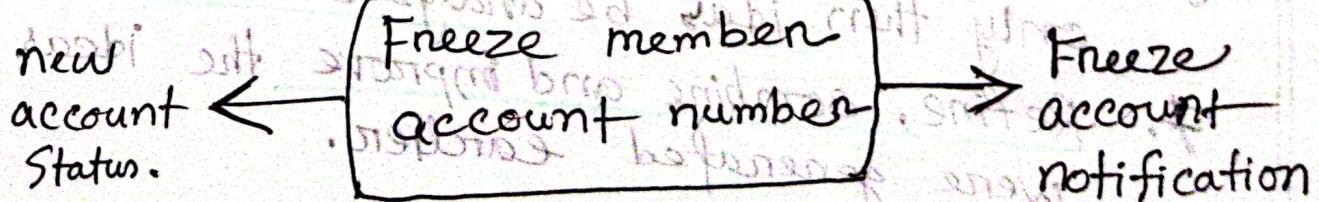
process has inputs but no outputs.

It is called black hole because and then data enter the process and then disappear.



② If process has outputs but no inputs:

Unless you are David Copperfield it's a miracle. In most cases input flows were likely forgotten.



**III**

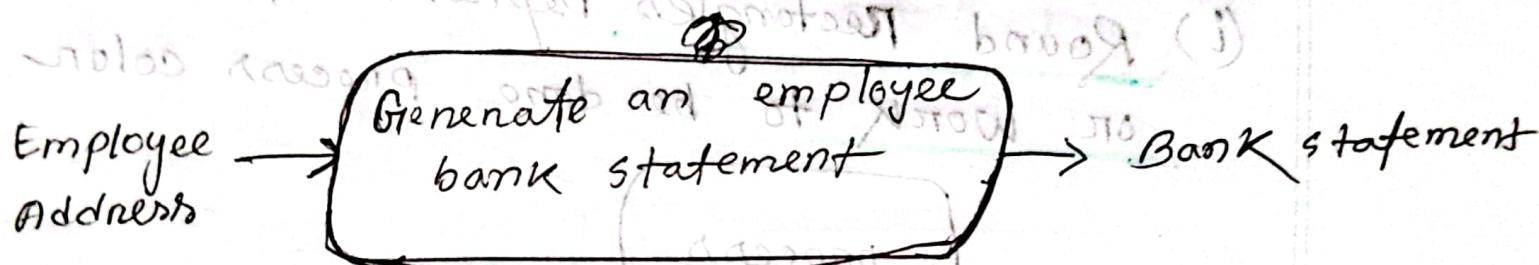
### Inputs are insufficient to produce the output:

It is called gray hole because

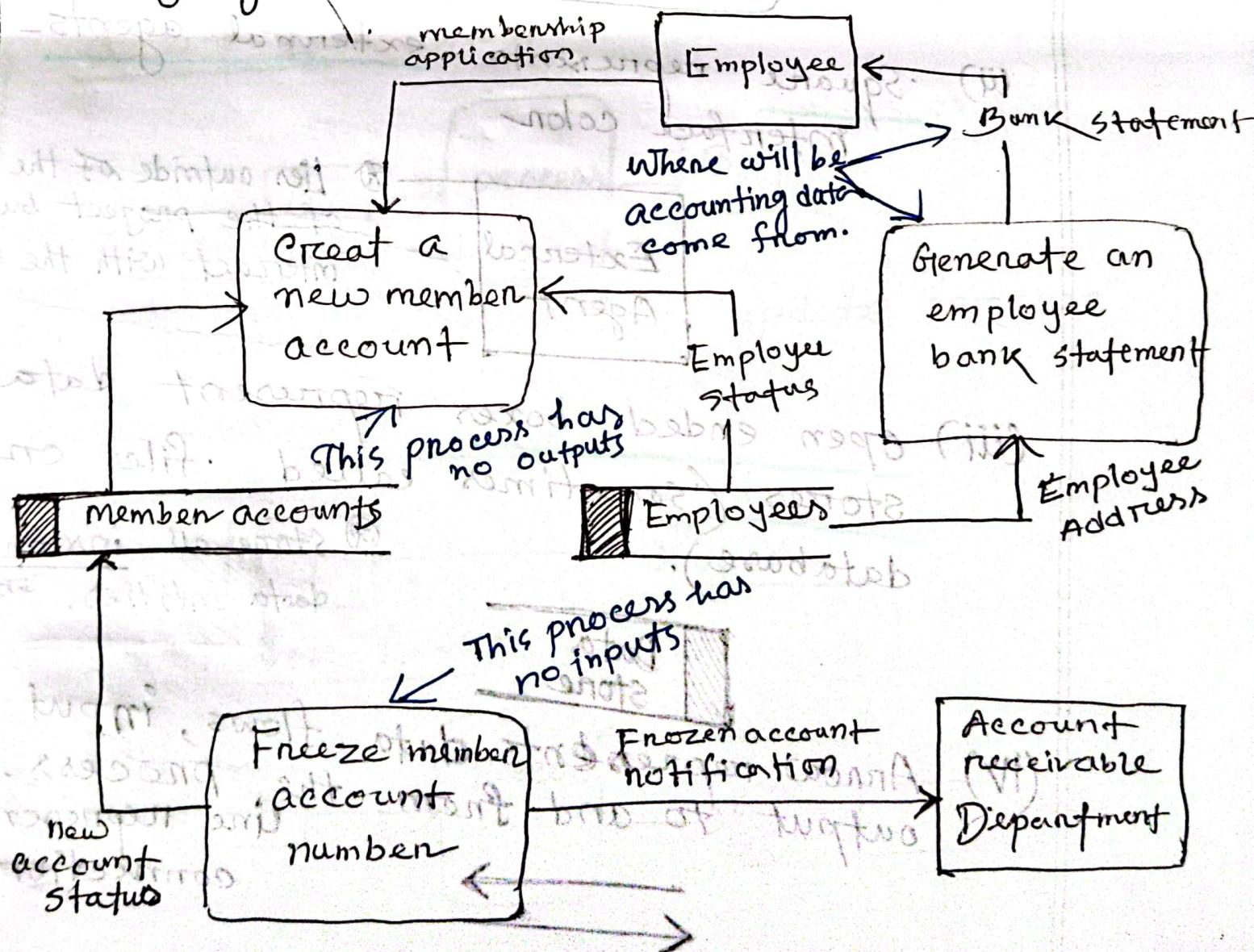
- Misnamed process.

- misnamed inputs and outputs.

- Incomplete facts.



- gray hole are most common errors.

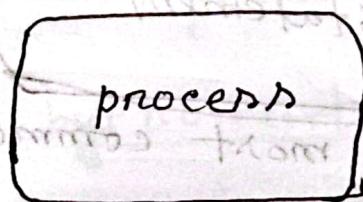


⑩ How many symbols are used for Data Flow Diagram?

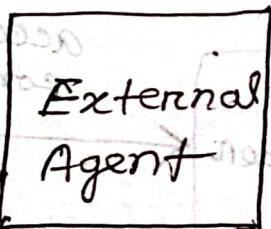
- Three symbols and one connection are used for Data flow Diagram.

(i) Round Rectangles represent processes

or work to be done process color



(ii) Square represents external agents- interface color



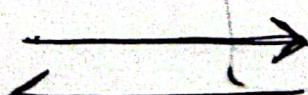
④ Lies outside of the scope of the project but that interact with the system.

(iii) open ended boxes represent data stores (sometimes called files or database).



④ Store all instances of data entities.

(iv) Arrow represents data flows, input and output to and from the process. and line represent connection



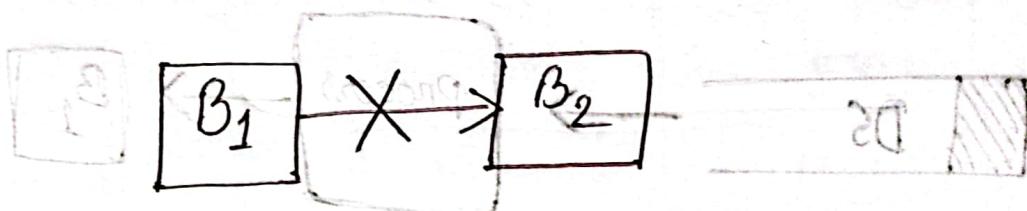
← →

11 What are the cases where illegal data flows happen?

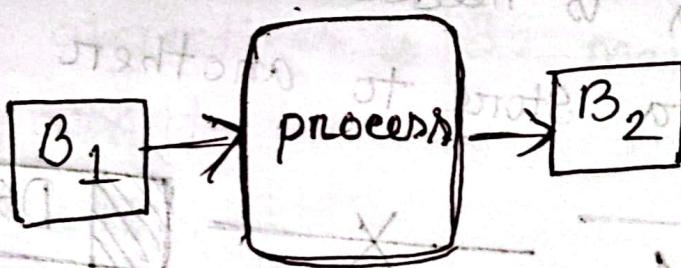
A

Data flow analysis is that all flows must begin with ~~at~~ end at a processing step.

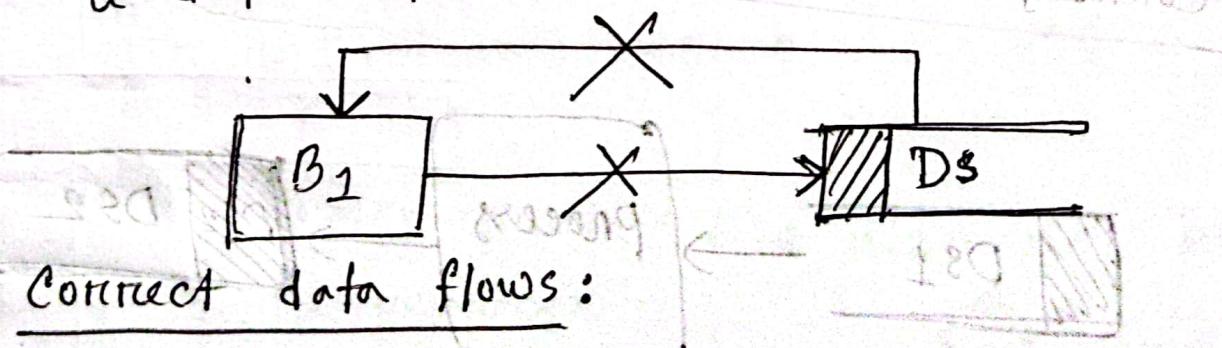
- ① A process is need to exchange data flows between external agents.



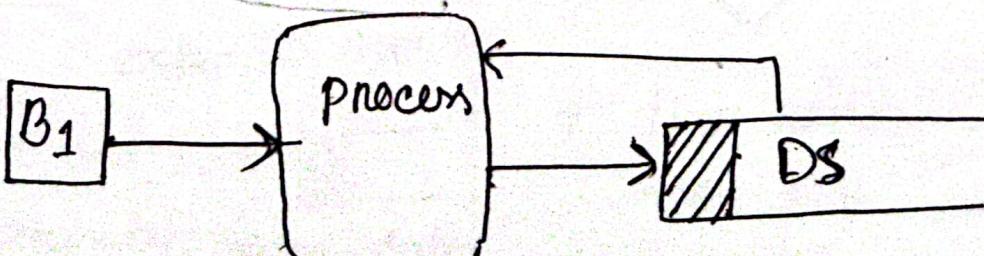
Correct data flows:



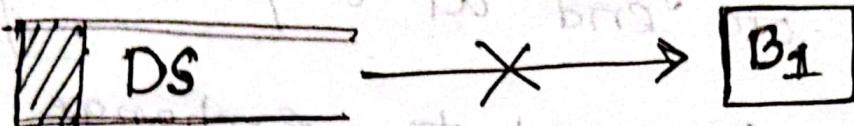
- ② A process is needed to update (or use) a data store.



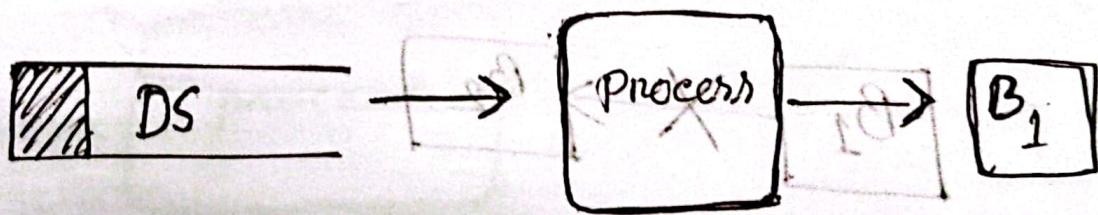
Correct data flows:



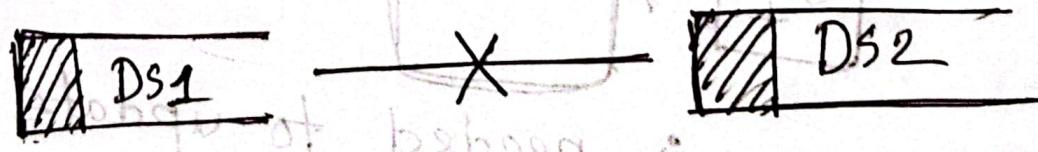
③ A process is needed to present data from a data store.



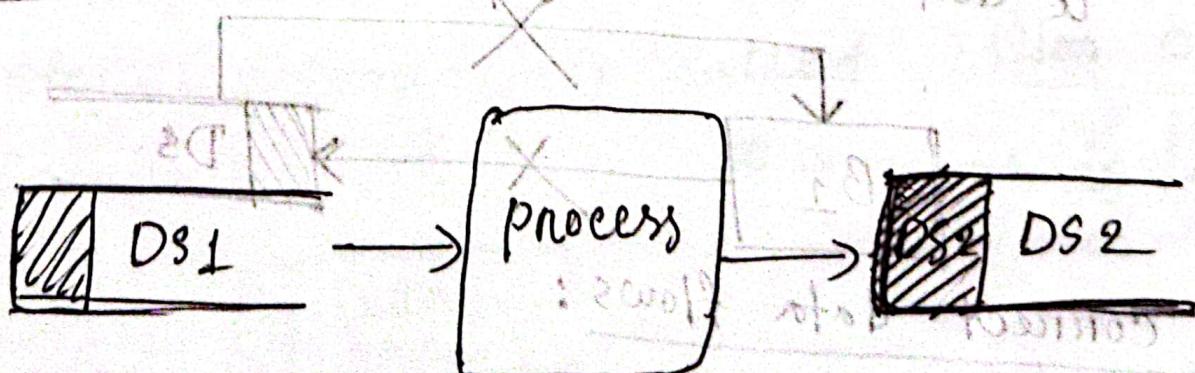
correct data flows:



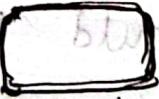
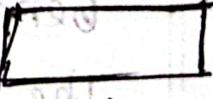
④ A process is needed to move data from one data store to another



correct data flows:



(12) ~~Ques~~ Make Comparison between DFD and ERD

DFD	ERD
1. It stands for Data Flow Diagram.	1. It stands for Entity Relationship Diagram.
2. DFD Shows the flow of Data through a system.	2. ERD Shows the relationship between entities.
3. main objectives is to represent the <u>process and data</u> flow between them.	3. Main objective is to represent <u>data object</u> .
4. Symbol of DFD:	4. Symbol of ERD:
* round rectangle  represent process	* rectangles  represent entity.
* Square represent  external Agents	* diamond box represent  relationship
* open end box  represent store data	* line and standard notation represent cardinality.
* Arrow → represent flow of data	

(13) A dollar today is worth more than a dollar one year from now - What is the significance of the statement. Explain with suitable example.

A dollar today is worth more than a dollar one year from now. You could invest that dollar today and through accrued interest, have more than one dollar a year from now. Thus you'd rather have that dollar today than in one year later.

Suppose we are going to realize a benefit of \$20,000 two years from now. What is the current dollar value of that \$20,000 benefit?

The current value of the benefit is the amount of money we would need to invest today to have \$20,000 two years from now. If the current return on investments is running about 10 percent,

$$PV = \frac{\$20,000}{(1 + \frac{10}{100})^2}$$

$$= \$16528$$

investment of \$16528 today would give us our \$20,000 in two years.

Another example, suppose we have option of receiving \$1000 now and one year from now. Today \$1000 has more value and utility than it will two years from now because of due to the opportunity cost associated with the delay.

Significance of the Statement:

1. opportunity cost

2. Time value of money

3. Inflation consideration

(14) Give an outline for standard oral presentation.

1. Introduction (one-sixth of total time available)

- A. problem statement
- B. work completed to date

2. Part of the presentation (two thirds of total time available)

- A. Summary of existing problems and limitations.
- B. Summary description of the proposed system.
- C. Feasibility analysis.
- D. proposed schedule to complete project.

3. Questions and concerns from the audience;

There is no time allocation. It is determined by those, asking the questions and voicing their concerns.

4. Conclusion: (one-sixth of total time available)

- A. Summary of proposal.
- B. Call to action (request for whatever authority you require to continue system development).

(15) Make comparison between factual and administrative format for written report.

Factual Format	Administrative Format
1. Introduction	1. Introduction.
2. Methods and procedures	2. Conclusions and Recommendations.
3. Facts and details	3. Summary and discussion of facts and details
4. Discussion and analysis of facts and details.	4. Methods and procedures.
5. Recommendations	5. Final conclusion
6. Conclusion	6. Appendices with facts and details

(16) Difference between database and conventional file.

File System	Database
1. A process that manages how and where data on a storage disk is stored. Accessed and managed.	1. An organized collection of data that can be easily accessed, managed and updated.
2. Has high data inconsistency.	2. Maintains data consistency.
3. Structure is simple.	3. Structure is complex.
4. Data sharing is hard.	4. Data sharing is easy.
5. There is high redundancy.	5. There is low redundancy.
6. Not very secure.	6. More Secure.
7. No backup and recovery process.	7. There is backup recovery.

(17) What is present value of money?

→ ~~Today's~~ value of tomorrow's cash  
Present

► Future Value:

→ Tomorrow's value of today's cash.

► The current value of a future sum of money.)

→ Present value, a concept

based on time value of money, states that a sum of money today is worth much more

than the same sum of money in the future)

and is calculated by dividing the future cash flow by one plus the discount rate raised to the number of periods.

$$\text{present value} = \frac{\text{Future value}}{(1+i)^n}$$

$$PV = 10,000 \text{ Tk}$$

$$r = 20\% = 0.2$$

$$n = 5$$

We know,

$$PV = \frac{FV}{(1+r)^n}$$

$$\therefore FV = PV \times (1+r)^n$$

$$= 10,000 \times (1+0.2)^5$$

$$= 24883.2$$

● Example

Q&E

Q&E  
 Q&E  
 Q&E  
 Q&E  
 Q&E

18 How can we calculate present value of money?

present value is calculated by

dividing the future cash by

one plus discount rate raise

to the number of periods.

$$PV = FV \cdot \frac{1}{(1+i)^n}$$

Step-1 : put expected Future value of the investment in a formula.

Step-2 : put expected rate of return on your investment

Step-3 : Number of period you are investing.

Where,

$n \rightarrow$  number of years.

$i \rightarrow$  discount rate

$FV \rightarrow$  future value of money.

If the future cash flow is 1 unit of currency, the formula simplified to

$$PV_n = \frac{1}{(1+i)^n}$$

+ ~~other~~ Page 73 example 3

- (19) The time value of money is not taken into account for payback analysis - Explain the statement with appropriate example.

Payback analysis is a simple and popular method for determining when an investment will pay for itself.

Payback period is referred to the period of time takes to repay the sum of the original investment.

Payback period has some significant drawbacks

1. Fails to take into account the time value of money.
2. Fails to adjust the cash inflow.

For example:

A \$1000 investment which return \$500 per year.

- Initial investment \$1000
- annual cash flow \$500
- payback period =  $\frac{\text{Initial investment}}{\text{annual cash flow}}$   
 $= \frac{\$1000}{\$500} = 2 \text{ years}$

However, payback analysis is that it doesn't consider the time value of money. In reality money has the potential to earn returns or interest over time.

In summary, payback analysis is a straightforward method to assess the recovery time of an investment but doesn't consider the time value of money.

20) What are the most important skill that a system analyst must have?

1. Technical knowledge
- ~~2. Analytical skills~~
3. Communication skills
4. project management skills
5. problem solving skills
- ~~6. Attention to detail~~
- ~~7. Adaptability~~
8. collaboration
9. Business Knowledge
10. Critical thinking
11. Creativity
12. Interpersonal skills
13. Leadership

A<sup>3</sup>C<sup>4</sup>P<sup>2</sup>

प्रतिक्रिया  
2/2 मार्ग ग्रन्ति

## 21 How Report differ from different persons and places?

The written reports is the most used method by the analyst to communicate with system user.

There is a tendency to generate large reports that look impressive but it is not effective. Sometimes reports are necessary but often they are not. If a manager receives 500 page technical reports, the manager may skip it.

Length of report <sup>for</sup> a different person or place:

1. To executive level manager -  
one or two page report
2. To mid level manager -  
three to five page
3. To supervisory level manager -  
less than 10 page
4. To clerk level manager -  
less than 50 page,

Different format for different places:

Factual Format	Administrative Format
Ques NO - 15 Ans 12.5%	

(22) What are the Significance of Database integrity in system analysis and Design?

1. Data accuracy and Reliability
2. Consistency
3. Data validity
4. Referential integrity
5. Avoiding Data Redundancy
6. Data integrity validation
7. Data maintenance
8. Reporting & analysis
9. Data migration and integration

[2/3 marks]  
group  
part

How can we calculate

Date: \_\_\_\_\_

present value of money:

The current value actually called the present value, of a dollar at any time in the future can be calculated using the following formula:

$$PV_n = \frac{1}{(1+i)^n}$$

Where  $PV_n$  is the present value of \$1.00  $n$  years from now and  $i$  is the discount rate.

Given, discount rate of a company is 12 percent. Therefore the present value of a dollar at any time in the future can be calculated using the following formula:

$$PV_2 = \frac{1}{(1+1.2)^2} = 0.797$$

Date : ..... / ..... / .....

We ~~also~~ know that, a dollar today is worth more than a dollar a year from now. But it looks as if, it is worth less. This is an illusion.

If you have 79.7 cents today, it is better than having 79.7 cents two years from now.

