

## Software Requirements

1. What does Requirements Engineering Process mean?
2. State the 3 types of requirements document.
3. State the 5 types of requirements and briefly comment on each.
4. State the ten characteristics of excellent requirements.
5. Draw a table that shows the structure of RTM
6. Explain what is meant by non-functional requirements?
7. What is the consequence of failure to meet individual functional requirements?
8. What is the consequence of failure to meet non-functional requirements?
9. Draw a diagram that shows the classifications tree of non-functional requirements.
10. Explain what is meant by metrics.
11. Explain what is meant by domain requirements.
12. In which domain requirement the Z39.50 protocol is used.
13. Draw a diagram that shows Z39.50 protocol domain requirements for a Library System.
14. State the 2 components of Z39.50 protocol
15. Explain the role of the server component of Z39.50 protocol.
16. Explain the role of the client component of Z39.50 protocol.
17. Structured NL may be used to specify system requirements. Give an example showing the structure to be used.
18. Write the IEEE standard structure section 3 for specific requirements.
19. Write the IEEE structure used for specifying external interface requirements.

20. Suppose that the user asked you to use C++ as a programming language to develop the system. Under what type of requirements will you include his request
21. Consider the following statement for a requirement:  
The system should be easy to use by trained people.
- What is the type of this requirement?
  - Is this a verifiable requirement?
  - Rewrite this requirement so that it becomes a measurable requirement.
22. Consider the software metrics shown in the table below. Complete the **Measure** column by writing 2 measures for each of the given metrics:

<b>Software Metric</b>	<b>Measure</b>
Speed	
Size	
Reliability	
Robustness	
Portability	
Ease of use	

23. Explain briefly the following terms (1-2 lines per item):
- Functional requirements
  - Non-functional requirements
  - Domain requirements
  - Inverse requirements

**24. Complete:**

- a. The requirements are the descriptions of \_\_\_\_\_
  - b. RFP means \_\_\_\_\_
  - c. RTM means \_\_\_\_\_
  - d. Measurements of non-functional requirements are done during \_\_\_\_\_  
(Analysis, Design, Coding, Installation, Testing, Documentation)
25. Suppose that the client asked you to use C++ as a programming language to develop the system. Under which type of requirements will you include this request?
26. Consider the following statement for a requirement:
- The system should be easy to use trained people.
- a. What is the type of this requirement?
  - b. Is this a verifiable requirement?
  - c. Rewrite this requirement so that it becomes measurable.

## **27. Mark T (True) or F (False):**

2. Requirements may be the basis for the preparation of RFP
3. User requirements are written for technical staff with technical knowledge
4. User requirements are usually written using pseudo code
5. User requirements are usually written using an appropriate programming language
6. System requirements are written for client managers with little technical knowledge
7. Functional user requirements may be high-level abstract statements of what the system should do
8. Functional system requirements should describe the system services in detail
9. A necessary requirement means that the user will love it.
10. A necessary requirement means that the user really needs it.
11. A nice-to-have requirement is considered as low priority one
12. A nice-to-have requirement is considered as high priority one
13. RTM is completely filled at the start of project
14. Non-functional requirements should be verifiable/measurable by testing expressed quantitatively using metrics that can be tested.
15. In writing requirements, shall means mandatory requirements.
16. In writing requirements, should means desirable requirements.

28. Consider the shown 3 library systems.

- Which clients are able to see books in KSU library system?
- Which clients are able to see books in KFU library system?
- Which clients are able to see books in KAAU library system?
- Which systems can be accessed by client 1?
- Which systems can be accessed by client 2?
- Which systems can be accessed by client 3?
- Which systems can be accessed by client 4?
- Which systems can be accessed by client 5?
- Which systems can be accessed by client 6?

